Do you know your resilient floor type?

Yes

No

This is a interactive PDF. To navigate, simply select icons instead of scrolling page-to-page.

Click anywhere to get started!

Help

3M

FLOOR CARE GUIDE

Do you know your resilient floor type?

Yes

No

Help

3M

FLOOR CARE GUIDE

Do you know your resilient floor type?

Yes

No

Resilient Flooring

Tip- When trying to identify what type of flooring is installed, color can often be a misleading aspect. While color is important, the pattern of the tile or sheet product can regularly tell you more about what is on the floor. Keep this in mind when referring to pictures.

Talk to our experts

800-328-3908

Send a Message

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FLOOR CARE GUIDE

Tile

Plank

Sheet

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FLOOR CARE GUIDE

Tile

- 9”x 9”
- 12”x 12”
- 16”x 16”
- 18”x 18”
- 24”x 24”

Resilient Floors

Tile / 9”x 9”

VAT-Vinyl Asbestos Tile

EXLAIMER- 3M products are not intended for use on asbestos containing flooring materials. Ensure that the flooring you are working on does not contain asbestos.

VAT or Vinyl Asbestos Tile is very similar to VCT (Vinyl Composition Tile) in composition but with the addition of asbestos fiber as a filler. If you suspect that you are working with an asbestos containing floor go to www.EPA.gov for more information.

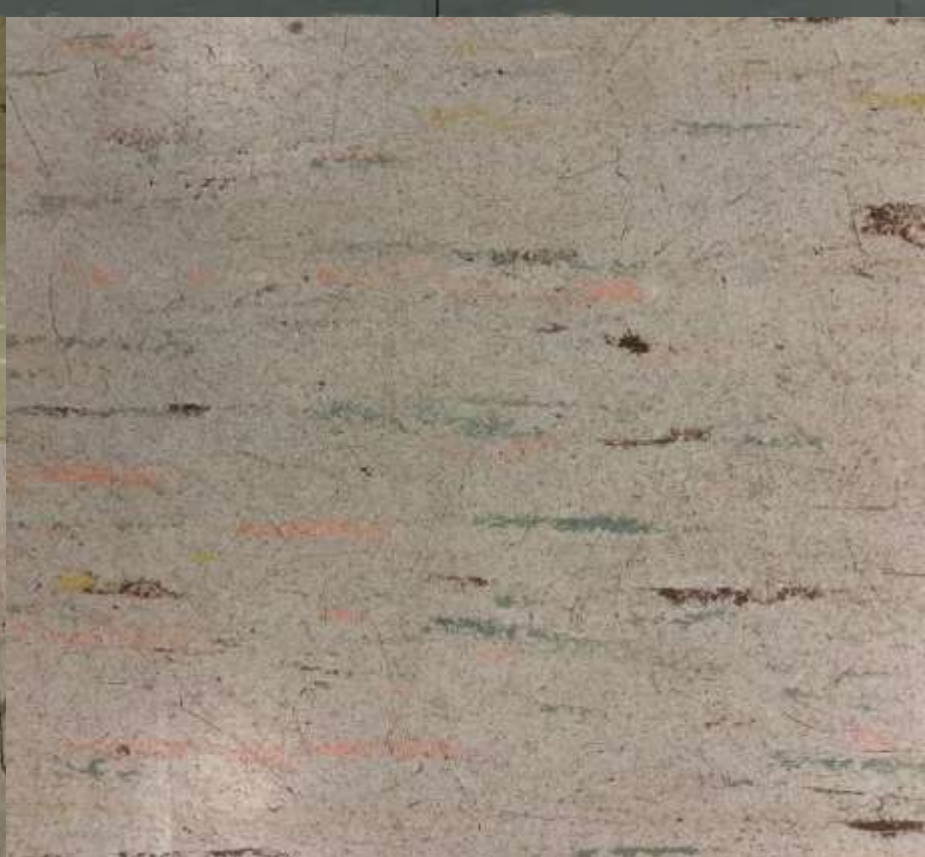
VAT will usually have 2-3 colors with one base color that is a majority of the tile and 1-2 colors with linear patterns that go in the same direction.

Pictures

Resilient Floors

Tile / 9”x 9”

VAT-Vinyl Asbestos Tile



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FLOOR CARE GUIDE

Tile / 12”x 12”

Textured

Not Textured

Tile / 12”x 12” / Textured

LVT-Luxury Vinyl Tile

LVT is composed of several layers; starting top down with an abradable factory coating, a clear urethane or UV cured acrylic wear layer, a printed film layer, a filler layer, and a backing. Often has a textured wear layer to increase aesthetics. It is becoming increasingly popular as a no coat solution in the commercial flooring industry. It will however, depending on the amount of traffic, benefit from a polymer coating which will greatly extend its life.

Tiles will most often look like stone, textile, or solid colors.

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FLOOR CARE GUIDE

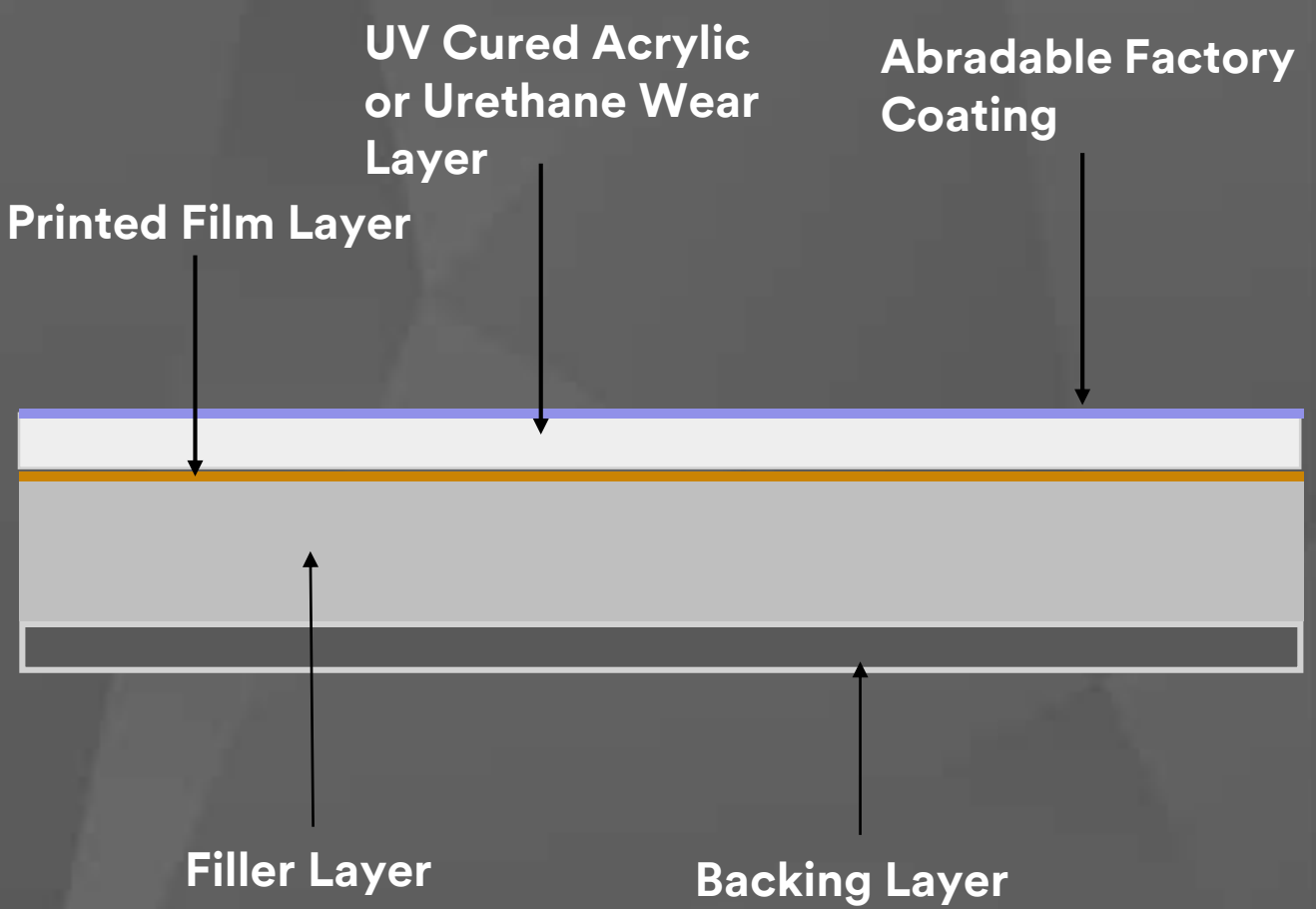
Resilient Floors

Tile / 12”x 12” / Textured

LVT-Luxury Vinyl Tile

LVT-Luxury Vinyl Tile

Luxury Vinyl Construction



Pictures

Floor Maintenance

Floor Repair Troubleshooter

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

LVT-Luxury Vinyl Tile

- Surface Damage
- Adhesion Issues
- Subfloor Telegraphing
- Shrinking, Curling, Cupping
- Common Coating Problems

LVT/LVP- Surface Damage

The clear wear layer on LVT/LVP products hold up differently depending on the amount of traffic in a facility. Areas of high traffic often see a development of traffic lane scratching that can quickly become noticeable as the center lane wear and sections closer to the walls do not. For scratching there are a few options to try.

Troubleshooting

LVT/LVP- Surface Damage

Minor scratches- appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.
6. If unsuccessful, a blue or SPP pad can be used to even out the scratching prior to coating.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Un-repairable Scratching-Contact Flooring Manufacturer For Guidance.

LVT/LVP- Adhesion Issues

Coating not adhering to surface- LVT/LVP are often shipped with a light factory coating to prevent them from sticking in transit. This coating must be physically abraded from the tile prior to coating to avoid adhesion issues. Scrub with a SPP or Blue Cleaner pad, rinse well and coat.

Adhesive releasing from floor- Depending on the adhesive used, repeated stripping or moisture from the slab can cause the adhesive to release from the floor.

Adhesion Issues- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Sub-floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the LVT/LVP; debris, left over adhesive, large trowel marks, or anything else present must be removed or leveled. If any of these are not removed, the LVT/LVP will conform to it and will be visible on the surface.

Telegraphing will be more noticeable on larger tiles and longer planks as well as LVT/LVP that are shiny. LVT/LVP that is textured or dull will have a less chance of showing telegraphing.

Telegraphing- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Shrinking, Curling, Cupping

Changes in humidity and heat from direct sunlight can cause many issues depending on how the LVT/LVP was manufactured. Cupping, edge curling, and adhesive failing can occur while the most common issue is shrinking of the tile itself.

LVT/LVP is manufactured under heated rollers and use pressure to create a continuous sheet. Each layer is laminated together, which can sometimes cause some internal stress. Because of the internal stresses and "memory" of the LVT/LVP it can cause some shrinkage as the product ages.

Shrinking, Curling, Cupping-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed(greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 12”x 12” / Textured

LVT-Luxury Vinyl Tile

Plank / Textured and Non-Textured

LVP-Luxury Vinyl Plank

LVP is composed of several layers; starting top down with an abradable factory coating, a clear urethane or UV cured acrylic wear layer, a printed film layer, a filler layer, and a backing. Often has a textured wear layer to increase aesthetics. It is becoming increasingly popular as a no coat solution in the commercial flooring industry. It will however, depending on the amount of traffic, benefit from a polymer coating which will greatly extend its life.

Plank sizes tend be 4.5” to 8” wide and anywhere from 6” to 48” long.

Planks tend to be printed with wood, linear patterns, or solid colors, apart from 12”x 24” sizes that tend to look like stone.

Pictures

Maintenance & Troubleshooting

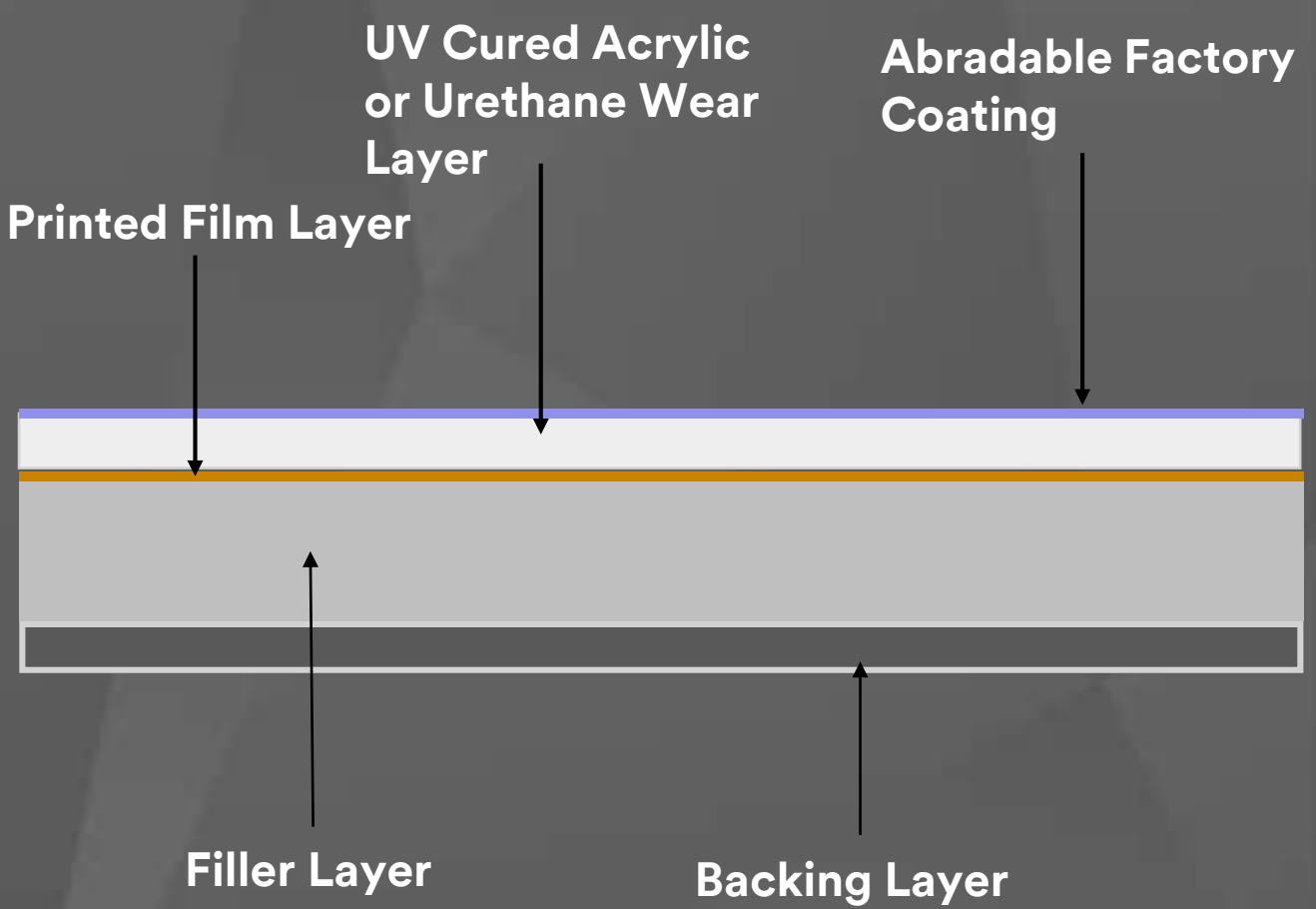
Resilient Floors

Plank / Textured and Non-Textured

LVP-Luxury Vinyl Plank

LVP-Luxury Vinyl Plank

Luxury Vinyl Construction



Pictures

Floor Maintenance

Floor Repair Troubleshooter

Resilient Floors

Plank / Textured and Non-Textured

LVP-Luxury Vinyl Plank

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

LVT/LVP-Luxury Vinyl Tile/Plank

- Surface Damage
- Adhesion Issues
- Subfloor Telegraphing
- Shrinking, Curling, Cupping
- Common Coating Problems

LVT/LVP- Surface Damage

The clear wear layer on LVT/LVP products hold up differently depending on the amount of traffic in a facility. Areas of high traffic often see a development of traffic lane scratching that can quickly become noticeable as the center lane wear and sections closer to the walls do not. For scratching there are a few options to try.

Troubleshooting

LVT/LVP- Surface Damage

Minor scratches- appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.
6. If unsuccessful, a blue or SPP pad can be used to even out the scratching prior to coating.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Un-repairable Scratching-Contact Flooring Manufacturer For Guidance.

LVT/LVP- Adhesion Issues

Coating not adhering to surface- LVT/LVP are often shipped with a light factory coating to prevent them from sticking in transit. This coating must be physically abraded from the tile prior to coating to avoid adhesion issues. Scrub with a SPP or Blue Cleaner pad, rinse well and coat.

Adhesive releasing from floor- Depending on the adhesive used, repeated stripping or moisture from the slab can cause the adhesive to release from the floor.

Adhesion Issues- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Sub-floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the LVT/LVP; debris, left over adhesive, large trowel marks, or anything else present must be removed or leveled. If any of these are not removed, the LVT/LVP will conform to it and will be visible on the surface.

Telegraphing will be more noticeable on larger tiles and longer planks as well as LVT/LVP that are shiny. LVT/LVP that is textured or dull will have a less chance of showing telegraphing.

Telegraphing- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Shrinking, Curling, Cupping

Changes in humidity and heat from direct sunlight can cause many issues depending on how the LVT/LVP was manufactured. Cupping, edge curling, and adhesive failing can occur while the most common issue is shrinking of the tile itself.

LVT/LVP is manufactured under heated rollers and use pressure to create a continuous sheet. Each layer is laminated together, which can sometimes cause some internal stress. Because of the internal stresses and "memory" of the LVT/LVP it can cause some shrinkage as the product ages.

Shrinking, Curling, Cupping-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
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• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
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• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M

FLOOR CARE GUIDE

Tile / 12”x 12” / Not Textured

- LVT
- VCT
- Linoleum
- Fritztile

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 12”x 12” / Not Textured

LVT | VCT | Linoleum | Fritztile

LVT (Luxury Vinyl Tile) is composed of several layers; starting top down with an abradable factory coating, a clear urethane or UV cured acrylic wear layer, a printed film layer, a filler layer, and a backing. Often has a textured wear layer to increase aesthetics. It is becoming increasingly popular as a no coat solution in the commercial flooring industry. It will however, depending on the amount of traffic, benefit from a polymer coating which will greatly extend its life.

The printed layer can be almost any pattern available. Tiles will most often look like stone, textile, or solid colors.

Pictures

Maintenance & Troubleshooting

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3M FLOOR CARE GUIDE

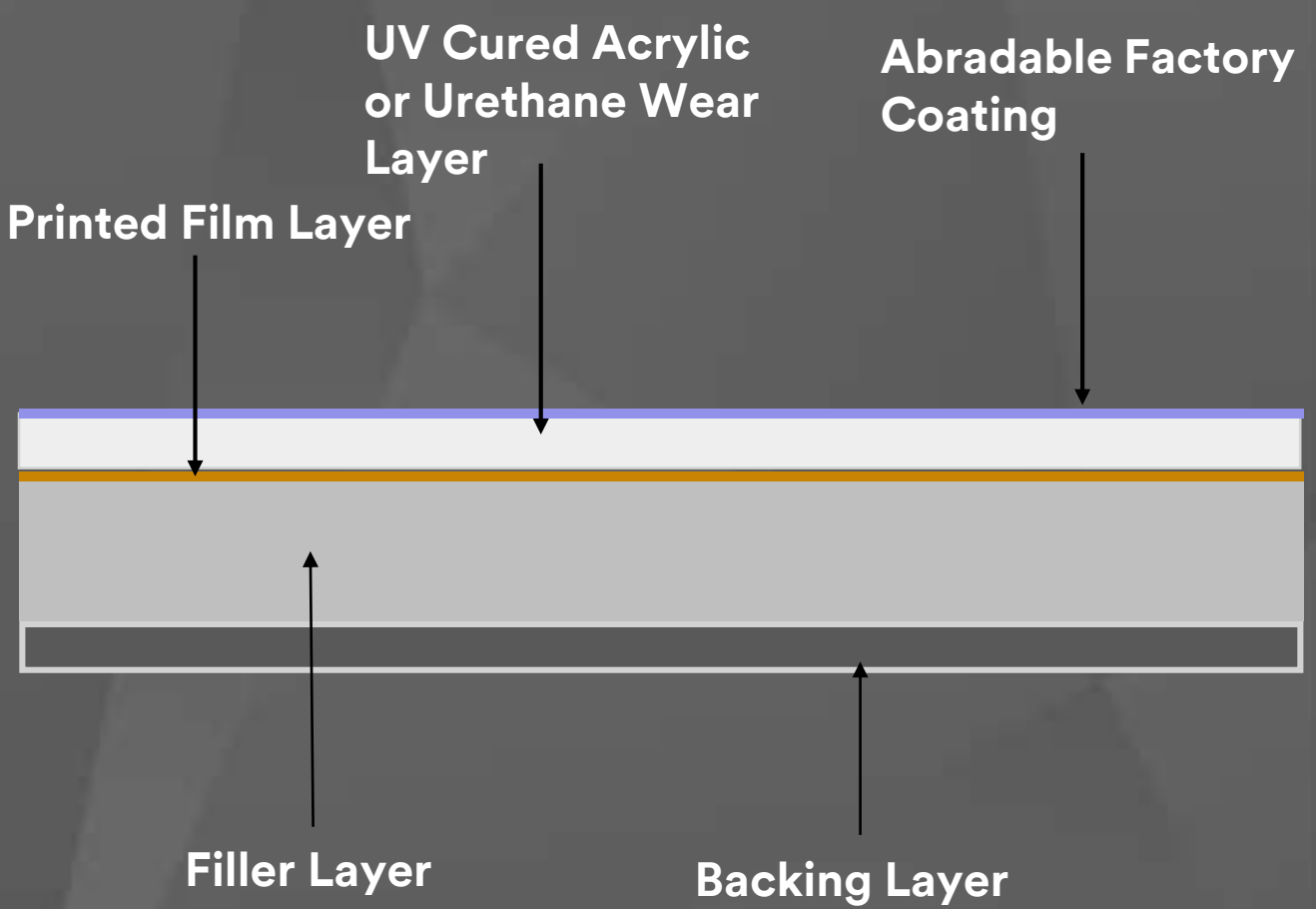
Resilient Floors

Tile / 12”x 12” / Not Textured

LVT

LVT-Luxury Vinyl Tile

Luxury Vinyl Construction



Pictures

Floor Maintenance

Floor Repair Troubleshooter

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LVT/LVP-Luxury Vinyl Tile/Plank

- Surface Damage
- Adhesion Issues
- Subfloor Telegraphing
- Shrinking, Curling, Cupping
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Troubleshooting

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LVT/LVP- Shrinking, Curling, Cupping

Changes in humidity and heat from direct sunlight can cause many issues depending on how the LVT/LVP was manufactured. Cupping, edge curling, and adhesive failing can occur while the most common issue is shrinking of the tile itself.

LVT/LVP is manufactured under heated rollers and use pressure to create a continuous sheet. Each layer is laminated together, which can sometimes cause some internal stress. Because of the internal stresses and "memory" of the LVT/LVP it can cause some shrinkage as the product ages.

Shrinking, Curling, Cupping-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M FLOOR CARE GUIDE

Resilient Floors

Tile / 12”x 12” / Not Textured

LVT

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 12”x 12” / Not Textured

LVT | VCT

Linoleum | Fritztile

Linoleum is a natural flooring product that is made up of wood flour, pine resins, talc, bound with linseed oil and pressed onto a jute (burlap) backing.

Because of these natural products, linoleum is sensitive to moisture, chemicals, and abrasion.

Linoleum can range from 2-6 different colors on average and will often be bright and contrasting. The pattern can be described as flowing turbulent water, with the colors mixing into and around each other. Often the jute backing creates a visible pattern on the top surface, which looks like many small dimples in a grid pattern.

Pictures

Maintenance & Troubleshooting

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3M

FLOOR CARE GUIDE

Tile / 12”x 12” / Not Textured

Linoleum






Linoleum

Linoleum make-up: Linseed oil, cork/wood flour, pine resin, and mineral fillers pressed onto a jute (burlap/canvas) backing.

Linoleum Sensitivities

Chemical: Because of the natural products in linoleum, caution must be taken with high pH chemicals. High pH cleaning chemicals and strippers (10.5 and above) should never be used, they cause the linseed oil binder to break down. Mildly alkaline cleaners may be used for periodic cleaning. Contact flooring manufacturer for recommended cleaners.

Abrasion: Linoleum is a relatively soft flooring substrate due to the cork/wood flour and therefor is vulnerable to scratching. A lower abrasive pad, such as a blue or brown pad should be used if chemically stripping.

Moisture: Due to the jute backing, linoleum is sensitive to moisture. If moisture penetrates the surface, it can cause the jute backing to release from the adhesive. Constant moisture can cause both adhesion problems as well as mold.

3M™ products to not use: #6 Speed Stripper, #22 Floor Stripper LO, Troubleshooter ™ stripper, 3M™ Floor stripper, 3M™ High Productivity Pad 7300.

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FLOOR CARE GUIDE

Tile / 12”x 12” / Not Textured

Linoleum






Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Linoleum

- Subfloor Telegraphing
- Surface Scratching
- Bubbles or Warping
- Chemical Damage
- Common Coating Problems

Linoleum- Sub-Floor Telegraphing

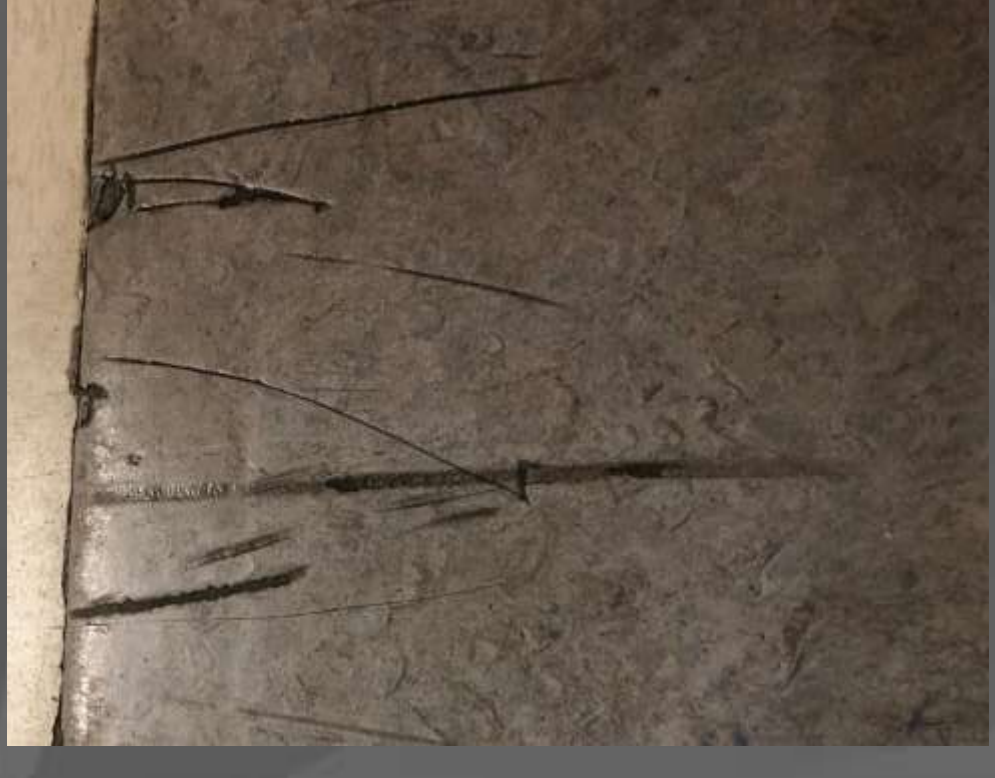
Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the linoleum; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the linoleum will conform to it and will be visible on the surface. This is especially true for linoleum because it is quite thin and most often sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Linoleum- Surface Scratching

Because the main filler in linoleum is either wood pulp or a combination of wood pulp and cork, it is a relatively soft flooring substrate. Extra caution is necessary after the floor has been exposed to water because that can soften it even further.

Large objects or furniture can easily damage the floor if dragged. Floor pads that are too aggressive (High Pro Pad 7300, Black Stripping Pad 7200) if used, can cause widespread small scratching.



Troubleshooting

Linoleum- Surface Scratching

Minor scratches-appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Major surface scratches or not repairable- Contact Flooring Manufacturer For Guidance.

Linoleum- Bubbles or Warping

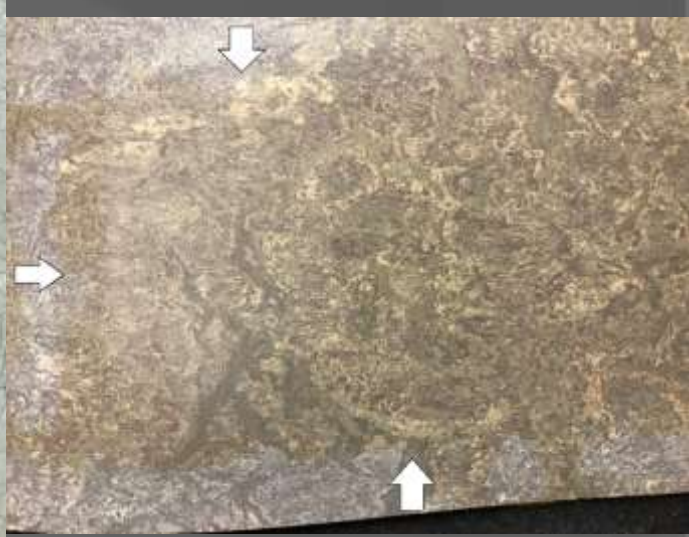
Bubbling- Bubbling in linoleum can occur from several different sources. If excessive moisture is present underneath the linoleum, most often migrating through the slab, it can cause adhesion issues. The moisture can cause the jute backing to separate from the linoleum itself or the backing can separate from the adhesive. Both instances will cause a bond failure that can lead to bubbles forming as sections release from the floor, mainly when in sheet form. Surface bubbling can also form in extreme cases of chemical damage. If high pH chemicals are used, especially over a longer period of time, it will cause the linoleum to break down and possibly create bubbles.

Warping- Warping will generally occur on the edge of tiles or at the seams of sheet products. This is usually due to moisture entering between seams and causing the linoleum to swell and warp.

Bubbles/Warping-Contact Flooring Manufacturer For Guidance.

Linoleum- Chemical Damage

Chemical Damage- High pH chemicals (degreasers and strippers) will breakdown the linseed oil binder. This can occur after just one exposure and will become more likely after repeated exposure. Chemical damage can be observed in several different ways but most commonly as: color change/color fade, brittleness, surface cracking, softening, or bubbling.



Chemical Damage- Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

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• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
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• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
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• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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FLOOR CARE GUIDE

Resilient Floors

Tile / 12”x 12” / Not Textured

LVT | VCT

Linoleum | Fritztile

VCT or Vinyl Composition Tiles are composed of a binder, fillers, and dyes. The binder is generally Poly Vinyl Chloride (PVC) and the filler is a large amount of crushed limestone. Tiles are available in almost any color imaginable. The colors on the surface must be similar throughout the thickness of the tile while the pattern can vary slightly.

Color can usually include 2-4 similar shades or accent colors to create a well-blended pattern. VCT can be described as an overlapping/pressed scale-like pattern. Each angular piece has an individual color and overlaps other pieces. Another common pattern is 1”-2”x 0.25” slivers of similar color shades intermixed. There are also solid black and white VCT tiles. They are distinguished by their uniform color and most often have shimmering specks from the limestone in them. A majority of VCT will also have the shimmering specks visible on an uncoated floor.

Pictures

Maintenance & Troubleshooting

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3M

FLOOR CARE GUIDE

Tile / 12”x 12” / Not Textured

VCT

Vinyl Composition Tile (VCT)

VET- Vinyl Enhanced Tile is almost indistinguishable from VCT visually but has a higher vinyl binder content. VET is a sub-set of VCT and can be treated the same way.
SVT- Solid Vinyl Tile is almost indistinguishable from VCT visually and has a higher vinyl binder content then VCT and VET. SVT is a sub-set of VCT and can be treated the same way.

Because VCT tiles are made up of approx. 70% limestone, they are susceptible to cracking if stressed past the point of their resiliency.

Floor Prep Tips- Bare VCT tiles can be prepped before coating for a better looking floor, especially old or worn tiles. Scrub worn floor with SPP for a fresh coating surface or with the Purple Diamond Pad for a deep clean.

Pictures

Floor Maintenance

Floor Repair Troubleshooter

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3M

FLOOR CARE GUIDE

Tile / 12”x 12” / Not Textured

VCT

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Common VCT Floor Problems

- Adhesive Bleeding Around Tiles
- Alkaline Salts Blistering
- Cracking on the Edges
- Cracking over Concrete Expansion Joints
- Dewetting of Finish
- Discoloration/Stains
- Sub-Floor Telegraphing/Surface Indentations
- Common Coating Problems

VCT- Adhesion Bleeding Around Tiles

Adhesive bleeding between VCT tiles is a result of the underlying adhesive exuding between the tiles and onto the surface. This can be caused by using too much adhesive or the improper kind of adhesive. It can also be caused by moisture in the concrete softening the adhesive, allowing it to migrate up between tiles.

On isolated instances of adhesive bleeding, mineral spirits can be used to clean a bare VCT tile.

VCT- Adhesion Bleeding Around Tiles

Troubleshooting for small areas:

1) Chemically strip any finish over a test area. Rinse well.
2) Attempt to clean the adhesive off the bare tile using mineral spirits.
3) If successful, clean the floor well and recoat with finish.

Or

3) If not successful or widespread areas, **Contact flooring manufacturer for guidance.**

VCT- Alkaline Salt Blistering

Concrete sub-floors are permeable and allow moisture to travel through the slab and release out the top. If excessive moisture is present, it will dissolve alkaline salts from the concrete slab as it travels through. The moisture is now alkaline and can even reach a pH range of 10-13. Once this moisture leaves the concrete slab, it is trapped between the slab and the VCT flooring. Extended exposure to the highly alkaline moisture can dissolve the adhesive as well as damage the tile flooring itself as shown below.

Blistering-Contact Flooring Manufacturer For Guidance.

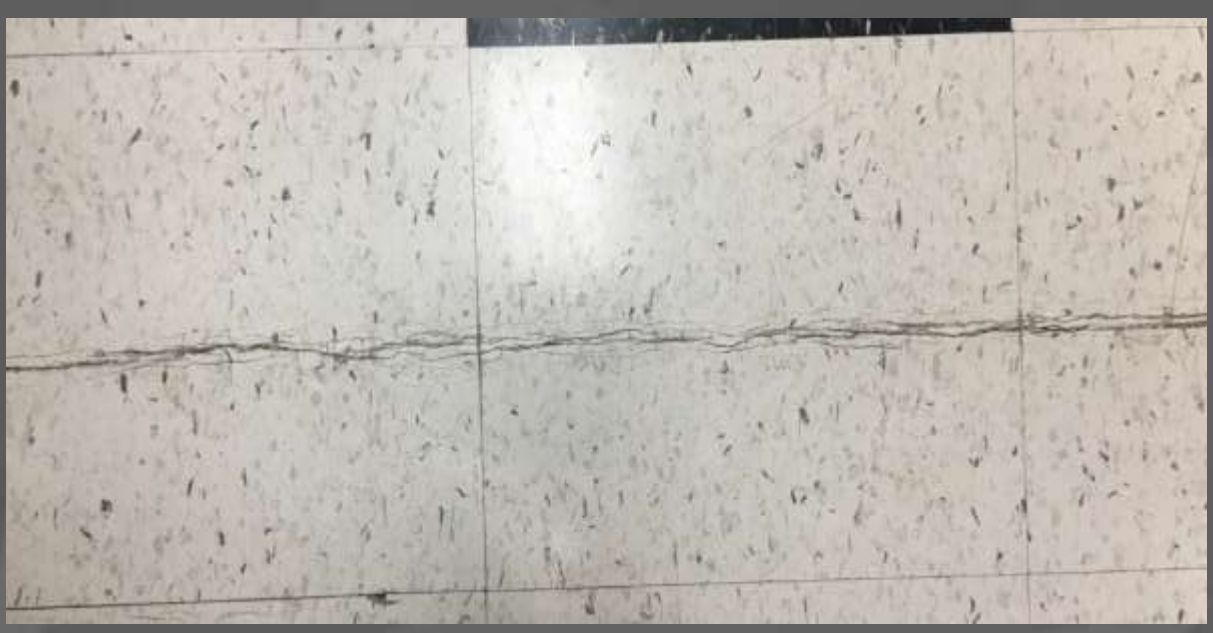
VCT- Cracking on the Edges

VCT tiles can crack along the entire edge or at the corners and can range from just one side to all. This cracking pattern is a result of the edges/sides of the VCT lifting off of the adhesive and drying. Pedestrian traffic over these affected tiles will often force them past the VCT resiliency point and result in damage. There are a few possibilities that cause this cracking pattern:
-Moisture beneath the tile or excessive moisture in the adhesive
-Not using a weighted roller on the tiles at instillation.
-Left over adhesive from previous flooring can cause the new adhesive not to bond to the floor.

Cracking-Contact Flooring Manufacturer For Guidance.

VCT- Cracking over Concrete Expansion Joints

Concrete slabs are poured in sections when installed. Between these sections are concrete expansion joints that are used in order to relieve stress and prevent cracking in the concrete slab as it expands and contracts from temperature changes. VCT that is installed and adhered above these expansion joints are also subject to the movement of the expansion joints. This often ends with linear cracks in the VCT along the expansion joints where it was stressed past its resiliency.



Cracking-Contact Flooring Manufacturer For Guidance.

VCT- Dewetting of Finish

Dewetting is the process of a liquid interacting poorly with another solid surface or liquid. Usually a liquid will make a thin, even layer when coated on a surface. If there is a poor interaction between the liquid layer and the surface, it can cause the liquid to not evenly spread and bead into itself. When it comes to floor finish, this can be caused by a few things:

- Floor tiles are shipped from the manufacturer with a thin coating applied to each tile to prevent them from sticking to each other. This thin layer often also prevents floor finish from adhering as well. Large scale Dewetting is often caused by this.
- Small scale dewetting is often caused by contaminates on the tile surface such as oil, strippers, or degreasers.

Trouble-shooting

VCT- Dewetting of Finish

Remediation:

1) Fully chemically strip the affected area, and rinse appropriately
2) Scrub entire floor with SPP or Blue 5300 pad
3) Rinse Floor and let sufficiently dry
4) Re-apply floor finish to the recommended coats

VCT- Discoloration/Surface Stains

Discoloration or stains can occur from many possible problems. Incorrect adhesive, chemical staining, and color change throughout the tile are all common encounters. The staining can be in the finish, the tile, or both.

Troubleshooting

VCT- Discoloration/Surface Stains

Steps:

1) Chemically strip stained section and rinse floor
2) Inspect tiles to see if the stain is present or was removed with coating
3) If removed, recoat
4) If not removed, scrub tile with abrasive scrubbing pad to try and remove staining
5) If removed, recoat
6) If stain is still present, contact your flooring manufacturer for guidance.

VCT- Sub-Floor Telegraphing/Surface Indentations

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the VCT; debris, left over adhesive, large trowel marks, or anything else present must be removed or leveled. If any of these are not removed, the VCT will conform to it and will be visible on the surface.

Surface Indentations occur when an object with too much force compresses a tile more than it can rebound. This is common on heavy furniture or hospital beds with small feet.

Telegraphing-Contact Flooring Manufacturer For Guidance.

Surface indentation- Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
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• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
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Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
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• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

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• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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FLOOR CARE GUIDE

Resilient Floors

Tile / 12”x 12” / Not Textured

LVT | VCT

Linoleum | **Fritztile**

Fritztile is a specialty flooring that is made up of a resin matrix mixed with glass and aggregate chips. They look very similar to a terrazzo tile and are often confused for one another. The main difference is that Fritztile are 12”x12” tile and are laid without any grout lines, instead laid directly next to the adjacent tiles. They are factory coated with a UV cured acrylic and a sealer/finish are required to keep the warranty. Light surface abrasion is required before coating.

Because of customizable nature of all the materials used in a Fritztile, the color combinations are endless. They are often very bright or vibrant colors.

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3M FLOOR CARE GUIDE

Resilient Floors

Tile / 12”x 12” / Not Textured

Fritztile

Tile / 16”x 16” / 18”x 18”

LVT-Luxury Vinyl Tile

LVT is composed of several layers; starting top down with an abradable factory coating, a clear urethane or UV cured acrylic wear layer, a printed film layer, a filler layer, and a backing. It often has a textured wear layer to increase aesthetics. It is becoming increasingly popular as a no coat solution in the commercial flooring industry. It will however, depending on the amount of traffic, benefit from a polymer coating which will greatly extend its life.

Tiles will most often look like stone, textile, or solid colors.

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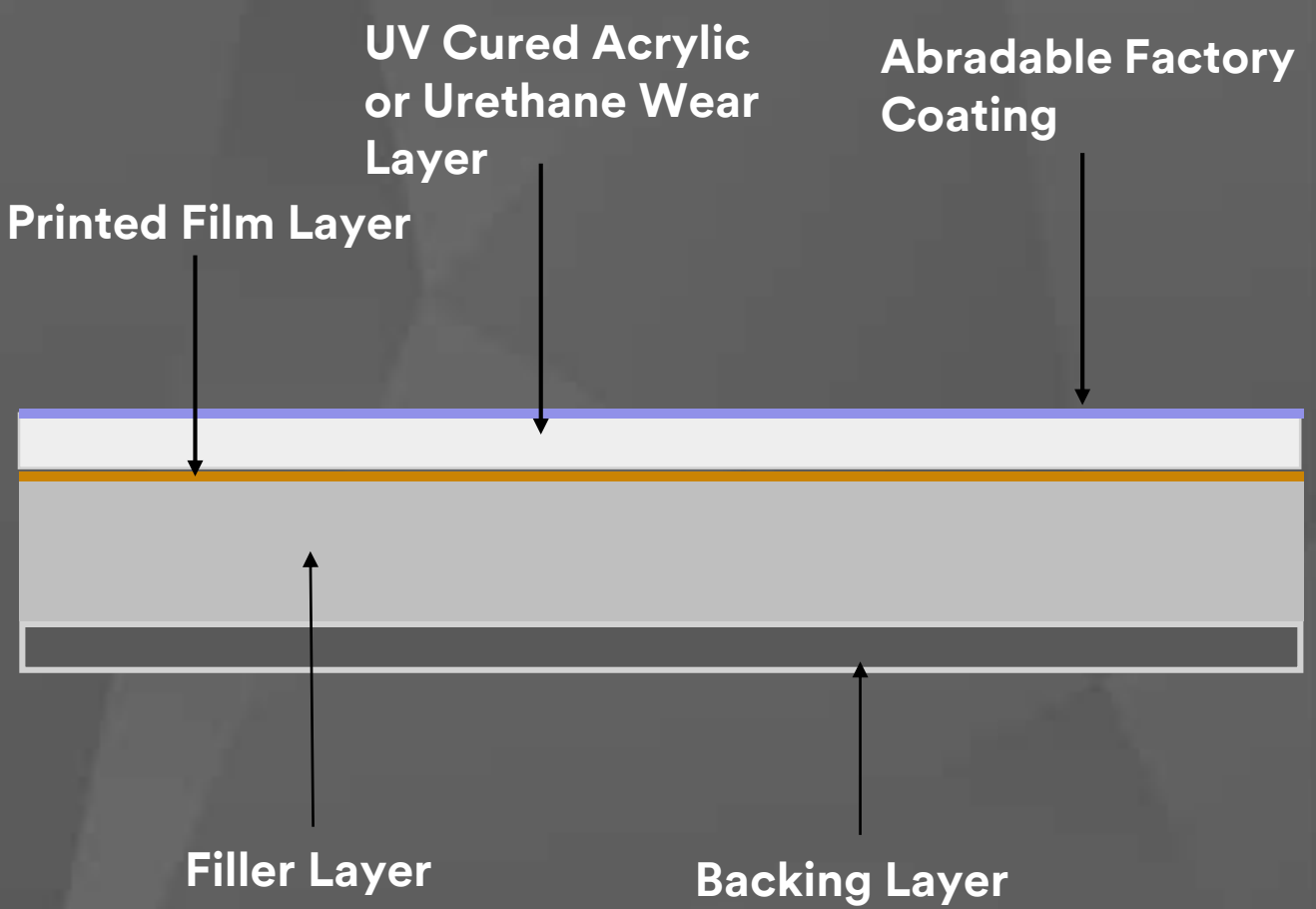
Resilient Floors

Tile / 16”x 16” / 18”x 18”

LVT-Luxury Vinyl Tile

LVT-Luxury Vinyl Tile

Luxury Vinyl Construction



Pictures

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3M FLOOR CARE GUIDE

Resilient Floors

Tile / 16”x 16” / 18”x 18”

LVT-Luxury Vinyl Tile

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

LVT/LVP-Luxury Vinyl Tile/Plank

- Surface Damage
- Adhesion Issues
- Subfloor Telegraphing
- Shrinking, Curling, Cupping
- Common Coating Problems

LVT/LVP- Surface Damage

The clear wear layer on LVT/LVP products hold up differently depending on the amount of traffic in a facility. Areas of high traffic often see a development of traffic lane scratching that can quickly become noticeable as the center lane wear and sections closer to the walls do not. For scratching there are a few options to try.

Troubleshooting

LVT/LVP- Surface Damage

Minor scratches- appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.
6. If unsuccessful, a blue or SPP pad can be used to even out the scratching prior to coating.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Un-repairable Scratching-Contact Flooring Manufacturer For Guidance.

LVT/LVP- Adhesion Issues

Coating not adhering to surface- LVT/LVP are often shipped with a light factory coating to prevent them from sticking in transit. This coating must be physically abraded from the tile prior to coating to avoid adhesion issues. Scrub with a SPP or Blue Cleaner pad, rinse well and coat.

Adhesive releasing from floor- Depending on the adhesive used, repeated stripping or moisture from the slab can cause the adhesive to release from the floor.

Adhesion Issues- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Sub-floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the LVT/LVP; debris, left over adhesive, large trowel marks, or anything else present must be removed or leveled. If any of these are not removed, the LVT/LVP will conform to it and will be visible on the surface.

Telegraphing will be more noticeable on larger tiles and longer planks as well as LVT/LVP that are shiny. LVT/LVP that is textured or dull will have a less chance of showing telegraphing.

Telegraphing- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Shrinking, Curling, Cupping

Changes in humidity and heat from direct sunlight can cause many issues depending on how the LVT/LVP was manufactured. Cupping, edge curling, and adhesive failing can occur while the most common issue is shrinking of the tile itself.

LVT/LVP is manufactured under heated rollers and use pressure to create a continuous sheet. Each layer is laminated together, which can sometimes cause some internal stress. Because of the internal stresses and "memory" of the LVT/LVP it can cause some shrinkage as the product ages.

Shrinking, Curling, Cupping-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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FLOOR CARE GUIDE

Sheet

Textured

Not Textured

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3M

FLOOR CARE GUIDE

Sheet / Not Textured

- Layered Sheet Vinyl
- Rubber
- Homogeneous Sheet Vinyl
- Linoleum

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3M

FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Layered Sheet Vinyl

Rubber

Homogeneous Sheet Vinyl

Linoleum

Layered sheet vinyl is composed of several layers. The top is a clear protective wear layer made of PVC or other binders. The next layer consists of binders and fillers as well as a printable film. There can also be a third backing layer of either non-foam or foam plastic. It is very similar to LVT (Luxury Vinyl Tile) in construction and can be transported and installed with much less effort.

Layered sheet vinyl can come in many sizes but are generally rolls 6' to 12' widths. This size allows it to be installed in many areas without having any seams or at most a minimal amount. Like LVT, the pattern can be anything that is printable and is generally made to look like stone tiles, ceramic tiles, or wooden floors.

Pictures

Maintenance & Troubleshooting

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FLOOR CARE GUIDE

Resilient Floors

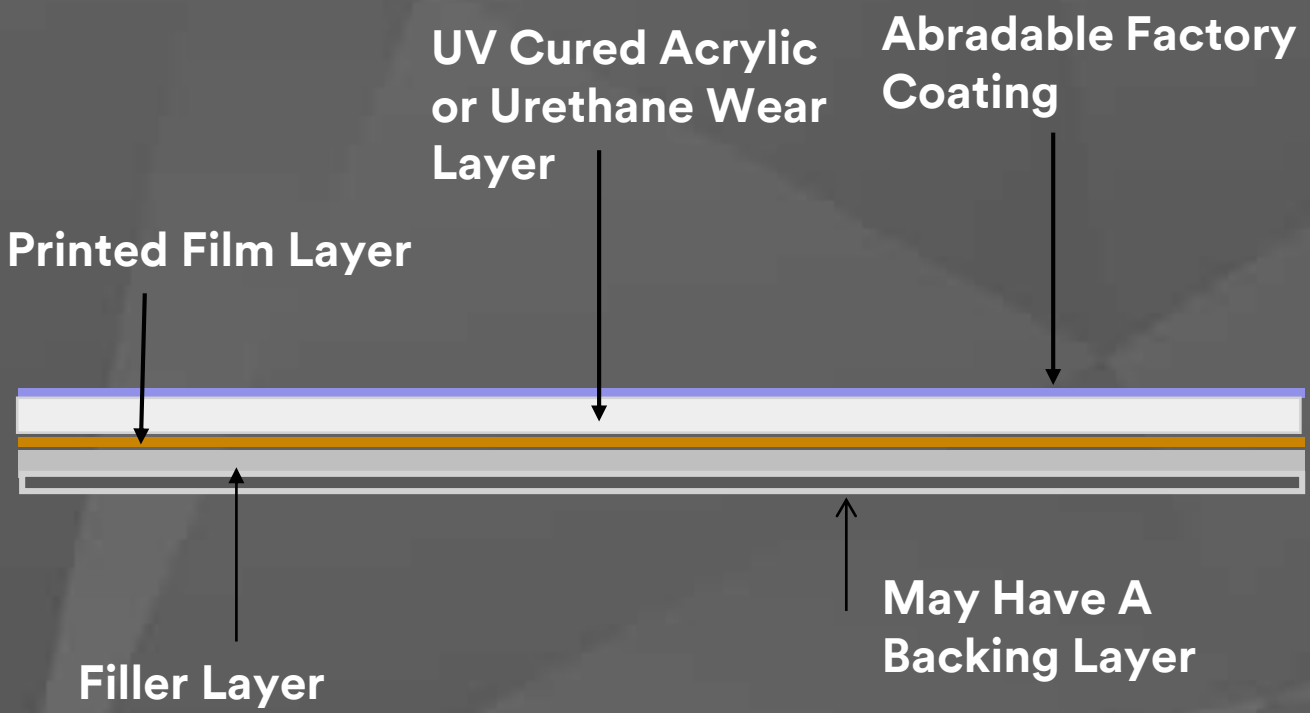
Sheet / Not Textured

Layered Sheet Vinyl

Layered Sheet Vinyl

Layered sheet vinyl is made in a similar layered construction like LVT (Luxury Vinyl Tile) but is uncut in a 6'-12' wide roll, thinner and more flexible to facilitate shipping, and is often made without a backing. Layered sheet vinyl is often used in areas where cleanliness is important such as healthcare. The sheet product provides a minimal amount of seams for moisture and bacteria to collect.

3M Products to not use/avoid: aggressive stripping pads- can cause scratching of the clear wear layer.



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FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Layered Sheet Vinyl

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Layered Sheet Vinyl

- Subfloor Telegraphing
- Indentations
- Wrinkles, Bubbles, Failing Seams
- Common Coating Problems

Layered Sheet Vinyl- Sub-Floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the layered sheet vinyl; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the layered sheet vinyl will conform to it and will be visible on the surface. This is especially true for layered sheet vinyl because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Layered Sheet Vinyl- Indentations

Indentations- Layered sheet vinyl is most often seen in the healthcare or the hospitality industry. Because of this, the floors will often be subject to heavy furniture and hospital beds that place a relatively large amount of weight on feet/wheels that have a small surface area. Left over time, theses indentations can cause the sheet vinyl to compress past what it can recover from and leave permanent indentations. Rolling wheels on hospital beds also have a chance to leave permanent indentation lines from being wheeled around.

Preemptive work- It is important to prevent these indentations before they occur to minimize possible damage. Use larger feet, larger wheels, or weight distributing pads on heavy furniture and hospital beds to even out the load.

Indentations- Contact Flooring Manufacturer For Guidance.

Layered Sheet Vinyl- Bubbles and Failing Seams

Bubbling- Bubbling in layered sheet vinyl can occur from several different sources. If excessive moisture is present underneath the layered sheet vinyl, most often migrating through the slab, it can cause adhesion issues. Improper or left over adhesive can also cause adhesive failure. Both instances will cause a bond failure that can lead to bubbles forming as sections release from the floor.

Failing Seams- Seams are either chemically or heat welded together to increase their durability or often laid so all seams are against walls, like in hallways. Wrinkles and failing seams will occur at these natural weak points if moisture is able to penetrate into the seams. This can cause adhesion failure as dirt and moisture weaken at the seams.

Bubbles/Failing Seams- Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

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• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
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• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
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Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

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Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M

FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Layered Sheet Vinyl

Rubber

Homogeneous Sheet Vinyl

Linoleum

Rubber flooring is a mixture of natural or synthetic rubber, fillers, and dyes. It is a durable and flexible floor that's often uncoated for its maintenance program. Rubber is also very impact resistant which makes it a good choice for applications such as sports flooring or weight lifting areas as well as healthcare. They are most often homogeneous throughout the entire layer.

Non Textured rubber usually has between 1-4 different colors. The pattern consists of a main base color that is a majority of the area with 1-3 complementary colors in an angled or rounded speckled form. These speckles will also be randomly spaced and of similar size.

Pictures

Maintenance & Troubleshooting

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3M FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Rubber

Rubber

Rubber is most commonly encountered in sheet form in healthcare and sports facilities.

Benefits- A good product for moisture resistance, several chemical resistances, sound dampening, good traction with textured versions, and easy to stand on for large periods of time.

Disadvantages: Rubber is susceptible to staining from oils and grease. Color fade/loss of color can occur with repeated use of high pH cleaners and chemical strippers as well as UV damage from direct sunlight. High pH cleaners and strippers can degrade the plasticizers and cause brittleness which leads to cracking with repeated use.

Textured Pictures
Un-Textured Pictures
Floor Maintenance
Floor Repair Troubleshooter

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3M FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Rubber

Tile / 24”x 24” / Textured

Textured Rubber

Preventative Maintenance

3M Solutions

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3M Solutions

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3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

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Rubber

- Sub-floor Telegraphing
- Cracks
- Color Bleeding-Fading
- Surface Damage/Indentation
- Stains
- Common Coating Problems

Rubber- Sub-Floor Telegraphing

Telegraphing: A common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the rubber; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the rubber will conform to it and will be visible on the surface. This is especially true for rubber sheet because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Rubber- Cracks

Cracks: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in the rubber loosing its elasticity and causes a brittleness in the rubber that can then lead to small-scale or widespread cracking.

Rubber- Cracks

Note: If coated, must be chemically stripped prior to restoration.
Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If cracking is still present, contact flooring manufacturer for guidance.

Cracking-Contact Flooring Manufacturer For Guidance.

Rubber- Color Bleeding/Fading

Color Bleeding/Fading: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in either a color loss or color fading that will be very difficult to match if replacement is needed. Consistent exposure to sunlight can cause UV damage and can result in color fading.

Rubber- Color Bleeding/Fading

Note: If coated, must be chemically stripped prior to restoration.

Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If unsuccessful contact flooring manufacture for guidance. If caused by sunlight/UV damage, look into window film/treatments to prevent further damage.

Color Fade/Bleeding-Contact Flooring Manufacturer For Guidance.

Rubber- Surface Damage/Indentations

Indentations- Rubber is most often seen in healthcare or sport facilities. Because of this, the floors will often be subject to heavy furniture and hospital beds/carts that place a relatively large amount of weight on feet/wheels that have a small surface area. Left over time, theses indentations can cause the rubber to compress past what it can recover from and leave permanent indentations. Rolling wheels on hospital beds also have a chance to leave permanent indentation lines from being wheeled around.

Preemptive work- It is important to prevent these indentations before they occur to minimize possible damage. Use larger feet, larger wheels, or weight distributing pads on heavy furniture and hospital beds to even out the load.

Surface damage: Uncoated rubber can be susceptible to scratching from foot traffic or moving items.

Rubber- Surface Damage/Indentations

Note: If coated, must be chemically stripped prior to restoration.

For surface scratching try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

For Surface Indentations- Move the furniture and add weight distributing products. Give the indentations time to see if they rebound.

Surface Damage- Contact Flooring Manufacturer For Guidance.

Surface indentations- Contact Flooring Manufacturer For Guidance.

Rubber- Stains

Stains: Rubber is not fully chemical resistant and is susceptible to oils, grease, and dyes. Depending on how deep the stain is, it can only be removed my abrading the depth of rubber that is holding the stain. If it has penetrated too deep, the stain may not be able to be removed.

Rubber- Stains

Note: If coated, must be chemically stripped prior to restoration.
For staining try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

Some stains may be chemically treated if the stain still persists, contact manufacturer for guidance.

Staining-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M

FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Layered Sheet Vinyl

Rubber

Homogeneous Sheet Vinyl

Linoleum

Homogenous sheet vinyl is constructed of a single vinyl layer in which the color/pattern is consistent through the entire thickness. Its benefits are that if the top surface is abraded there will be no noticeable change underneath. They are also very durable and come in a vast amount of colors for flooring pattern customization. Homogeneous Sheet Vinyl can come in many sizes but are generally rolls with 6’ to 12’ widths.

Color can usually be 2-4 similar shades of a single color or accent colors. The pattern of this product is a much smaller one than VCT or Linoleum. It looks like the colors are flowing into each other, almost like different colors of ink mixing. Small multi-layers can often be seen in many of the different colored pieces.

Pictures

Maintenance & Troubleshooting

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FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Homogeneous Sheet Vinyl

Homogeneous Sheet Vinyl

Homogenous sheet vinyl is constructed of a single vinyl layer in which the color/pattern is consistent through the entire thickness. Its benefits are that if the top surface is abraded there will be no noticeable change underneath. Homogeneous Sheet Vinyl can come in many sizes but are generally rolls with 6' to 12' widths. It is often used in areas where cleanliness is important such as healthcare. The sheet product provides a minimal amount of seams for moisture and bacteria to collect.

Pictures

Floor Maintenance

Floor Repair Troubleshooter

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3M

FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Homogeneous Sheet Vinyl

Homogeneous Sheet Vinyl

- Subfloor Telescoping
- Indentations
- Wrinkles, Bubbles, Failing Seams
- Common Coating Problems

Homogenous Sheet Vinyl- Sub-Floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the Homogenous Sheet Vinyl; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the Homogenous Sheet Vinyl will conform to it and will be visible on the surface. This is especially true for Homogenous Sheet Vinyl because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Homogeneous Sheet Vinyl- Indentations

Indentations- Homogeneous Sheet vinyl is most often seen in the healthcare or the hospitality industry. Because of this, the floors will often be subject to heavy furniture and hospital beds that place a relatively large amount of weight on feet/wheels that have a small surface area. Left over time, theses indentations can cause the sheet vinyl to compress past what it can recover from and leave permanent indentations. Rolling wheels on hospital beds also have a chance to leave permanent indentation lines from being wheeled around.

Preemptive work- It is important to prevent these indentations before they occur to minimize possible damage. Use larger feet, larger wheels, or weight distributing pads on heavy furniture and hospital beds to even out the load.

Indentations- Contact Flooring Manufacturer For Guidance.

Homogeneous Sheet Vinyl- Wrinkles, Bubbles, Failing Seams

Bubbling- Bubbling in homogeneous sheet vinyl can occur from several different sources. If excessive moisture is present underneath the homogeneous sheet vinyl, most often migrating through the slab, it can cause adhesion issues. Improper or left over adhesive can also cause adhesive failure Both instances will cause a bond failure that can lead to bubbles forming as sections release from the floor.

Failing Seams- Seams are either chemically or heat welded together to increase their durability or often laid so all seams are against walls like in hallways. Wrinkles and failing seams will occur at these natural weak points if moisture is able to penetrate into the seams. This can cause adhesion failure as dirt and moisture weaken at the seams.

Bubbles/Failing Seams- Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

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3M FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Layered Sheet Vinyl

Rubber

Homogeneous Sheet Vinyl

Linoleum

Linoleum is a natural flooring product that is made up of wood flour, pine resins, talc, bound with linseed oil and pressed onto a jute (burlap) backing.

Because of these natural products, linoleum is sensitive to moisture, chemicals, and abrasion.

It can range from 2-6 different colors on average and will often be bright and contrasting. The pattern can be described as flowing turbulent water, with the colors mixing into and around each other. Often the jute backing creates a visible pattern on the top surface, which looks many small dimples in a grid pattern.

Pictures

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FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Linoleum

Linoleum

Linoleum make-up: Linseed oil, cork/wood flour, pine resin, and mineral fillers pressed onto a jute (burlap/canvas) backing.

Linoleum Sensitivities

Chemical: Because of the natural products in linoleum, caution must be taken with high pH chemicals. High pH cleaning chemicals and strippers (10.5 and above) should never be used, they cause the linseed oil binder to break down. Mildly alkaline cleaners may be used for periodic cleaning. Contact flooring manufacturer for recommended cleaners.

Abrasion: Linoleum is a relatively soft flooring substrate due to the cork/wood flour and therefore is vulnerable to scratching. A lower abrasive pad, such as a blue or brown pad should be used if chemically stripping.

Moisture: Due to the jute backing, linoleum is sensitive to moisture. If moisture penetrates the surface, it can cause the jute backing to release from the adhesive. Constant moisture can cause both adhesion problems as well as mold.

3M™ products to not use: #6 Speed Stripper, #22 Floor Stripper LO, Troubleshooter ™ stripper, 3M™ Floor stripper, 3M™ High Productivity Pad 7300.

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FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Linoleum

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Linoleum

- Subfloor Telegraphing
- Surface Scratching
- Bubbles or Warping
- Chemical Damage
- Common Coating Problems

Linoleum- Sub-Floor Telegraphing

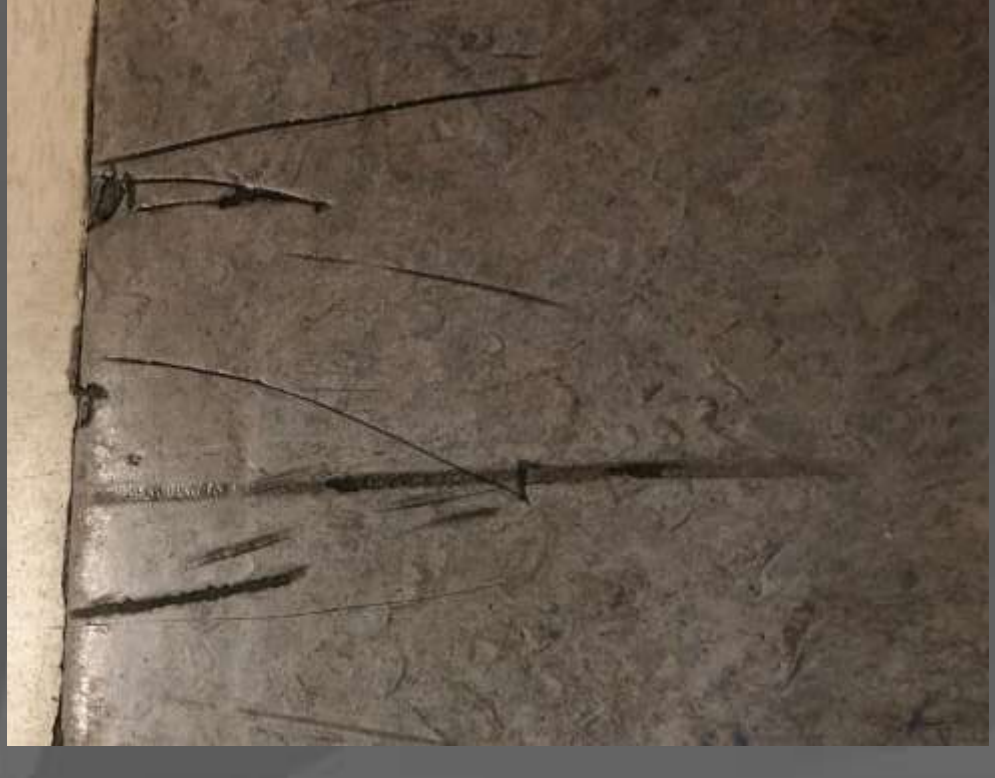
Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the linoleum; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the linoleum will conform to it and will be visible on the surface. This is especially true for linoleum because it is quite thin and most often sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Linoleum- Surface Scratching

Because the main filler in linoleum is either wood pulp or a combination of wood pulp and cork, it is a relatively soft flooring substrate. Extra caution is necessary after the floor has been exposed to water because that can soften it even further.

Large objects or furniture can easily damage the floor if dragged. Floor pads that are too aggressive (High Pro Pad 7300, Black Stripping Pad 7200) if used can cause widespread small scratching.



Troubleshooting

Linoleum- Surface Scratching

Minor scratches-appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Major surface scratches or not repairable- Contact Flooring Manufacturer For Guidance.

Linoleum- Bubbles or Warping

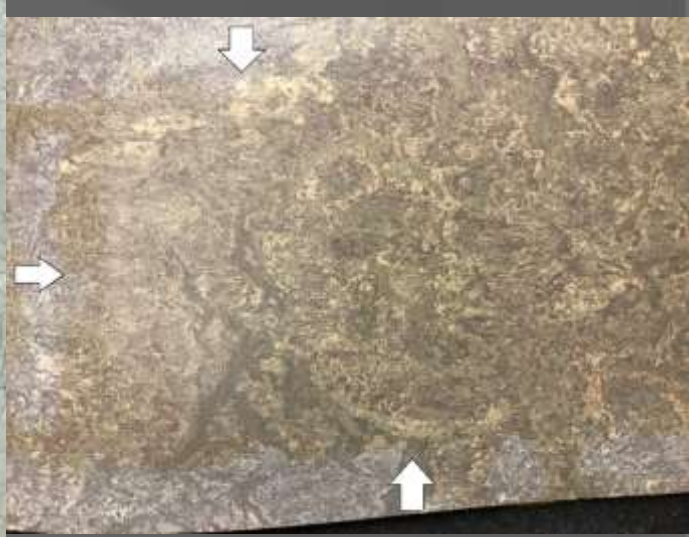
Bubbling- Bubbling in linoleum can occur from several different sources. If excessive moisture is present underneath the linoleum, most often migrating through the slab, it can cause adhesion issues. The moisture can cause the jute backing to separate from the linoleum itself or the backing can separate from the adhesive. Both instances will cause a bond failure that can lead to bubbles forming as sections release from the floor, mainly when in sheet form. Surface bubbling can also form in extreme cases of chemical damage. If high pH chemicals are used, especially over a longer period of time, it will cause the linoleum to break down and possibly create bubbles.

Warping- Warping will generally occur on the edge of tiles or at the seams of sheet products. This is usually due to moisture entering between seams and causing the linoleum to swell and warp.

Bubbles/Warping-Contact Flooring Manufacturer For Guidance.

Linoleum- Chemical Damage

Chemical Damage- High pH chemicals (degreasers and strippers) will breakdown the linseed oil binder. This can occur after just one exposure and will become more likely after repeated exposure. Chemical damage can be observed in several different ways but most commonly as: color change/color fade, brittleness, surface cracking, softening, or bubbling.



Chemical Damage- Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M

FLOOR CARE GUIDE

Resilient Floors

Sheet / Textured

Layered Sheet Vinyl

Rubber

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3M

FLOOR CARE GUIDE

Resilient Floors

Sheet / Textured

Layered Sheet Vinyl | Rubber

Layered sheet vinyl is composed of several layers. The top is a clear protective wear layer made of PVC or other binders. The next layer consists of binders and fillers as well as a printable film. There can also be a third backing layer of either non-foam or foam plastic. It is very similar to LVT (Luxury Vinyl Tile) in construction and can be transported and installed with much less effort.

Layered sheet vinyl can come in many sizes but are generally rolls 6' to 12' widths. This size allows it to be installed in many areas without having any seams or at most a minimal amount. Like LVT, the pattern can be anything that is printable and is generally made to look like stone tiles, ceramic tiles, or wooden floors.

Pictures

Maintenance & Troubleshooting

Resilient Floors

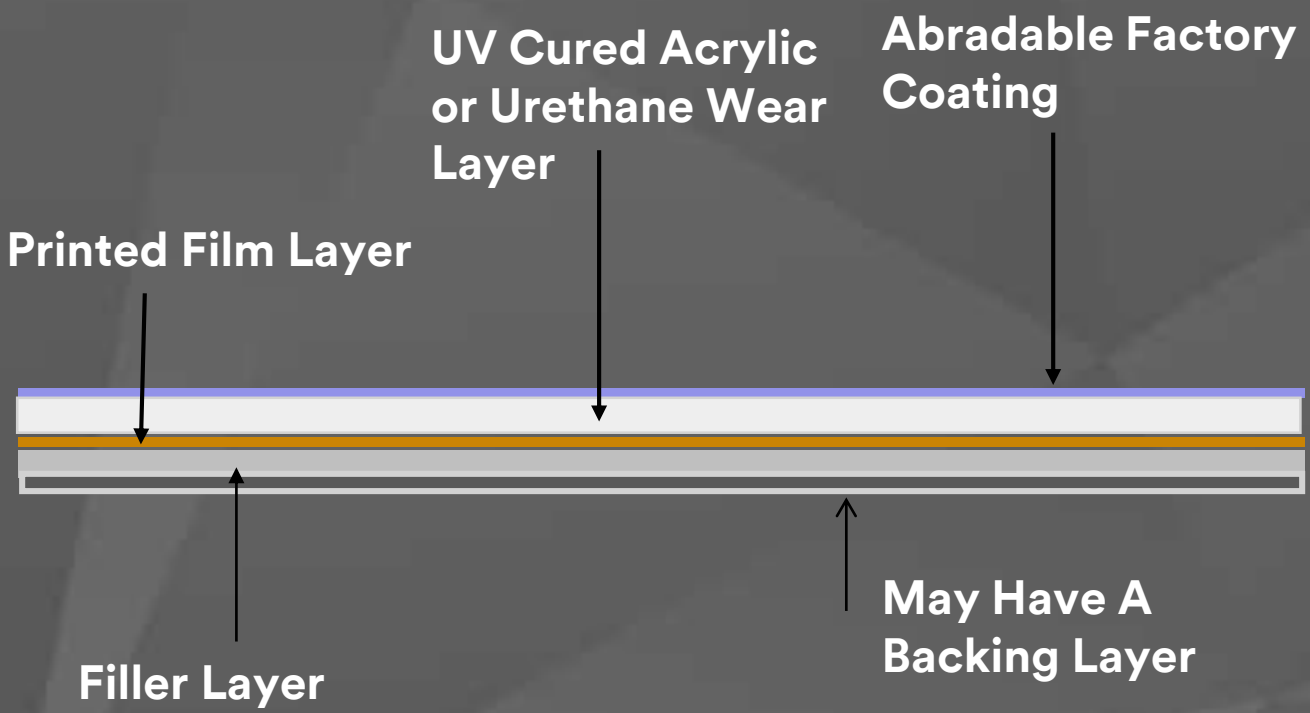
Sheet / Textured

Layered Sheet Vinyl

Layered Sheet Vinyl

Layered sheet vinyl is made in a similar layered construction like LVT (Luxury Vinyl Tile) but is uncut in a 6'-12' wide roll, thinner and more flexible to facilitate shipping, and is often made without a backing. Layered sheet vinyl is often used in areas where cleanliness is important such as healthcare. The sheet product provides a minimal amount of seams for moisture and bacteria to collect.

3M Products to not use/avoid: aggressive stripping pads- can cause scratching of the clear wear layer.



Resilient Floors

Sheet / Textured

Layered Sheet Vinyl

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Layered Sheet Vinyl

- Subfloor Telegraphing
- Indentations
- Wrinkles, Bubbles, Failing Seams
- Common Coating Problems

Layered Sheet Vinyl- Sub-Floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the layered sheet vinyl; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the layered sheet vinyl will conform to it and will be visible on the surface. This is especially true for layered sheet vinyl because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Layered Sheet Vinyl- Indentations

Indentations- Layered sheet vinyl is most often seen in the healthcare or the hospitality industry. Because of this, the floors will often be subject to heavy furniture and hospital beds that place a relatively large amount of weight on feet/wheels that have a small surface area. Left over time, theses indentations can cause the sheet vinyl to compress past what it can recover from and leave permanent indentations. Rolling wheels on hospital beds also have a chance to leave permanent indentation lines from being wheeled around.

Preemptive work- It is important to prevent these indentations before they occur to minimize possible damage. Use larger feet, larger wheels, or weight distributing pads on heavy furniture and hospital beds to even out the load.

Indentations- Contact Flooring Manufacturer For Guidance.

Layered Sheet Vinyl- Bubbles and Failing Seams

Bubbling- Bubbling in layered sheet vinyl can occur from several different sources. If excessive moisture is present underneath the layered sheet vinyl, most often migrating through the slab, it can cause adhesion issues. Improper or left over adhesive can also cause adhesive failure. Both instances will cause a bond failure that can lead to bubbles forming as sections release from the floor.

Failing Seams- Seams are either chemically or heat welded together to increase their durability or often laid so all seams are against walls, like in hallways. Wrinkles and failing seams will occur at these natural weak points if moisture is able to penetrate into the seams. This can cause adhesion failure as dirt and moisture weaken at the seams.

Bubbles/Failing Seams- Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M FLOOR CARE GUIDE

Resilient Floors

Sheet / Textured

Layered Sheet Vinyl

Rubber

Rubber flooring is a mixture of natural or synthetic rubber, fillers, and dyes. It is a durable and flexible floor that's often uncoated for its maintenance program. Rubber is also very impact resistant which makes if a good choice for applications such as sports flooring or weight lifting areas. They are most often homogeneous throughout the entire layer.

Textured sheet rubber will almost always be one single color. The textures on the surface can be many things such as raised circles, raised diamonds, mottled, and raised squares. These textures are most often used to increase traction of the flooring substrate.

Pictures

Maintenance & Troubleshooting

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3M

FLOOR CARE GUIDE

Resilient Floors

Sheet / Textured

Textured Rubber

Rubber

Rubber is most commonly encountered in sheet form in healthcare and sports facilities.

Benefits- A good product for moisture resistance, several chemical resistances, sound dampening, good traction with textured versions, and easy to stand on for large periods of time.

Disadvantages: Rubber is susceptible to staining from oils and grease. Color fade/loss of color can occur with repeated use of high pH cleaners and chemical strippers as well as UV damage from direct sunlight. High pH cleaners and strippers can degrade the plasticizers and cause brittleness which leads to cracking with repeated use.

Textured Pictures
Un-Textured Pictures
Floor Maintenance
Floor Repair Troubleshooter

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3M

FLOOR CARE GUIDE

Resilient Floors

Sheet / Textured

Textured Rubber

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3M FLOOR CARE GUIDE

Resilient Floors

Sheet / Un-Textured

Rubber

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

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Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Rubber

- Sub-floor Telegraphing
- Cracks
- Color Bleeding-Fading
- Surface Damage/Indentation
- Stains
- Common Coating Problems

Rubber- Sub-Floor Telegraphing

Telegraphing: A common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the rubber; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the rubber will conform to it and will be visible on the surface. This is especially true for rubber sheet because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Rubber- Cracks

Cracks: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in the rubber loosing its elasticity and causes a brittleness in the rubber that can then lead to small-scale or widespread cracking.

Rubber- Cracks

Note: If coated, must be chemically stripped prior to restoration.
Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If cracking is still present, contact flooring manufacturer for guidance.

Cracking-Contact Flooring Manufacturer For Guidance.

Rubber- Color Bleeding/Fading

Color Bleeding/Fading: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in either a color loss or color fading that will be very difficult to match if replacement is needed. Consistent exposure to sunlight can cause UV damage and can result in color fading.

Rubber- Color Bleeding/Fading

Note: If coated, must be chemically stripped prior to restoration.

Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If unsuccessful contact flooring manufacture for guidance. If caused by sunlight/UV damage, look into window film/treatments to prevent further damage.

Color Fade/Bleeding-Contact Flooring Manufacturer For Guidance.

Rubber- Surface Damage/Indentations

Indentations- Rubber is most often seen in healthcare or sport facilities. Because of this, the floors will often be subject to heavy furniture and hospital beds/carts that place a relatively large amount of weight on feet/wheels that have a small surface area. Left over time, theses indentations can cause the rubber to compress past what it can recover from and leave permanent indentations. Rolling wheels on hospital beds also have a chance to leave permanent indentation lines from being wheeled around.

Preemptive work- It is important to prevent these indentations before they occur to minimize possible damage. Use larger feet, larger wheels, or weight distributing pads on heavy furniture and hospital beds to even out the load.

Surface damage: Uncoated rubber can be susceptible to scratching from foot traffic or moving items.

Rubber- Surface Damage/Indentations

Note: If coated, must be chemically stripped prior to restoration.

For surface scratching try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

For Surface Indentations- Move the furniture and add weight distributing products. Give the indentations time to see if they rebound.

Surface Damage- Contact Flooring Manufacturer For Guidance.

Surface indentations- Contact Flooring Manufacturer For Guidance.

Rubber- Stains

Stains: Rubber is not fully chemical resistant and is susceptible to oils, grease, and dyes. Depending on how deep the stain is, it can only be removed my abrading the depth of rubber that is holding the stain. If it has penetrated too deep, the stain may not be able to be removed.

Rubber- Stains

Note: If coated, must be chemically stripped prior to restoration.
For staining try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

Some stains may be chemically treated if the stain still persists, contact manufacturer for guidance.

Staining-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
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• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
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• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24”

Textured

Not Textured

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Not Textured

- LVT
- Rubber
- Linoleum

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x24” / Not Textured

LVT | Rubber | Linoleum

LVT is composed of several layers; starting top down with an abradable factory coating, urethane or UV cured acrylic wear layer, a printed film layer, a filler layer, and a backing. Often has a textured wear layer to increase aesthetics. It is becoming increasingly popular as a no coat solution in the commercial flooring industry. It will however, depending on the amount of traffic, benefit from a polymer coating which will greatly extend its life.

The printed layer can be almost any pattern available. Tiles will most often look like stone, textile, or solid colors.

Pictures

Maintenance & Troubleshooting

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3M

FLOOR CARE GUIDE

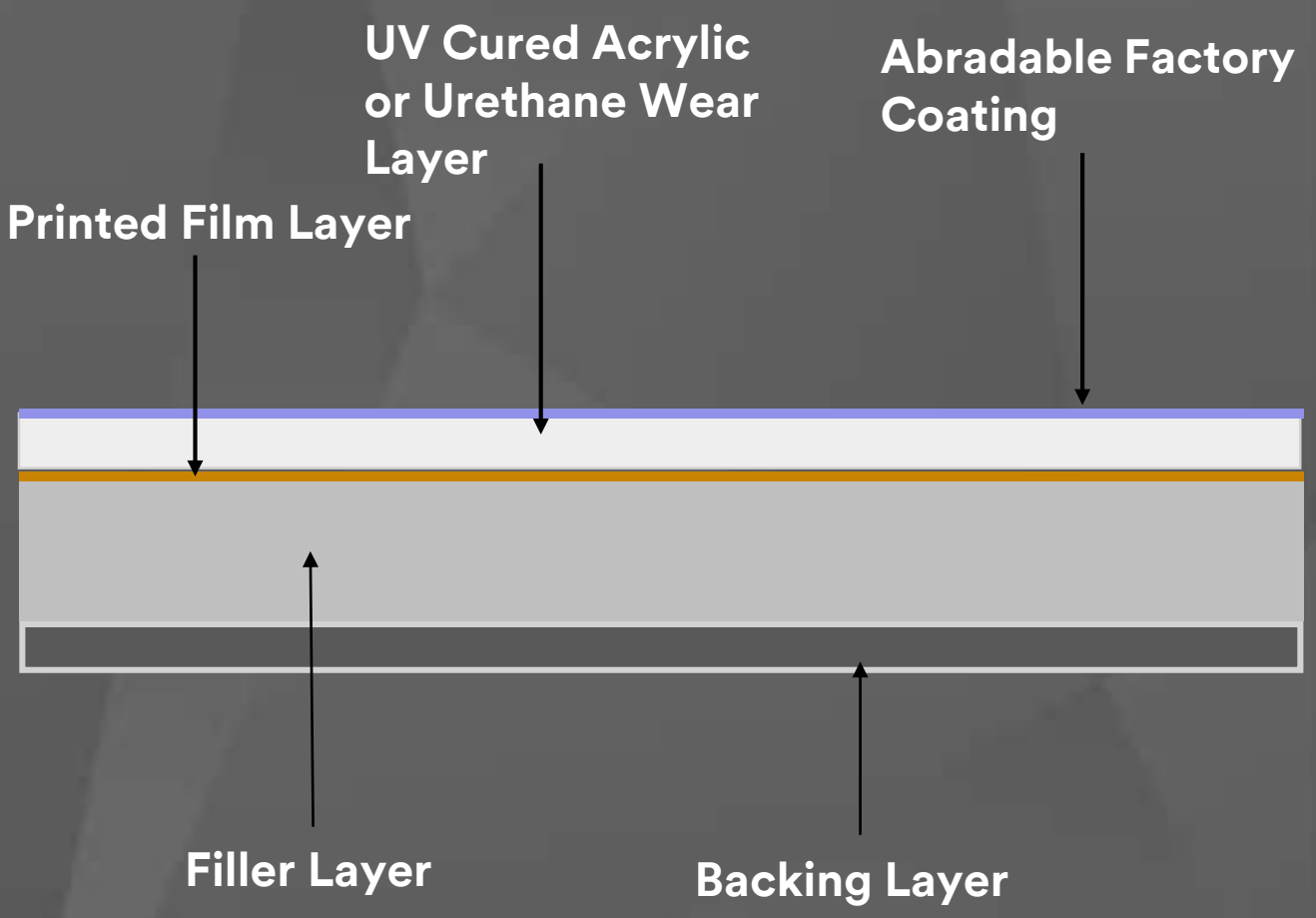
Resilient Floors

Tile / 24”x 24” / Not Textured

LVT

Luxury Vinyl Tile/Plank (LVT/LVP)

Luxury Vinyl Construction



Pictures

Floor Maintenance

Floor Repair Troubleshooter

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Not Textured

LVT

Preventative Maintenance

3M Solutions

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Protect

3M Solutions

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Maintain

3M Solutions

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- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Luxury Vinyl Tile/Plank (LVT/LVP)

- Surface Damage
- Adhesion Issues
- Subfloor Telegraphing
- Shrinking, Curling, Cupping
- Common Coating Problems

LVT/LVP- Surface Damage

The clear wear layer on LVT/LVP products hold up differently depending on the amount of traffic in a facility. Areas of high traffic often see a development of traffic lane scratching that can quickly become noticeable as the center lane wear and sections closer to the walls do not. For scratching there are a few options to try.

Troubleshooting

LVT/LVP- Surface Damage

Minor scratches- appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.
6. If unsuccessful, a blue or SPP pad can be used to even out the scratching prior to coating.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Un-repairable Scratching-Contact Flooring Manufacturer For Guidance.

LVT/LVP- Adhesion Issues

Coating not adhering to surface- LVT/LVP are often shipped with a light factory coating to prevent them from sticking in transit. This coating must be physically abraded from the tile prior to coating to avoid adhesion issues. Scrub with a SPP or Blue Cleaner pad, rinse well and coat.

Adhesive releasing from floor- Depending on the adhesive used, repeated stripping or moisture from the slab can cause the adhesive to release from the floor.

Adhesion Issues- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Sub-floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the LVT/LVP; debris, left over adhesive, large trowel marks, or anything else present must be removed or leveled. If any of these are not removed, the LVT/LVP will conform to it and will be visible on the surface.

Telegraphing will be more noticeable on larger tiles and longer planks as well as LVT/LVP that are shiny. LVT/LVP that is textured or dull will have a less chance of showing telegraphing.

Telegraphing- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Shrinking, Curling, Cupping

Changes in humidity and heat from direct sunlight can cause many issues depending on how the LVT/LVP was manufactured. Cupping, edge curling, and adhesive failing can occur while the most common issue is shrinking of the tile itself.

LVT/LVP is manufactured under heated rollers and use pressure to create a continuous sheet. Each layer is laminated together, which can sometimes cause some internal stress. Because of the internal stresses and "memory" of the LVT/LVP it can cause some shrinkage as the product ages.

Shrinking, Curling, Cupping-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Not Textured

LVT | **Rubber** | Linoleum

Rubber flooring is a mixture of natural or synthetic rubber, fillers, and dyes. It is a durable and flexible floor that’s often uncoated for its maintenance program. Rubber is also very impact resistant which makes if a good choice for applications such as sports flooring or weight lifting areas. They are most often homogeneous throughout the entire layer.

Non Textured rubber usually has between 1-4 different colors. The pattern consists of a main base color is a majority of the area with 1-3 complementary colors in angled or rounded speckled form. These speckles will also be randomly spaced and of similar size.

Pictures

Maintenance & Troubleshooting

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FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Not Textured

Rubber

Rubber

Rubber is most commonly encountered in sheet form in healthcare and sports facilities.

Benefits- A good product for moisture resistance, several chemical resistances, sound dampening, good traction with textured versions, and easy to stand on for large periods of time.

Disadvantages: Rubber is susceptible to staining from oils and grease. Color fade/loss of color can occur with repeated use of high pH cleaners and chemical strippers as well as UV damage from direct sunlight. High pH cleaners and strippers can degrade the plasticizers cause brittleness which leads to cracking with repeated use.

Textured Pictures

Un-Textured Pictures

Floor Maintenance

Floor Repair Troubleshooter

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FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Not Textured

Rubber

Tile / 24”x 24” / Textured

Textured Rubber

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Rubber

- Sub-floor Telegraphing
- Cracks
- Color Bleeding-Fading
- Surface Damage/Indentation
- Stains
- Common Coating Problems

Rubber- Sub-Floor Telegraphing

Telegraphing: A common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the rubber; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the rubber will conform to it and will be visible on the surface. This is especially true for rubber sheet because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Rubber- Cracks

Cracks: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in the rubber loosing its elasticity and causes a brittleness in the rubber that can then lead to small-scale or widespread cracking.

Rubber- Cracks

Note: If coated, must be chemically stripped prior to restoration.
Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If cracking is still present, contact flooring manufacturer for guidance.

Cracking-Contact Flooring Manufacturer For Guidance.

Rubber- Color Bleeding/Fading

Color Bleeding/Fading: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in either a color loss or color fading that will be very difficult to match if replacement is needed. Consistent exposure to sunlight can cause UV damage and can result in color fading.

Rubber- Color Bleeding/Fading

Note: If coated, must be chemically stripped prior to restoration.

Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If unsuccessful contact flooring manufacture for guidance. If caused by sunlight/UV damage, look into window film/treatments to prevent further damage.

Color Fade/Bleeding-Contact Flooring Manufacturer For Guidance.

Rubber- Surface Damage/Indentations

Indentations- Rubber is most often seen in healthcare or sport facilities. Because of this, the floors will often be subject to heavy furniture and hospital beds/carts that place a relatively large amount of weight on feet/wheels that have a small surface area. Left over time, theses indentations can cause the rubber to compress past what it can recover from and leave permanent indentations. Rolling wheels on hospital beds also have a chance to leave permanent indentation lines from being wheeled around.

Preemptive work- It is important to prevent these indentations before they occur to minimize possible damage. Use larger feet, larger wheels, or weight distributing pads on heavy furniture and hospital beds to even out the load.

Surface damage: Uncoated rubber can be susceptible to scratching from foot traffic or moving items.

Rubber- Surface Damage/Indentations

Note: If coated, must be chemically stripped prior to restoration.

For surface scratching try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

For Surface Indentations- Move the furniture and add weight distributing products. Give the indentations time to see if they rebound.

Surface Damage- Contact Flooring Manufacturer For Guidance.

Surface indentations- Contact Flooring Manufacturer For Guidance.

Rubber- Stains

Stains: Rubber is not fully chemical resistant and is susceptible to oils, grease, and dyes. Depending on how deep the stain is, it can only be removed my abrading the depth of rubber that is holding the stain. If it has penetrated too deep, the stain may not be able to be removed.

Rubber- Stains

Note: If coated, must be chemically stripped prior to restoration.
For staining try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

Some stains may be chemically treated if the stain still persists, contact manufacturer for guidance.

Staining-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
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• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
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• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Not Textured

LVT | Rubber | **Linoleum**

Linoleum is a natural flooring product that is made up of wood flour, pine resins, talc, bound with linseed oil and pressed onto a jute (burlap) backing.

Because of these natural products, linoleum is sensitive to moisture, chemicals, and abrasion.

It can range from 2-6 different colors on average and will often be bright and contrasting. The pattern can be described as flowing turbulent water, with the colors mixing into and around each other. Often the jute backing creates a visible pattern on the top surface, which looks many small dimples in a grid pattern.

Pictures

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FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Not Textured

Linoleum






Linoleum

Linoleum make-up: Linseed oil, cork/wood flour, pine resin, and mineral fillers pressed onto a jute (burlap/canvas) backing.

Linoleum Sensitivities

Chemical: Because of the natural products in linoleum, caution must be taken with high pH chemicals. High pH cleaning chemicals and strippers (10.5 and above) should never be used, they cause the linseed oil binder to break down. Mildly alkaline cleaners may be used for periodic cleaning. Contact flooring manufacturer for recommended cleaners.

Abrasion: Linoleum is a relatively soft flooring substrate due to the cork/wood flour and therefore is vulnerable to scratching. A lower abrasive pad, such as a blue or brown pad should be used if chemically stripping.

Moisture: Due to the jute backing, linoleum is sensitive to moisture. If moisture penetrates the surface, it can cause the jute backing to release from the adhesive. Constant moisture can cause both adhesion problems as well as mold.

3M™ products to not use: #6 Speed Stripper, #22 Floor Stripper LO, Troubleshooter ™ stripper, 3M™ Floor stripper, 3M™ High Productivity Pad 7300.

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FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Not Textured

Linoleum






Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Linoleum

- Subfloor Telegraphing
- Surface Scratching
- Bubbles or Warping
- Chemical Damage
- Common Coating Problems

Linoleum- Sub-Floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the linoleum; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the linoleum will conform to it and will be visible on the surface. This is especially true for linoleum because it is quite thin and most often sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Linoleum- Surface Scratching

Because the main filler in linoleum is either wood pulp or a combination of wood pulp and cork, it is a relatively soft flooring substrate. Extra caution is necessary after the floor has been exposed to water because that can soften it even further.

Large objects or furniture can easily damage the floor if dragged. Floor pads that are too aggressive (High Pro Pad 7300, Black Stripping Pad 7200) if used, can cause widespread small scratching.

Troubleshooting

Linoleum- Surface Scratching

Minor scratches-appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Major surface scratches or not repairable- Contact Flooring Manufacturer For Guidance.

Linoleum- Bubbles or Warping

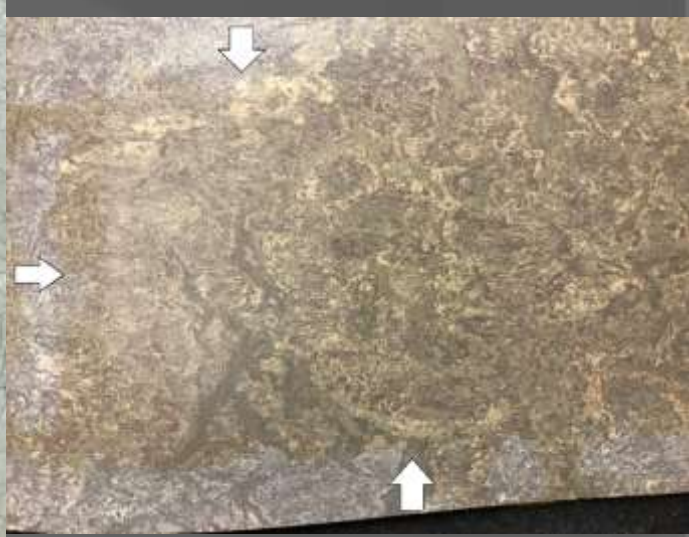
Bubbling- Bubbling in linoleum can occur from several different sources. If excessive moisture is present underneath the linoleum, most often migrating through the slab, it can cause adhesion issues. The moisture can cause the jute backing to separate from the linoleum itself or the backing can separate from the adhesive. Both instances will cause a bond failure that can lead to bubbles forming as sections release from the floor, mainly when in sheet form. Surface bubbling can also form in extreme cases of chemical damage. If high pH chemicals are used, especially over a longer period of time, it will cause the linoleum to break down and possibly create bubbles.

Warping- Warping will generally occur on the edge of tiles or at the seams of sheet products. This is usually due to moisture entering between seams and causing the linoleum to swell and warp.

Bubbles/Warping-Contact Flooring Manufacturer For Guidance.

Linoleum- Chemical Damage

Chemical Damage- High pH chemicals (degreasers and strippers) will breakdown the linseed oil binder. This can occur after just one exposure and will become more likely after repeated exposure. Chemical damage can be observed in several different ways but most commonly as: color change/color fade, brittleness, surface cracking, softening, or bubbling.



Chemical Damage- Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

Start Over

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3M

FLOOR CARE GUIDE

Tile / 24”x 24” / Textured

LVT

Rubber

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Textured

LVT | Rubber

Rubber flooring is a mixture of natural or synthetic rubber, fillers, and dyes. It is a durable and flexible floor that’s often uncoated for its maintenance program. Rubber is also very impact resistant which makes if a good choice for applications such as sports flooring or weight lifting areas. They are most often homogeneous throughout the entire layer.

Textured sheet rubber will almost always be one single color. The textures on the surface can be many things such as raised circles, raised diamonds, mottled, and raised squares.

Pictures

Maintenance & Troubleshooting

Tile / 24”x 24” / Textured

Textured Rubber

Rubber

Rubber is most commonly encountered in sheet form in healthcare and sports facilities.

Benefits- A good product for moisture resistance, several chemical resistances, sound dampening, good traction with textured versions, and easy to stand on for large periods of time.

Disadvantages: Rubber is susceptible to staining from oils and grease. Color fade/loss of color can occur with repeated use of high pH cleaners and chemical strippers as well as UV damage from direct sunlight. High pH cleaners and strippers can degrade the plasticizers cause brittleness which leads to cracking with repeated use.

Textured Pictures

Un-Textured Pictures

Floor Maintenance

Floor Repair Troubleshooter

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3M FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Rubber

Tile / 24”x 24” / Textured

Textured Rubber

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Rubber

- Sub-floor Telegraphing
- Cracks
- Color Bleeding-Fading
- Surface Damage/Indentation
- Stains
- Common Coating Problems

Rubber- Sub-Floor Telegraphing

Telegraphing: A common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the rubber; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the rubber will conform to it and will be visible on the surface. This is especially true for rubber sheet because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Rubber- Cracks

Cracks: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in the rubber loosing its elasticity and causes a brittleness in the rubber that can then lead to small-scale or widespread cracking.

Rubber- Cracks

Note: If coated, must be chemically stripped prior to restoration.
Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If cracking is still present, contact flooring manufacturer for guidance.

Cracking-Contact Flooring Manufacturer For Guidance.

Rubber- Color Bleeding/Fading

Color Bleeding/Fading: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in either a color loss or color fading that will be very difficult to match if replacement is needed. Consistent exposure to sunlight can cause UV damage and can result in color fading.

Rubber- Color Bleeding/Fading

Note: If coated, must be chemically stripped prior to restoration.

Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If unsuccessful contact flooring manufacture for guidance. If caused by sunlight/UV damage, look into window film/treatments to prevent further damage.

Color Fade/Bleeding-Contact Flooring Manufacturer For Guidance.

Rubber- Surface Damage/Indentations

Indentations- Rubber is most often seen in healthcare or sport facilities. Because of this, the floors will often be subject to heavy furniture and hospital beds/carts that place a relatively large amount of weight on feet/wheels that have a small surface area. Left over time, theses indentations can cause the rubber to compress past what it can recover from and leave permanent indentations. Rolling wheels on hospital beds also have a chance to leave permanent indentation lines from being wheeled around.

Preemptive work- It is important to prevent these indentations before they occur to minimize possible damage. Use larger feet, larger wheels, or weight distributing pads on heavy furniture and hospital beds to even out the load.

Surface damage: Uncoated rubber can be susceptible to scratching from foot traffic or moving items.

Rubber- Surface Damage/Indentations

Note: If coated, must be chemically stripped prior to restoration.

For surface scratching try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

For Surface Indentations- Move the furniture and add weight distributing products and give the indentations time to see if they rebound.

Surface Damage- Contact Flooring Manufacturer For Guidance.

Surface indentations- Contact Flooring Manufacturer For Guidance.

Rubber- Stains

Stains: Rubber is not fully chemical resistant and is susceptible to oils, grease, and dyes. Depending on how deep the stain is, it can only be removed my abrading the depth of rubber that is holding the stain. If it has penetrated too deep, the stain may not be able to be removed.

Rubber- Stains

Note: If coated, must be chemically stripped prior to restoration.
For staining try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

Some stains may be chemically treated if the stain still persists, contact manufacturer for guidance.

Staining-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Textured

LVT | Rubber

LVT (Luxury Vinyl Tile) is composed of several layers; starting top down with an abradable factory coating, a clear urethane or UV cured acrylic wear layer, a printed film layer, a filler layer, and a backing. It is becoming increasingly popular as a no coat solution in the commercial flooring industry. It will however, depending on the amount of traffic, benefit from a polymer coating which will greatly extend its life.

Tiles will most often look like stone, textile, or solid colors.

Pictures

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FLOOR CARE GUIDE

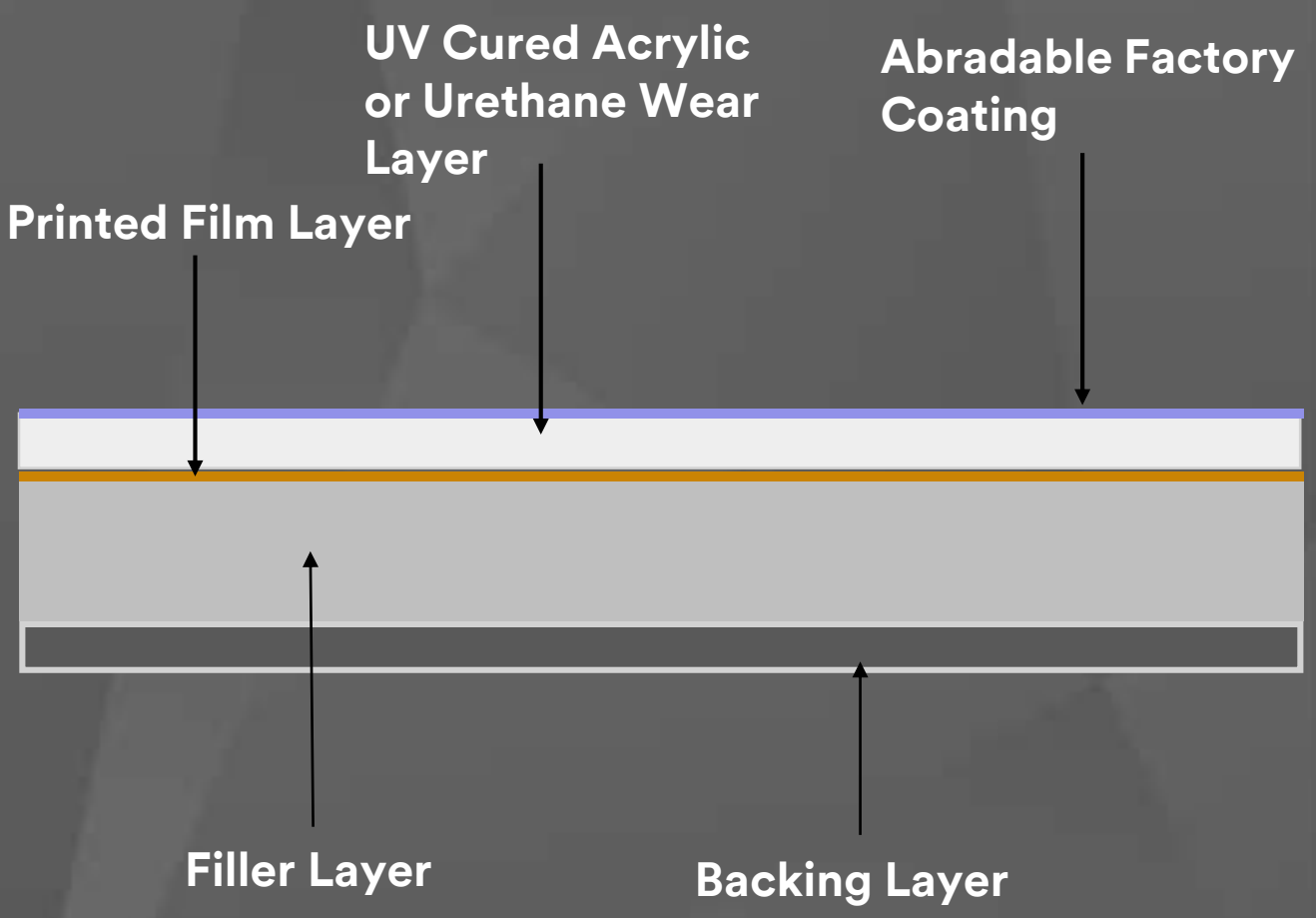
Resilient Floors

Tile / 24”x 24” / Textured

LVT

Luxury Vinyl Tile/Plank (LVT/LVP)

Luxury Vinyl Construction



Pictures

Floor Maintenance

Floor Repair Troubleshooter

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3M

FLOOR CARE GUIDE

Resilient Floors

Tile / 24”x 24” / Textured

LVT

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Luxury Vinyl Tile/Plank (LVT/LVP)

- Surface Damage
- Adhesion Issues
- Subfloor Telegraphing
- Shrinking, Curling, Cupping
- Common Coating Problems

LVT/LVP- Surface Damage

The clear wear layer on LVT/LVP products hold up differently depending on the amount of traffic in a facility. Areas of high traffic often see a development of traffic lane scratching that can quickly become noticeable as the center lane wear and sections closer to the walls do not. For scratching there are a few options to try.

Troubleshooting

LVT/LVP- Surface Damage

Minor scratches- appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.
6. If unsuccessful, a blue or SPP pad can be used to even out the scratching prior to coating.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Un-repairable Scratching-Contact Flooring Manufacturer For Guidance.

LVT/LVP- Adhesion Issues

Coating not adhering to surface- LVT/LVP are often shipped with a light factory coating to prevent them from sticking in transit. This coating must be physically abraded from the tile prior to coating to avoid adhesion issues. Scrub with a SPP or Blue Cleaner pad, rinse well and coat.

Adhesive releasing from floor- Depending on the adhesive used, repeated stripping or moisture from the slab can cause the adhesive to release from the floor.

Adhesion Issues- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Sub-floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the LVT/LVP; debris, left over adhesive, large trowel marks, or anything else present must be removed or leveled. If any of these are not removed, the LVT/LVP will conform to it and will be visible on the surface.

Telegraphing will be more noticeable on larger tiles and longer planks as well as LVT/LVP that are shiny. LVT/LVP that is textured or dull will have a less chance of showing telegraphing.

Telegraphing- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Shrinking, Curling, Cupping

Changes in humidity and heat from direct sunlight can cause many issues depending on how the LVT/LVP was manufactured. Cupping, edge curling, and adhesive failing can occur while the most common issue is shrinking of the tile itself.

LVT/LVP is manufactured under heated rollers and use pressure to create a continuous sheet. Each layer is laminated together, which can sometimes cause some internal stress. Because of the internal stresses and "memory" of the LVT/LVP it can cause some shrinkage as the product ages.

Shrinking, Curling, Cupping-Contact Flooring Manufacturer For Guidance.

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
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• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
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• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
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• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
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Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
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Fish Eyes

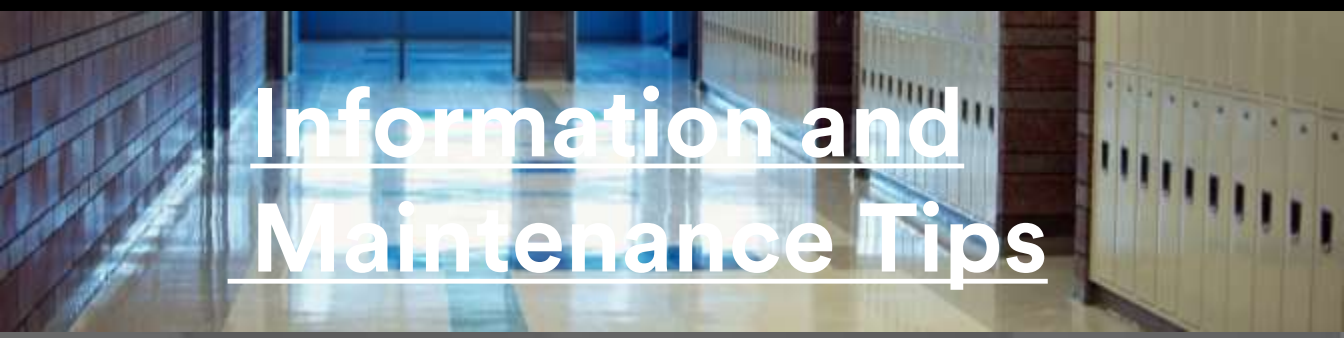
Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

Resilient Flooring

Resilient Flooring Information and Maintenance Tips

Resilient Flooring Troubleshooting and Issues

Common Coating Problems



Information and Maintenance Tips

- Vinyl Composition Tile (VCT)
- Luxury Vinyl Tile/Plank
- Linoleum
- Layered Sheet Vinyl
- Homogeneous Sheet Vinyl
- Rubber
- Specialty Flooring
- Common Coating Problems

Troubleshooting and Issues

- Vinyl Composition Tile (VCT)
- Luxury Vinyl Tile/Plank
- Linoleum
- Layered Sheet Vinyl
- Homogeneous Sheet Vinyl
- Rubber
- Specialty Flooring
- Common Coating Problems

Vinyl Composition Tile (VCT)

VET- Vinyl Enhanced Tile is almost indistinguishable from VCT visually but has a higher vinyl binder content. VET is a sub-set of VCT and can be treated the same way.
SVT- Solid Vinyl Tile is almost indistinguishable from VCT visually and has a higher vinyl binder content then VCT and VET. SVT is a sub-set of VCT and can be treated the same way.

Because VCT tiles are made up of approx. 70% limestone, they are susceptible to cracking if stressed past the point of their resiliency.

Floor Prep Tips- Bare VCT tiles can be prepped before coating for a better looking floor, especially old or worn tiles. Scrub worn floor with SPP for a fresh coating surface or with the Purple Diamond Pad for a deep clean.

Pictures

Floor Maintenance

Floor Repair Troubleshooter

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3M

FLOOR CARE GUIDE

Tile / 12”x 12” / Not Textured

VCT

Preventative Maintenance

3M Solutions

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- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

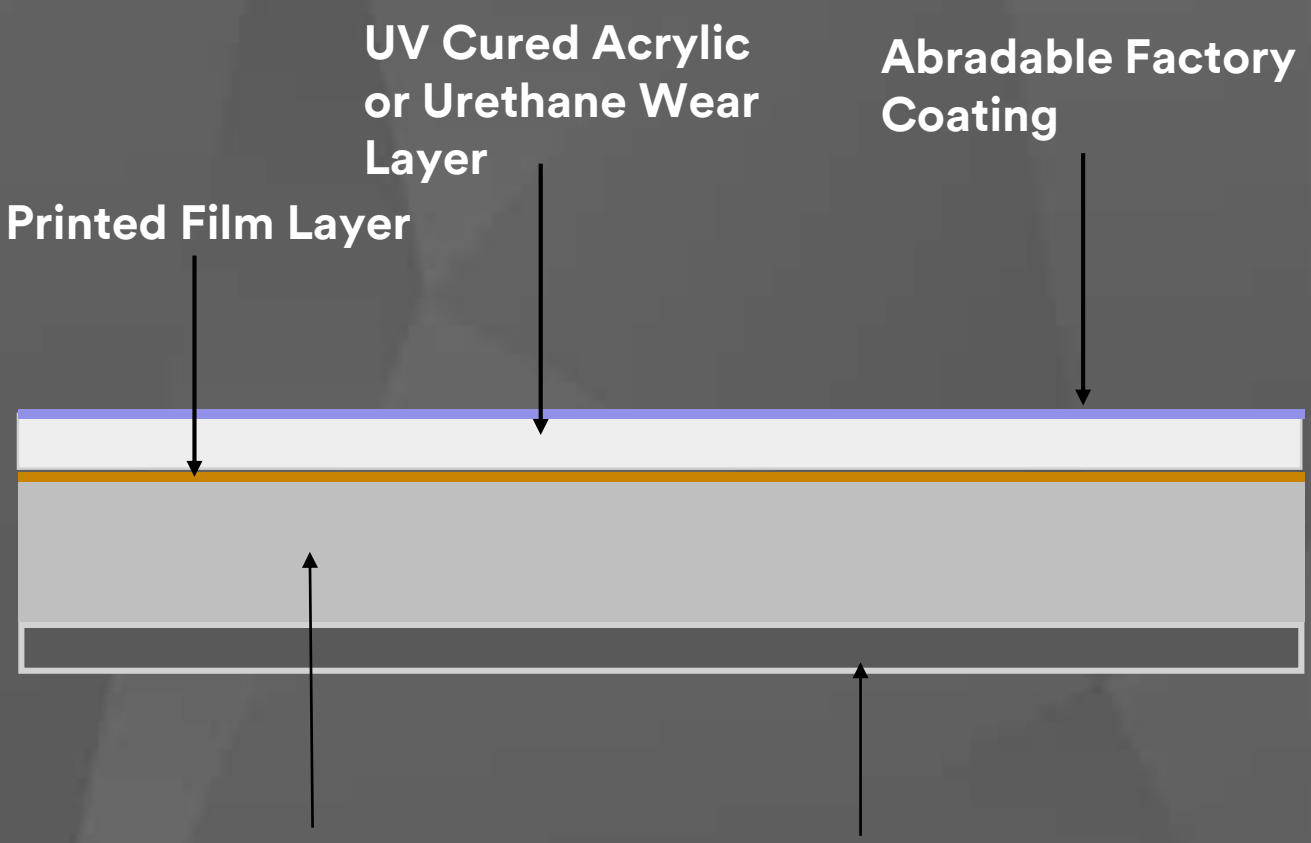
3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Luxury Vinyl Tile/Plank (LVT/LVP)

Luxury Vinyl Construction



LVT Pictures

LVP Pictures

Floor Maintenance

Floor Repair Troubleshooter

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FLOOR CARE GUIDE

Resilient Floors

Tile / 12”x 12” / Textured

LVT-Luxury Vinyl Tile

Resilient Floors

Plank / Textured and Non-Textured

LVP-Luxury Vinyl Plank

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

Linoleum

Linoleum make-up: Linseed oil, cork/wood flour, pine resin, and mineral fillers pressed onto a jute (burlap/canvas) backing.

Linoleum Sensitivities

Chemical: Because of the natural products in linoleum, caution must be taken with high pH chemicals. High pH cleaning chemicals and strippers (10.5 and above) should never be used, they cause the linseed oil binder to break down. Mildly alkaline cleaners may be used for periodic cleaning. Contact flooring manufacturer for recommended cleaners.

Abrasion: Linoleum is a relatively soft flooring substrate due to the cork/wood flour and therefor is vulnerable to scratching. A lower abrasive pad, such as a blue or brown pad should be used if chemically stripping.

Moisture: Due to the jute backing, linoleum is sensitive to moisture. If moisture penetrates the surface, it can cause the jute backing to release from the adhesive. Constant moisture can cause both adhesion problems as well as mold.

3M™ products to not use: #6 Speed Stripper, #22 Floor Stripper LO, Troubleshooter ™ stripper, 3M™ Floor stripper, 3M™ High Productivity Pad 7300.

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FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Linoleum

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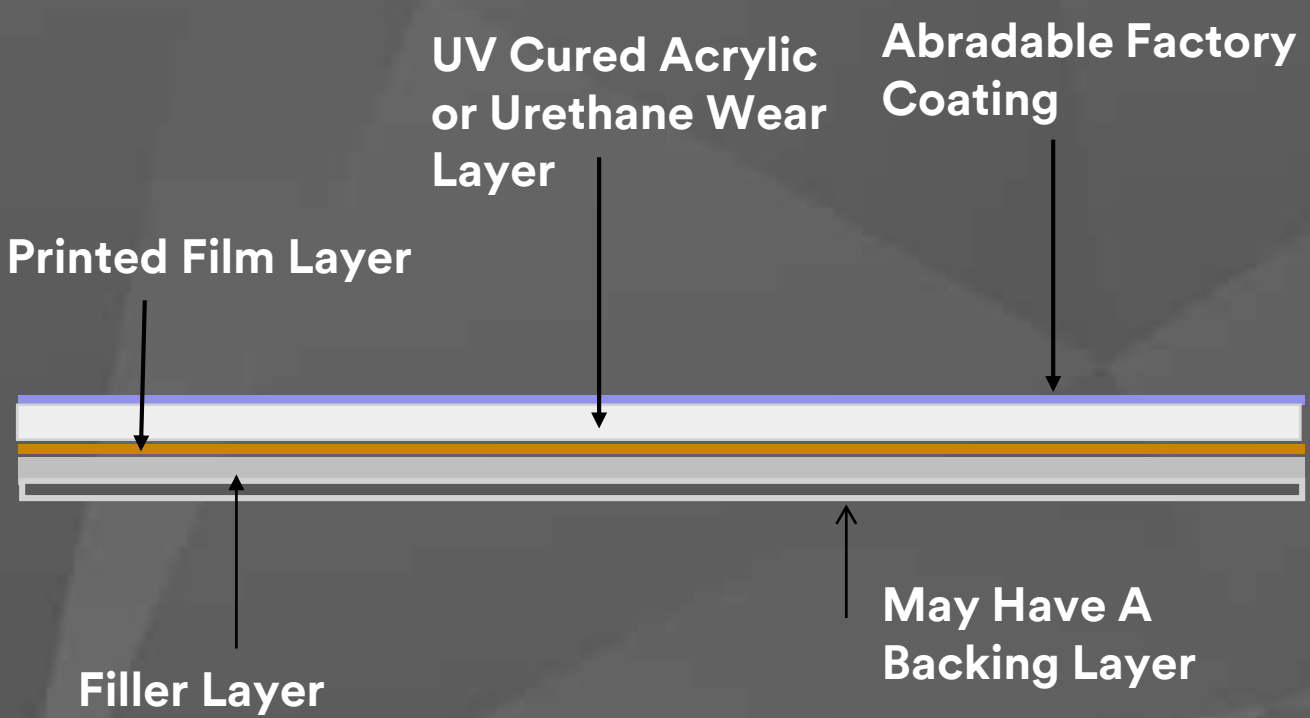
Layered Sheet Vinyl

Layered sheet vinyl is made in a similar layered construction like LVT but is uncut in a 6'-12' wide roll, thinner and more flexible to facilitate shipping, and is often made without a backing. Layered sheet vinyl is often used in areas where cleanliness is important such as healthcare. The sheet product provides a minimal amount of seams for moisture and bacteria to collect. **3M Products to not use/avoid:** aggressive stripping pads- can cause scratching of the clear wear layer.



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FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Layered Sheet Vinyl

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Homogeneous Sheet Vinyl

Homogenous sheet vinyl is constructed of a single vinyl layer in which the color/pattern is consistent through the entire thickness. Its benefits are that if the top surface is abraded there will be no noticeable change underneath. Homogeneous Sheet Vinyl can come in many sizes but are generally rolls with 6' to 12' widths. It is often used in areas where cleanliness is important such as healthcare. The sheet product provides a minimal amount of seams for moisture and bacteria to collect.

Pictures

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FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Homogeneous Sheet Vinyl

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Rubber

Rubber is most commonly encountered in sheet form in healthcare and sports facilities.

Benefits- A good product for moisture resistance, several chemical resistances, sound dampening, good traction with textured versions, and easy to stand on for large periods of time.

Disadvantages: Rubber is susceptible to staining from oils and grease. Color fade/loss of color can occur with repeated use of high pH cleaners and chemical strippers as well as UV damage from direct sunlight. High pH cleaners and strippers can degrade the plasticizers cause brittleness which leads to cracking with repeated use.

Textured Pictures

Un-Textured Pictures

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FLOOR CARE GUIDE

Resilient Floors

Sheet / Textured

Textured Rubber

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3M FLOOR CARE GUIDE

Resilient Floors

Sheet / Not Textured

Rubber

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Specialty Flooring

For the following flooring substrates, contact the flooring manufacture for guidance in the event of damage to the floor.

Fritztile- A specialty flooring that is made up of a resin matrix mixed with glass and aggregate chips.

Fritztile

Bamboo- A wood-like product made from the bamboo plant that will look like hardwood flooring but will often have joints every 1'-2' . Very moisture sensitive.

Bamboo Pictures

Cork- A wood-like product that is made of ground up bark mixed with various resins and then heat treated. Very moisture sensitive.

Cork Pictures

Bamboo

Cork

Common VCT Floor Problems

Back To Maintenance/Tips

- Adhesive Bleeding Around Tiles
- Alkaline Salts Blistering
- Cracking on the Edges
- Cracking over Concrete Expansion Joints
- Dewetting of Finish
- Discoloration/Stains
- Sub-Floor Telegraphing/Surface Indentations
- Common Coating Problems

Luxury Vinyl Tile/Plank (LVT/LVP)

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- Surface Damage
- Adhesion Issues
- Subfloor Telegraphing
- Shrinking, Curling, Cupping
- Common Coating Problems

Linoleum

Back To Maintenance/Tips

- Subfloor Telegraphing
- Surface Scratching
- Bubbles or Warping
- Chemical Damage
- Common Coating Problems

Layered Sheet Vinyl

Back To Maintenance/Tips

- Subfloor Telegraphing
- Indentations
- Wrinkles, Bubbles, Failing Seams
- Common Coating Problems

Homogeneous Sheet Vinyl

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- Subfloor Telescoping
- Indentations
- Wrinkles, Bubbles, Failing Seams
- Common Coating Problems

Rubber

Back To Maintenance/Tips

- Sub-floor Telegraphing
- Cracks
- Color Bleeding-Fading
- Surface Damage/Indentation
- Stains
- Common Coating Problems

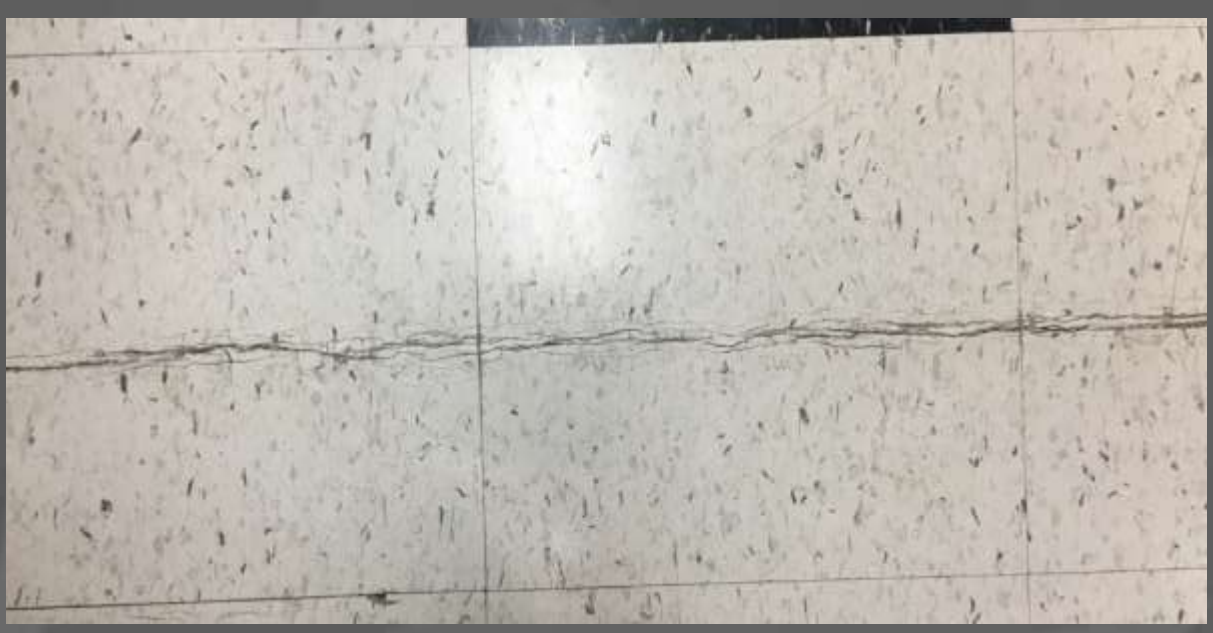
VCT- Cracking on the Edges

VCT tiles can crack along the entire edge or at the corners and can range from just one side to all. This cracking pattern is a result of the edges/sides of the VCT lifting off of the adhesive and drying. Pedestrian traffic over these affected tiles will often force them past the VCT resiliency point and result in damage. There are a few possibilities that cause this cracking pattern:
-Moisture beneath the tile or excessive moisture in the adhesive
-Not using a weighted roller on the tiles at instillation.
-Left over adhesive from previous flooring can cause the new adhesive not to bond to the floor.

Cracking-Contact Flooring Manufacturer For Guidance.

VCT- Cracking over Concrete Expansion Joints

Concrete slabs are poured in sections when installed. Between these sections are concrete expansion joints that are used in order to relieve stress and prevent cracking in the concrete slab as it expands and contracts from temperature changes. VCT that is installed and adhered above these expansion joints are also subject to the movement of the expansion joints. This often ends with linear cracks in the VCT along the expansion joints where it was stressed past its resiliency.



Cracking-Contact Flooring Manufacturer For Guidance.

VCT- Adhesion Bleeding Around Tiles

Adhesive bleeding between VCT tiles is a result of the underlying adhesive exuding between the tiles and onto the surface. This can be caused by using too much adhesive or the improper kind of adhesive. It can also be caused by moisture in the concrete softening the adhesive, allowing it to migrate up between tiles.

On isolated instances of adhesive bleeding, mineral spirits can be used to clean a bare VCT tile.

VCT- Alkaline Salt Blistering

Concrete sub-floors are permeable and allow moisture to travel through the slab and release out the top. If excessive moisture is present, it will dissolve alkaline salts from the concrete slab as it travels through. The moisture is now alkaline and can even reach a pH range of 10-13. Once this moisture leaves the concrete slab, it is trapped between the slab and the VCT flooring. Extended exposure to the highly alkaline moisture can dissolve the adhesive as well as damage the tile flooring itself as shown below.

Blistering-Contact Flooring Manufacturer For Guidance.

VCT- Sub-Floor Telegraphing/Surface Indentations

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the VCT; debris, left over adhesive, large trowel marks, or anything else present must be removed or leveled. If any of these are not removed, the VCT will conform to it and will be visible on the surface.

Surface Indentations occur when an object with too much force compresses a tile more than it can rebound. This is common on heavy furniture or hospital beds with small feet.

Telegraphing-Contact Flooring Manufacturer For Guidance.

Surface indentation- Contact Flooring Manufacturer For Guidance.

VCT- Discoloration/Surface Stains

Discoloration or stains can occur from many possible problems. Incorrect adhesive, chemical staining, and color change throughout the tile are all common encounters. The staining can be in the finish, the tile, or both.

Troubleshooting

LVT/LVP- Surface Damage

The clear wear layer on LVT/LVP products hold up differently depending on the amount of traffic in a facility. Areas of high traffic often see a development of traffic lane scratching that can quickly become noticeable as the center lane wear and sections closer to the walls do not. For scratching there are a few options to try.

Troubleshooting

LVT/LVP- Surface Damage

Minor scratches- appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.
6. If unsuccessful, a blue or SPP pad can be used to even out the scratching prior to coating.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Un-repairable Scratching-Contact Flooring Manufacturer For Guidance.

LVT/LVP- Adhesion Issues

Coating not adhering to surface- LVT/LVP are often shipped with a light factory coating to prevent them from sticking in transit. This coating must be physically abraded from the tile prior to coating to avoid adhesion issues. Scrub with a SPP or Blue Cleaner pad, rinse well and coat.

Adhesive releasing from floor- Depending on the adhesive used, repeated stripping or moisture from the slab can cause the adhesive to release from the floor.

Adhesion Issues- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Sub-floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the LVT/LVP; debris, left over adhesive, large trowel marks, or anything else present must be removed or leveled. If any of these are not removed, the LVT/LVP will conform to it and will be visible on the surface.

Telegraphing will be more noticeable on larger tiles and longer planks as well as LVT/LVP that are shiny. LVT/LVP that is textured or dull will have a less chance of showing telegraphing.

Telegraphing- Contact Flooring Manufacturer For Guidance.

LVT/LVP- Shrinking, Curling, Cupping

Changes in humidity and heat from direct sunlight can cause many issues depending on how the LVT/LVP was manufactured. Cupping, edge curling, and adhesive failing can occur while the most common issue is shrinking of the tile itself.

LVT/LVP is manufactured under heated rollers and use pressure to create a continuous sheet. Each layer is laminated together, which can sometimes cause some internal stress. Because of the internal stresses and "memory" of the LVT/LVP it can cause some shrinkage as the product ages.

Shrinking, Curling, Cupping-Contact Flooring Manufacturer For Guidance.

Layered Sheet Vinyl- Sub-Floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the layered sheet vinyl; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the layered sheet vinyl will conform to it and will be visible on the surface. This is especially true for layered sheet vinyl because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Layered Sheet Vinyl- Indentations

Indentations- Layered sheet vinyl is most often seen in the healthcare or the hospitality industry. Because of this, the floors will often be subject to heavy furniture and hospital beds that place a relatively large amount of weight on feet/wheels that have a small surface area. Left over time, theses indentations can cause the sheet vinyl to compress past what it can recover from and leave permanent indentations. Rolling wheels on hospital beds also have a chance to leave permanent indentation lines from being wheeled around.

Preemptive work- It is important to prevent these indentations before they occur to minimize possible damage. Use larger feet, larger wheels, or weight distributing pads on heavy furniture and hospital beds to even out the load.

Indentations- Contact Flooring Manufacturer For Guidance.

Layered Sheet Vinyl- Bubbles and Failing Seams

Bubbling- Bubbling in layered sheet vinyl can occur from several different sources. If excessive moisture is present underneath the layered sheet vinyl, most often migrating through the slab, it can cause adhesion issues. Improper or left over adhesive can also cause adhesive failure. Both instances will cause a bond failure that can lead to bubbles forming as sections release from the floor.

Failing Seams- Seams are either chemically or heat welded together to increase their durability or often laid so all seams are against walls, like in hallways. Wrinkles and failing seams will occur at these natural weak points if moisture is able to penetrate into the seams. This can cause adhesion failure as dirt and moisture weaken at the seams.

Bubbles/Failing Seams- Contact Flooring Manufacturer For Guidance.

Homogenous Sheet Vinyl- Sub-Floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the Homogenous Sheet Vinyl; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the Homogenous Sheet Vinyl will conform to it and will be visible on the surface. This is especially true for Homogenous Sheet Vinyl because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Homogeneous Sheet Vinyl- Indentations

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Indentations- Contact Flooring Manufacturer For Guidance.

Homogeneous Sheet Vinyl- Wrinkles, Bubbles, Failing Seams

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Bubbles/Failing Seams- Contact Flooring Manufacturer For Guidance.

Linoleum- Sub-Floor Telegraphing

Telegraphing is a common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the linoleum; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the linoleum will conform to it and will be visible on the surface. This is especially true for linoleum because it is quite thin and most often sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Linoleum- Surface Scratching

Because the main filler in linoleum is either wood pulp or a combination of wood pulp and cork, it is a relatively soft flooring substrate. Extra caution is necessary after the floor has been exposed to water because that can soften it even further.

Large objects or furniture can easily damage the floor if dragged. Floor pads that are too aggressive (High Pro Pad 7300, Black Stripping Pad 7200) if used, can cause widespread small scratching.

Troubleshooting

Linoleum- Surface Scratching

Minor scratches-appear as slight surface discoloration or a surface roughness and can often be repaired using the following process:

1. Dust mop the floor.
2. Apply a solution of neutral cleaner on the affected area.
3. Scrub the damaged area of the floor 2-3 times using a swing machine or autoscrubber with a Scotch-Brite™ Purple Diamond Floor Pad Plus, the dark side facing down.
4. Remove all the solution from the floor and rinse with clean cool water.
5. Allow the floor to fully dry.

To prevent further minor scratching in the future, a coating may be applied to the floor in order to protect it.

Major surface scratches or not repairable- Contact Flooring Manufacturer For Guidance.

Linoleum- Bubbles or Warping

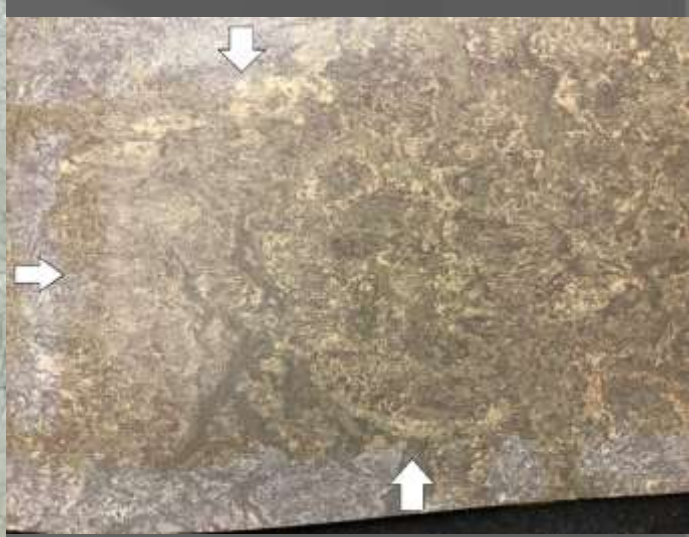
Bubbling- Bubbling in linoleum can occur from several different sources. If excessive moisture is present underneath the linoleum, most often migrating through the slab, it can cause adhesion issues. The moisture can cause the jute backing to separate from the linoleum itself or the backing can separate from the adhesive. Both instances will cause a bond failure that can lead to bubbles forming as sections release from the floor, mainly when in sheet form. Surface bubbling can also form in extreme cases of chemical damage. If high pH chemicals are used, especially over a longer period of time, it will cause the linoleum to break down and possibly create bubbles.

Warping- Warping will generally occur on the edge of tiles or at the seams of sheet products. This is usually due to moisture entering between seams and causing the linoleum to swell and warp.

Bubbles/Warping-Contact Flooring Manufacturer For Guidance.

Linoleum- Chemical Damage

Chemical Damage- High pH chemicals (degreasers and strippers) will breakdown the linseed oil binder. This can occur after just one exposure and will become more likely after repeated exposure. Chemical damage can be observed in several different ways but most commonly as: color change/color fade, brittleness, surface cracking, softening, or bubbling.



Chemical Damage- Contact Flooring Manufacturer For Guidance.

Rubber- Sub-Floor Telegraphing

Telegraphing: A common problem in almost all resilient flooring. Telegraphing refers to objects or unevenness under the flooring that can be seen on the surface. Before the installation of the rubber; debris, left over adhesive, large trowel marks, unevenness in the sub-floor, or anything else present must be removed or leveled. If any of these are not removed, the rubber will conform to it and will be visible on the surface. This is especially true for rubber sheet because it is quite thin and sold in roll form, which will show unconformities more easily.

Telegraphing- Contact Flooring Manufacturer For Guidance.

Rubber- Cracks

Cracks: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in the rubber loosing its elasticity and causes a brittleness in the rubber that can then lead to small-scale or widespread cracking.

Rubber- Cracks

Note: If coated, must be chemically stripped prior to restoration.
Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If cracking is still present, contact flooring manufacturer for guidance.

Cracking-Contact Flooring Manufacturer For Guidance.

Rubber- Color Bleeding/Fading

Color Bleeding/Fading: Prolonged use of high pH (10.5 and above) cleaners, degreasers, and chemical strippers can begin to leach out the plasticizers on the topmost surface of the rubber. This results in either a color loss or color fading that will be very difficult to match if replacement is needed. Consistent exposure to sunlight can cause UV damage and can result in color fading.

Rubber- Color Bleeding/Fading

Note: If coated, must be chemically stripped prior to restoration.

Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

If unsuccessful contact flooring manufacture for guidance. If caused by sunlight/UV damage, look into window film/treatments to prevent further damage.

Color Fade/Bleeding-Contact Flooring Manufacturer For Guidance.

Rubber- Surface Damage/Indentations

Indentations- Rubber is most often seen in healthcare or sport facilities. Because of this, the floors will often be subject to heavy furniture and hospital beds/carts that place a relatively large amount of weight on feet/wheels that have a small surface area. Left over time, theses indentations can cause the rubber to compress past what it can recover from and leave permanent indentations. Rolling wheels on hospital beds also have a chance to leave permanent indentation lines from being wheeled around.

Preemptive work- It is important to prevent these indentations before they occur to minimize possible damage. Use larger feet, larger wheels, or weight distributing pads on heavy furniture and hospital beds to even out the load.

Surface damage: Uncoated rubber can be susceptible to scratching from foot traffic or moving items.

Rubber- Surface Damage/Indentations

Note: If coated, must be chemically stripped prior to restoration.

For surface scratching try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

For Surface Indentations- Move the furniture and add weight distributing products. Give the indentations time to see if they rebound.

Surface Damage- Contact Flooring Manufacturer For Guidance.

Surface indentations- Contact Flooring Manufacturer For Guidance.

Rubber- Stains

Stains: Rubber is not fully chemical resistant and is susceptible to oils, grease, and dyes. Depending on how deep the stain is, it can only be removed my abrading the depth of rubber that is holding the stain. If it has penetrated too deep, the stain may not be able to be removed.

Rubber- Stains

Note: If coated, must be chemically stripped prior to restoration.
For staining try the Rubber Restoration Procedure:

1. Remove debris from the area to be restored.
2. Complete 6 passes wet scrubbing with Scotch-Brite™ Surface Preparation Pad with red backer pad and use neutral cleaner or water. Remove the liquid.
3. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Sienna Diamond Floor Pad and water only. Remove the liquid.
4. Repeat 6 passes wet scrubbing the entire area with the Scotch-Brite™ Purple Diamond Floor Pad and water only. Promptly remove the liquid. Rinse well and allow the floor to dry completely before moving on to step 4.
5. When the entire area has dried, complete 6 passes with a new Scotch-Brite™ Purple Diamond Floor Pad to restore gloss. This is a dry process.
6. Remove haze and complete the restoration process with 6 passes using the 3M™ White Super Polish Floor Pad 4100 dry.

Some stains may be chemically treated if the stain still persists, contact manufacturer for guidance.

Staining-Contact Flooring Manufacturer For Guidance.

Preventative Maintenance

3M Solutions

- Preventing dirt from entering a facility is both the easiest and best way to keep a floor looking good and staying clean. This can be achieved by using a proper entrance matting system. Entrance matting is used to trap and hold the dirt, sand, and water that is brought in by foot traffic. This matting must be cleaned regularly to ensure that they do not fill and become inadequate.

- A properly designed 30 foot matting system combines outside scraping mats and interior soil/moisture mats to remove almost all soil brought in by foot traffic.

Protect

3M Solutions

- When installed, a vast majority of floors will greatly benefit from a topical coating/floor finish. This is primarily done to protect the floor from scratching, staining, and soiling which greatly extends its life. Floor coatings can also provide an easier surface to maintain cleanliness as well as a higher traction surface for safety.

- Acrylic polymer coatings/finish are currently the most common floor coating but many other types exist (urethane, epoxy). Each individual finish will have a percent (%) solids value attributed to it. This number will be the amount of solids/film that are left on the floor of one layer after everything else has evaporated. A general rule to protect the floor is to put enough layers down to add up to 100% solids left over. For example, a 20% solids floor finish would take 5 coats to give 100% coverage.

Maintain

3M Solutions

- A comprehensive maintenance program is imperative for maximizing the life of a floor coating/finish.

- Daily Maintenance
  - Sweep/Dust Mop/Vacuum
  - Wet mop/autoscrubber with a neutral cleaner and appropriate pad

- Periodic Maintenance
  - Medium Scrub the floor with a general purpose cleaner and appropriate pad
  - Burnish with a high speed machine after cleaning to restore shine

3M Floor Pad Selector

Restore

3M Solutions

- Scrubbing and Recoating
  - Over time, dirt will embed itself into the top layers of an acrylic finish and can only be removed by mechanically removing the layers themselves. An abrasive scrubbing pad is used with just water to abrade away those soiled top layers, leaving behind a clean surface to put down a couple new coats of finish. This process will extend the amount of time between having to fully chemically strip a floor.

- Chemically Stripping
  - When a floor finish has become fully soiled with dirt, the only option is to fully strip the floor of all layers of finish. By using a chemical stripper and an aggressive stripping pad, all soiled layers of floor finish can be removed. The bare floor is now ready to be cleaned and recoated with new layers of a finish up to at least the 100% solids coverage.

VCT- Adhesion Bleeding Around Tiles

Troubleshooting for small areas:

1) Chemically strip any finish over a test area. Rinse well.
2) Attempt to clean the adhesive off the bare tile using mineral spirits.
3) If successful, clean the floor well and recoat with finish.

Or

3) If not successful or widespread areas, **Contact flooring manufacturer for guidance.**

VCT- Dewetting of Finish

Dewetting is the process of a liquid interacting poorly with another solid surface or liquid. Usually a liquid will make a thin, even layer when coated on a surface. If there is a poor interaction between the liquid layer and the surface, it can cause the liquid to not evenly spread and bead into itself. When it comes to floor finish, this can be caused by a few things:

- Floor tiles are shipped from the manufacturer with a thin coating applied to each tile to prevent them from sticking to each other. This thin layer often also prevents floor finish from adhering as well. Large scale Dewetting is often caused by this.
- Small scale dewetting is often caused by contaminates on the tile surface such as oil, strippers, or degreasers.

Trouble-shooting

Common Coating Problems

- Low Gloss/Poor Gloss
- Streaking/Mop Lines/Poor Leveling
- Finish Discolored/Yellowing/Sticky Floors
- Powdering
- Scuffing/Black Marking
- Fish Eyes

VCT- Discoloration/Surface Stains

Steps:

1) Chemically strip stained section and rinse floor
2) Inspect tiles to see if the stain is present or was removed with coating
3) If removed, recoat
4) If not removed, scrub tile with abrasive scrubbing pad to try and remove staining
5) If removed, recoat
6) If stain is still present, contact your flooring manufacturer for guidance.

VCT- Dewetting of Finish

Remediation:

1) Fully chemically strip the affected area, and rinse appropriately
2) Scrub entire floor with SPP or Blue 5300 pad
3) Rinse Floor and let sufficiently dry
4) Re-apply floor finish to the recommended coats

Low Gloss/Poor Gloss

Potential Causes	Possible Solutions
• Finish applied too thick.	• Wring mop head more to apply light-medium coats. Switch to flat mop.
• Not enough top coats applied.	• Scrub, rinse, recoat.
• Additional coats applied too soon.	• Wait for each coat to dry completely.
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needs to be completely cleaned (stripped) and rinsed.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Strip, rinse well and apply new finish.
• Ammonia or bleach used in damp mopping.	• Use only cleaners that are designed for the floor.
• Fan used to dry finish.	• Make sure fan is not blowing directly at floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.

Streaking/Mop Lines/Poor Leveling

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.
• Finish applied too thick.	• Wring mop head more to apply light-medium coats.
• Dirty mop and/or bucket.	• Use clean finish only mop, lined bucket. Use separate mop for stripping and applying finish.
• Additional coats applied too soon.	• Wring mop head more to apply light-medium coats. No more than 3-4 coats a day.
• Fan used to dry finish.	• Make sure fan is not blowing directly at the floor finish.
• Extremes in temperature and humidity.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Finish was old, contaminated, exposed to temperature extremes.	• Examine finish (partially used, storage conditions, etc.). Strip, rinse well and apply new finish.

Finish Discolored/Yellowing/ Sticky Floors

Potential Causes	Possible Solutions
• Solvent based cleaner.	• Switch to water based neutral cleaner like 3H/3A.
• Damp mopped with dirty water and/or mops.	• Use only clean mops and buckets. Change water frequently.
• Wrong cleaner, too much cleaner, or improperly diluted cleaner used.	• Use only cleaners that are designed for the floor according to manufacturing specifications.
• Build up of disinfectant cleaner.	• Periodically clean floor with neutral cleaner to help remove any buildup.
• Extremes in temperature and humidity.	• Wait for each coat to dry completely, 25-35 minutes. No more than 3 to 4 coats a day.
• Additional coats applied too soon.	• Ideal is 70°F & 50%RH. Make sure HVAC is on. Use fans carefully.
• Too many coats applied in 24 hours	• Reduct number of coats applied

Powdering

Potential Causes	Possible Solutions
• Extremes in temperature and humidity (low humidity in particular.	• Ideal is 70°F & 50% RH. Make sure HVAC is on. Use fans carefully.
• Old or very porous floor.	• Use of a sealer is recommended.
• Finish applied to a freshly stripped floor.	• Allow adequate time to dry a stripped floor.

Scuffing/Black Marking

Potential Causes	Possible Solutions
• Coats are too heavy inhibiting proper curing.	• Wring mop head more to apply light-medium coats.
• Applying too many coats in 24 hour period.	• No more than 3-4 coats a day.
• Insufficient cleaning program in place.	• Change to a better suited pad or chemical for removal.

Fish Eyes

Potential Causes	Possible Solutions
• Floor contaminated and/or not properly cleaned and rinsed (greasy floor, soap film).	• Floor needed to be completely cleaned (stripped) and rinsed.

Start Over

Help

3M

FLOOR CARE GUIDE

Contact an Expert

800-852-9722

Chat

Send a Message

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