

Dust Management Sanding Made Simple Random Orbital Sanding Portfolio Sanding System Solutions Application Guide Availability Guide

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 Disc availability by grade and attachment type

Focus on the health and safety of your workers

Match the right backup pad to enhance sanding disc performance

Find the best abrasive for the job

Choose the tool to optimize the system

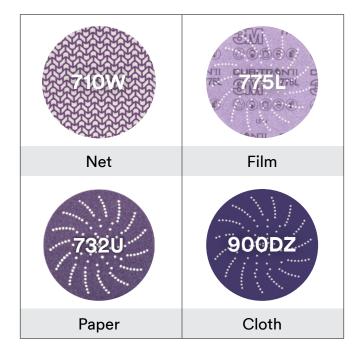
In Random Orbital Sanding, it's all about putting together the optimal system.

► 3M™ Cubitron™ II Abrasives Why dust extraction matters 3M Xtract™ Clean Sanding Solutions

GUBITR NIII

High-performance 3M™ Cubitron™ II Abrasives

3M™ Cubitron™ II Abrasives are designed with revolutionary 3M Precision-Shaped Grain technology. As the grain wears, it continuously fractures to form sharp points and edges that slice through material, wear evenly and provide super-long life and consistency.



Revolutionary sanding technology.

Designed with 3M Precision-Shaped Grain (PSG).

Our line of 3M™ Cubitron™ II Premium Series abrasives is designed with the exclusive 3M Precision-Shaped Grain technology, providing industry leading cut rate and prolonged abrasive life for a variety of applications and substrates.

- Industry-leading cut rate 2x faster cut than conventional abrasives
- Engineered to require less pressure
- Up to 99% dust extraction
- Discs last up to 2x longer than conventional abrasives
- Consistent, quality finish for less rework
- 3M™ Hookit™ attachment system

3M™ Cubitron™ II Abrasives ► Why dust extraction matters 3M Xtract™ Clean Sanding Solutions

Dust is a problem.

Airborne particles

The creation of airborne particles is inherent in most abrasive processes. The composition and physical cross section (quantity and distribution of particles sizes) depends on the workpiece and the properties of the abrasive product being used.

Airborne particles are hazardous to operators through contact with exposed skin or eyes, and especially by inhalation.

Extremely fine airborne particles can be particularly hazardous, as they are often invisible to the naked eye and are more easily absorbed into lungs and respiratory tracts, leading to long-term health risks.



Why dust extraction matters.



Shop Cleanliness Shop environment and operator satisfaction

Productivity / Rework Impacts cycle time

Health & Safety Increase focus on operator health

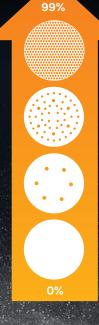
Sanding discs cut better and last longer when dust isn't loading the cutting surface of the abrasives.

Dust extraction capability is influenced by several factors.

- Number of holes in abrasive disc
- Type of vacuum
- Power of the vacuum
- Volume of swarf
- Consistent pneumatic air supply
- Shape of workpiece

With the right tools delivers up to

Dust Extraction





3M Xtract[™] Clean Sanding Solutions

Imagine a cleaner workspace, where sanding is virtually dust-free and performance and dust extraction are not compromised. Now that's possible.

As you sand, any dust produced is easily pulled through the net backing, continuously extracting and collecting into the vacuum system.

Cut the dust. Full system solution.

Tools designed for ease of use.

Introducing a new line of tools and accessories designed for ease of use and optimal dust extraction. So that you don't have to compromise high performance for dust management.

- Designed to be quieter, lighter and easier to operate
- Virtually dust-free working environment for easy cleanup
- Helps reduce dust exposure
- Pneumatic and electric tool options available
- Portable Dust Extractor designed for cleaner work through mobile collection



3M Xtract[™] tools attach to a filter bag or dust extraction unit, so you'll have little to no additional cleaning to do after the job is done.



For more information about the 3M Xtract™ Portable Dust Extractor



Sanding Made Simple ► Always have these in your bag



Premium Series

For quality and growth-minded sanding process owners, who are focused on optimization, product performance, and are continuously looking to improve their operations.



3M Xtract™ Cubitron™ II Net Disc 710W

- Starting point for all dust extraction applications
- Precision-shaped ceramic
- Net backing for optimum dust extraction
- ▶ 80+ 320+ grades



3M Xtract™ Cubitron™ II Film Disc 775L

- Starting point for film
- ► Precision-shaped ceramic
- ▶ 3 mil film
- ▶ 80+ 400+ grades



3M Xtract™ Cubitron™ II Cloth Disc 900DZ

- ► Starting point for cloth
- ► Precision-shaped ceramic
- J-weight cloth
- ▶ 40+ 320+ grades

Advanced Series

For the sanding process owner looking for improved performance over a Standard product and a wider grade range than the PSG Premium series.



3M™ Cubitron™ II Hookit™ Paper Disc 950U

- Starting point for paper
- Precision shaped ceramic grain with a very open coat
- E-weight paper
- ► 60+ 180+ grades



3M Xtract™ Film Disc 360L

- ► Aluminum oxide
- ▶ 3 mil film
- ► P220 P1000 grades



3M Xtract™ Cubitron™ II Paper Discs 732U

- ► Starting point for paper
- ► Precision-shaped ceramic
- ► C-weight paper
- ▶ 80+ 220+ grades

Standard Series

For the sanding process owner who focuses on volume over quality and who cannot, or does not, recognize the value of a Premium or Advanced product.



3M Xtract™ Net Disc 310W

- Aluminum oxide combined with Precision-Shaped Grain
- Net backing for optimum dust extraction
- ▶ 80+ 320+ grades



3M Xtract™ Paper Disc 236U

- ► General purpose; all applications
- ► Aluminum oxide
- ► C-weight paper
- ► P80 P500 grades



3M™ Hookit™ Film Disc 375L

- ► Aluminum oxide
- ▶ 5 mil film (60 P400 grades)
- ► 3 mil film (>P400 grades)
- ► 60 P1500 grades

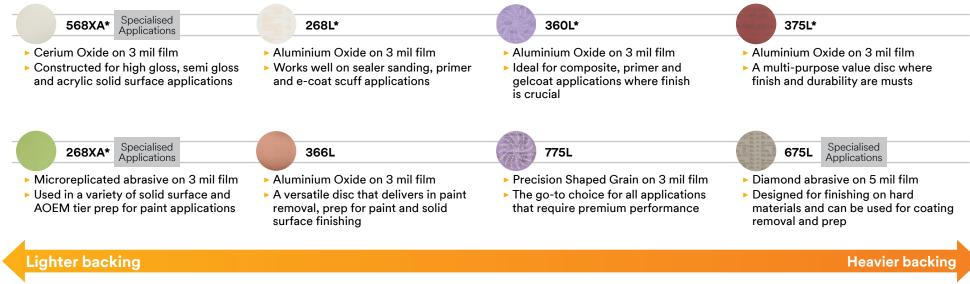
► Film/Paper Backed Cloth Backed/Non-woven

Random Orbital Sanding Portfolio

The entire 3M portfolio

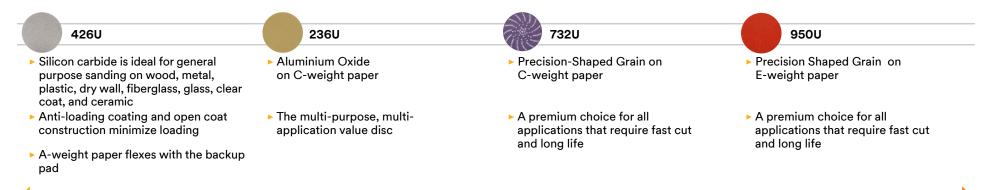
Menu

Film backed sanding discs



*Stearate-free

Paper backed sanding discs



Lighter backing Heavier backing

7

*Stearate-free

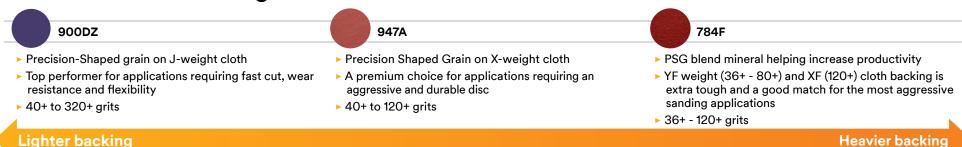
Film/Paper Backed

► Cloth Backed/Non-woven

Random Orbital Sanding Portfolio

The entire 3M portfolio

Cloth backed sanding discs



Non-woven finishing discs

Use on irregular, rounded work surfaces requiring a highly conformable abrasive. Load resistant and good for imparting a bright final finish.



Fine Coarse

For a uniform finish prior to coating primer, metal and

solid surfaces

Net backed sanding discs

For light cleaning and blending on metal substrates

For a variety of sanding applications. Flexible, more durable backing. High performance and a virtually dust-free finish.



310W

- ▶ Blend of Precision-shaped grain and aluminium oxide
- ▶ Heavy, medium, and lightweight net backing
- ► A cost-efficient disc good for coating removal and surface refining



710W

- Precision-shaped grain
- Medium and lightweight net backing
- A premium disc for a variety of sanding applications and multiple substrates

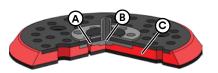
For faster cut and longer life

Lighter backing

Heavier backing

Sanding System Solutions

Select the right backup pad.

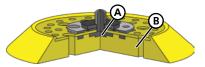


Low Profile Design

Firm red foam for stock removal and leveling. Also available in black.

Most Aggressive



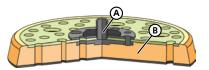


Standard Design

Tapered edge and medium yellow foam for blending and feather edging

Medium

► General Purpose



Low Profile Finishing Design Soft beige foam for better finish and conformance

Best Finish

Soft

Less Aggressive

One piece stud design for improved balance and reduced vibration

Colour-coded pads with customised features make it simpler В to achieve the exact finish desired

Upgraded hole placement for C clean sanding pads for the ultimate in dust extraction

More Aggressive

Select the right tool.

- Available in 75mm, 125mm and 150mm diameters
- Can be used with Hookit™ and Stikit™ backup pads



3M Xtract™ Pneumatic Random **Orbital Sanders**

Ideal product for dust extraction solutions where pneumatic air lines are present.



3M™ Pneumatic Random Orbital Sanders

For work environments where dust extraction is not required

Factors affecting performance checklist.

Abrasive

- Follow basic sanding technique
- Frequently inspect discs for tears, folds or loading
- Make sure work surface is debris-free before moving on to finer grade disc

Backup Pad

- Match backup pad to the job (i.e., low profile for stock removal)
- Confirm that tool and disc pad are the same diameter
- Inspect for damaged pad adhesion loss, worn foam
- If increased conformability is needed attach a 3M foam interface pad

Tool

- Check tool lubrication schedule (1-3 drops of tool lubricant daily is recommended)
- Ensure that the speed control adjusted to the maximum
- Test that the lever is undamaged and muffler is not clogged

Air Pressure

- Check your gauge to make sure tool is running at 6.2 bar / 90 PSI
- Use minimum length of air hose necessary - check local regulations
- Ensure inside air line diameter is at a minimum 9mm
- Check airline fittings: 7mm is best, 4.8mm is marginal

► Tool/Backup Pad

Orbit

Select the right orbit.



2.5mm Diameter Orbit **Chrome Lever**

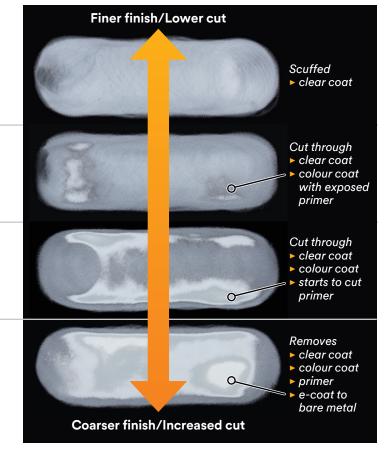
Fine finish sanding

Why choose 2.5mm orbit?

- ► To use with finer grades
- Least amount of stock removal

Material removal

After sanding with 775L 80+ for 30 seconds on a painted panel



Menu

5mm Diameter Orbit Silver Lever

General purpose sanding

Why choose 5mm orbit?

- Most commonly used orbit pattern
- Good balance of stock removal and finish



8mm Diameter Orbit Black Lever

Aggressive sanding*

Why choose 8mm orbit?

- More stock removal needed than 5mm orbit
- ▶ Not as aggressive as 10mm orbit



10mm Diameter Orbit Gold Lever

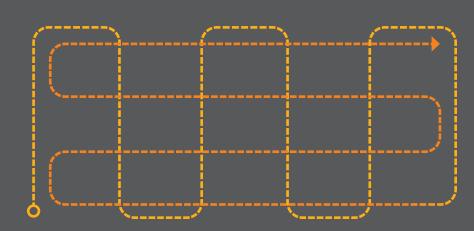
Most aggressive sanding*

Why choose 10mm orbit?

- Most aggressive stock removal
- Good for large area sanding or if high cut rate is needed

Basic sanding technique.

- Start the sander ON the surface and stop OFF the surface. This will help to avoid swirl marks.
- Apply light hand pressure on the tool and allow the backup pad to orbit freely. Let the tool do the work.
- Run the tool flat on the work piece to prevent gouging.
- Follow a set pattern when sanding. This ensures that previous scratches are removed and a uniform finish is reached.



^{*}Not recommended for woodworking applications

Availability Guide

SystemClean Sand

Application Guide

The 3M recommendations below are starting points for the ideal system solutions. Be sure to conduct trials to find the right system for the application.

Application	Recommended Disc	Alternative Disc	Common Grades	Suggested Backup Pad	Suggested Tool Orbit	Process
Primer Sanding	775L	375L	180 – 400	Low Profile Finishing	5mm	Sanding workpiece for consistent scratch prior to paint
Coating Removal		310W	80 – 240	Red Low Profile	10mm	Removing coatings from workpiece prior to application of primers and paints
Surface Refining/ Flattening		310W	80 – 220	Red Low Profile	5mm	Smoothing and leveling workpiece prior to paint for consistent paint adhesion
Deflashing Plastic	784F	900DZ	60 – 120	Red Low Profile	5mm	Removing excessive plastic flash by knocking off sharp edges
Gelcoat Sanding	775L	360L	240 – 1000	Low Profile Finishing	5mm	Flattening or removing defects in gelcoat while refining for following buff and polish or paint step
Removing Parting Lines	775L	732U	180 – 320	Red Low Profile	5mm	Removing raised lines in manufacturing to blend surface geometry
Shaping	900DZ	784F	36 – 220	Yellow Standard	8mm	Incremental steps of cutting and shaping refinement for composite fabrication
Whitewood Sanding		310W	150 – 220	Red Low Profile	5mm	Leveling or smoothing wood surface and removing machining marks from saw cuts or routers
Sealer Sanding	775L	236U	320 – 400	Low Profile Finishing	2,5mm	Leveling orange peel and scuffing for adhesion of next layer of coatings or finish
Prep for Paint on Steel	732U + 900DZ	784F	80 – 120	Red Low Profile	5mm	Refining a fiber disc scratch used in stock removal for an even scratch prior to paint
Removing Handling Scratches	900DZ	310W	80 – 120	Red Low Profile	8mm	Identifying defects in metal parts caused by upstream handling
Edge Deburring	900DZ	784F	60 – 120	Yellow Standard	8mm	Removing sharp edges on sheared metal

For applications needing a bright final finish, follow up with a Scotch-Brite™ non-woven finishing disc.

Availability Guide

► System Clean Sand

3M Xtract™ Cubitron™ II **Sanding System**

Create a Safer and Cleaner Workspace

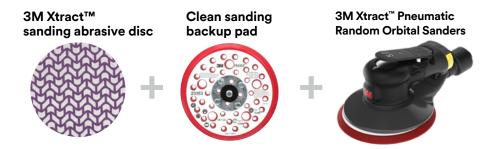
Sanding debris is removed directly from the workpiece as an operator sands with the system. With a convenient and efficient dust free system, the work environment is cleaner and more comfortable for all workers.

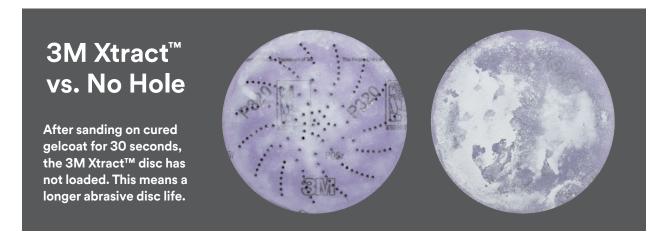
Improve Sanding Disc Performance

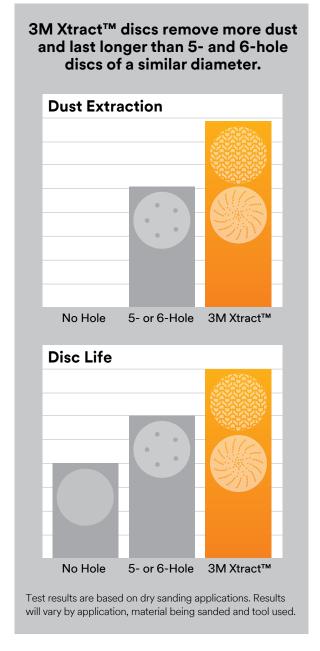
A disc loads less when the dust it generates is vacuumed away. Less loading means more of the disc's abrasive surface is in direct contact with the workpiece. More direct disc contact provides better cut rate and less disc loading equals longer life.

Save time and money on Abrasives and Improve Productivity

With longer life and a faster cut rate, less discs are used to complete a job. Not only can disc consumption be reduced, each job can be done faster, improving a shop's overall productivity.







Availability Guide

Availability Guide: Sanding Made Simple

△ = 3M[™] Cubitron[™] II or Precision Shaped Grain grade

= FEPA (Federation of the European Producers of Abrasives) grades

= ANSI Graded

														Gra	ade										
	3M ID	Attachment	Forms	24	36	40	50	60	80	100	120	150	180	220	240	280	320	360	400	500	600	800	1000	1200	1500
et king		Hookit™	Clean Sanding						A		A	A	A	A	A		Δ								
Net Backing	310W	Hookit™	Clean Sanding						A		A	A	A	A	A		A								
		Hookit™	No hole						A		A	A	A	A	A		A		A						
Ō	775L		17 hole						A		A	A	A	A	A		A		A						
ackin	Film Backing		Clean sanding						Δ		Δ	Δ	Δ	Δ	Δ		Δ		Δ						
ilm B	375L	Hookit™	No hole					Р	Р	P	Р	Р	Р	Р	Р		Р		Р	Р	Р	Р	Р	Р	Р
-		TIOOKIT	Multi-hole					Р	Р	P	P	P	Р	Р	P		Р		Р	Р	Р	Р	P	Р	P
	360L	Hookit™	Clean sanding											Р	Р	Р	Р		Р	Р	Р	Р	Р		
	950U	Hookit™	No hole					Δ	Δ		A	Δ	Δ												
sking		TIOUNI	Multi-hole					A	A		A	A	A												
Paper Backing	236U	Hookit™	Clean sanding						P	P	Р	P	P	P	P		P		P	P					
Рар	426U	Hookit™	No hole Multi-hole						A	A	A	A	A	A	A	A	A		A						
	732U	Hookit™	No hole Multi-hole						Δ	Δ	A	Δ	Δ	Δ											
Bu	900DZ	Hookit™	Clean sanding			A		Δ	Δ		A	A	A	Δ			A								
Backi	Cloth Backing	Hookit™	No hole			A		A	A		A														
loth			Multi-hole			A		A	A		A														
0	784F	Hookit [™]	No hole		Δ		Δ	Δ	Δ		Δ														

RO	ROS Portfolio																		Grade											
Backing	змір	Weight	Mineral	Grinding Aid or Stearate	Stikit" Stikit	Hookit."	24	30	36	40	50	60	80	100	120	150	180	220	240	280	320	360	400	500	600	800	1000	1200	1500	2000
Net	310W	H/M/L*	PSG/AO			•							A		A	A	A	A	A		A									
Net	710W		PSG			•							A		A	A	A	A	A		A									

^{*} L = Light, M = Medium, H= Heavy

Menu

	900DZ	J	PSG		•	•			Δ		A	A		A	A	A	Δ			A								
Cloth	784F	YF/XF	PSG	~		•		A		A	A	A		A														
	947A	х	PSG	~		•			Δ		Δ	A		A														
	236U	С	AO	~	•	•						Р	Р	Р	Р	Р	P	Р		P	Р	Р						
Paper	732U	С	PSG	~	•	•						Δ	Δ	Δ	Δ	Δ	Δ											
	950U	Е	PSG	~	•	•					A	A		A	A	A												
	360L	3 mil	AO			•											P	P	P	Р	Р	Р	Р	Р	P			
Film	375L	5/3 mil	AO	~		•						Р	Р	Р	Р	Р	P	Р		Р	Р	Р	Р	Р	Р	Р	Р	
	775L	3 mil	PSG	~		•						A		A	Δ	A	Δ	Δ		Δ	Δ							

Backing	3M ID	Mineral	Attachment	Scotch-Brite [™] Grade
	Scotch-Brite™ 7448 PRO	SC		Ultra fine
	Scotch-Brite [™] Clean & Finish	AO		Oitra line
	Scotch-Brite™ 7447 PRO	AO	Hookit™	Very fine
Nina	Scotch-Brite [™] Production Clean & Finish	SC		very line
Non- woven	Scotch-Brite™ Cut & Polish	AO		Medium
WOVEII				Ultra fine
	Scotch-Brite™ Precision Surface	PSG	Hookit™	Very fine
	Conditioning	rsG	HOOKIL	Medium
				Coarse

Mineral

AO = Aluminium Oxide

AZ = Aluminium Zirconia

C = Ceramic

CO = Cerium Oxide

D = Diamond

PSG = Precision Shaped Grain

SC = Silicon Carbide

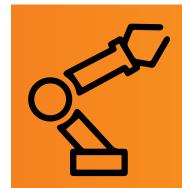
Grade

A = 3M™ Cubitron™ II or Precision Shaped Grain

= FEPA (Federation of the

European Producers of Abrasives)

For more information visit: www.3M.co.uk/Abrasives



3M[™] Hookit[™] Discs are applicable for robotic and automation applications.

Please find more info at: www.3M.co.uk/robotics

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