

Product Description

3M™ DI-NOC™ Architectural Finishes EX Series for exteriors are durable, dimensionally stable, and weather resistant surface finishes for exterior applications. These decorative surface finishes offer the warmth of wood grain, sleek feel of metal, cool essence of natural stone and pure colors. They can be applied directly on smooth, non-porous application surfaces, such as aluminum, galvanized steel, and painted metal.

3M™ DI-NOC™ EX Series is designed to maintain consistent finish and color, despite UV exposure and other conditions.

This film utilizes 3M™ Comply™ technology. 3M™ Comply allows air to exit through air release channels to the edge of the graphic.

Note: This document uses hyperlinks. Please follow the links for additional information.

Recommended Types of Application and Use

- Applications — Ideal for facades, doors, columns, walls and more.
- Application Surfaces — Recommended for metal and other smooth, non-porous exterior application surfaces. Not recommended for complex curved surfaces.
- Aesthetics — Realistic appearance of natural materials and other types of surfaces, without the weight.
- Remodel and Reuse — Shortens refurbishment downtime, and brings entirely new designs to existing exterior elements.

Product Line

FW (fine wood)

WG (wood grain)

ME/PA (metallic)

PS (single color)

ST (stone)

AE (abstract earth)

LE (leather)

FA (multiple categories)

Some DI-NOC™ EX designs are available by special order. Please contact your local 3M representative for further information.

Exposure Angle and Expected Performance Life

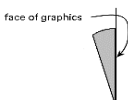
Climate Zones

Graphic durability is largely determined by the climate and the angle of exposure. Find below a table showing the durability of a product according to the angle of exposure and the geographical location of the application. Although the product is highly durable when used outdoors, the expected performance life will be reduced when used on non-vertical surfaces.

Zone 1: Northern Europe, Italy (north of Rome), Russia

Zone 2: Mediterranean area without North Africa, South Africa

Zone 3: Gulf area, Africa

Exposure Type	Exposure Definition	Diagram	Expected Performance Life		
			Zone 1	Zone 2	Zone 3
Vertical outdoor application	The face of the film is less than 10 degrees from vertical.		10 years	7 years	4 years

Characteristics

The values displayed are the results of illustrative lab test measures made according to the indicated external norm and shall not be considered as a commitment from 3M. Processing may change the values.

Physical Characteristics

Characteristic	Value	
Material	PVC	
Thickness	Designs vary in thickness. Without adhesive: 200 µm	
Adhesive	Acrylic, pressure-sensitive, permanent	
Liner	Silicone coated polypaper	
Adhesion FTM 1: 180° peel, substrate: see listed; cond: 24 h 23°C/50%RH	Substrate:	Adhesion:
	Anodized aluminium	36 N/25 mm
	Coloured aluminium	31 N/25 mm
	Painted aluminium	36 N/25 mm
	Aluminium composite panel	36 N/25 mm
	Galvanized steel	40 N/25 mm
	Painted steel	36 N/25 mm

Application Characteristics

Characteristic	Value
Application Method	Dry only!
Surface type	Flat
Application Temperature, air and application surface	3M recommends applying 3M™ DI-NOC™ EX products at +12°C to +38°C.
Removal	These films can be removed with the aid of heat (+80°C to +100°C). No liability is given for ease or speed of removal of any graphic. Pay attention to adequate air and substrate temperature.

The values above are the results of illustrative lab test measurements and shall not be considered as a commitment from 3M.

Note: In low temperature environments, the product can whiten at creases, tears, and folded corners. Apply at recommended exterior air and surface temperatures.

Flammability

Flammability standards are different from country to country. Ask your local 3M contact for details, please.

Processing Options

Processing of 3M™ DI-NOC™ EX is on a user test and approve basis only. The user is responsible for results in all processing applications.

Printing

3M™ DI-NOC™ Architectural Finishes EX Series are not designed for surface printing. Printing is on a user test and approve basis only. No warranty is made for the quality or durability of printed 3M™ DI-NOC™ Architectural Finishes EX Series.

Cutting

DI-NOC™ EX Series is more difficult to cut than standard DI-NOC™ Series. Cut the product through to the adhesive with a sharp tool to avoid unexpected tearing or rough edges.

Electronic cutting, weeding and application tape with 3M™ DI-NOC™ Architectural Finishes EX Series must be used only on a user test and approve basis. The user should consider that the type of liner used for 3M™

DI-NOC™ Architectural Finishes EX Series is not intended for electronic cutting. 3M™ DI-NOC™ Architectural Finishes EX Series is normally applied in sheets directly from the roll. In case people want to cut that is possible, but not the primary intention of the film.

See [3M Instruction Bulletin 4.1](#) for Sheeting, Scoring and Film Cutting details.

It is recommended to weed 3M™ DI-NOC™ Architectural Finishes EX Series immediately after cutting. This is to minimize the effect of possible adhesive flow 24 hours or more after cutting.

When weeding check removability of small pieces. Being a multilayer film, separation can occur when weeding. This may increase weeding time on small parts.

Note: 3M™ DI-NOC™ EX is not treated with antistatic charges.

Chemical Resistance

Product applied to an aluminum panel, conditioned for 72 hours and then immersed in the chemical agents.

Chemical agent	Exposure time	Result
Water	24 hours	No visible change
Chloride (10%)	24 hours	No visible change
Hydrogen Peroxide	72 hours	No visible change
Sodium Hydroxide (10%)	24 hours	No visible change
Ethanol	24 hours	No visible change
Isopropyl Alcohol	72 hours	No visible change
Ethyl Acetate	5 minutes	Deterioration observed
Methyl Ethyl Ketone	5 minutes	Deterioration observed
Acetone	72 hours	Deterioration observed
Toluene	5 minutes	Deterioration observed

Stain Resistance

3M™ DI-NOC™ EX product applied to an aluminum panel and placed in direct contact with the following substances at +20°C, 65%RH:

Milk, coffee, red wine, tea, cola, tabasco, ketchup, soy sauce, cooking oil, vinegar, sodium hydroxide (10%), salt water (1%), household cleaner, soapy water (1%), synthetic detergent, hydrochloric acid (10%)

Test result: No effect

Primer

Generally, on flat surfaces primer is not required. Primer is recommended at 3M™ DI-NOC™ EX overlaps, ends, corners or edges, or around fixtures. It should also be used wherever 3M™ DI-NOC™ EX is stretched. Also, if the surface energy of the substrate is low, primers should be used.

The use of primer on critical surfaces may promote adhesion to substrate. Verification of individual cases is necessary to find out which promoter is the best to use (all-over or partial).

Warranty Information

3M Basic Product Warranty

3M Graphics Products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in its applicable 3M Graphics Product Bulletin.

Limited Remedy

3M recommended product end uses are listed in each 3M graphics product bulletin.

End uses not listed in the applicable 3M Graphics Product Bulletins are typically not eligible for 3M Graphics Warranties.

- For all product end uses (recommended or not recommended), user remains solely responsible for evaluating, testing and approving this 3M product and determining whether it is appropriate and suitable for customer's application.
- For non-recommended and/or non-warranted end uses or applications, users must assume any associated risks, and acknowledge that 3M has no liability for such end uses or applications.

Please contact your 3M representative with any questions about graphic applications, end uses, and warranties.

Limitations of liability

All questions of warranty and liability relating to this product are governed by the terms and conditions of the sale, subject, where applicable, to the prevailing law.

Application

In addition to other 3M Bulletins specified in this document, the following Bulletins provide details that you may need to successfully apply 3M™ DI-NOC™.

See 3M Instruction Bulletin DI-NOC Installation Guidelines for exterior dry applications of 3M™ DI-NOC™ Architectural Finishes EX Series.

A significant decrease in durability may be experienced if films are exposed other than vertically. Such non-vertical application should be based on 3M tests results and approval to determine acceptability. However, actual performance will be determined by substrate selection and preparation, exposure conditions and maintenance of the marking.

When 3M™ DI-NOC™ Architectural Finishes EX Series is used horizontally, it can be exposed to abrasion which is greater than normal. This can lead to premature wear and/or damage to the film. 3M does not recommend the use of an overlamine.

Maintenance, Cleaning and Removal

Regular cleaning will help maintain the appearance of the finish. Use mild detergent and water, and a soft cloth or sponge without abrasives. For difficult stains, spot clean with a diluted Isopropyl Alcohol solution and a soft cloth. Avoid using strong solvents or detergents that are either highly alkaline (pH>11) or acidic (pH<3). Do not use ammonia, chlorine, or strong organic-based cleaning products, polishing or cleaning compound, hard-bristle brushes or electric polishing equipment. Use only clean, nick-free tools and wipe gently.

Problem	Solution
Dust and grit	Wipe with a soft, damp cloth.
Soiled (but not gritty)	Use water and a soft cloth.
Heavily soiled	Clean first using a solution of mild liquid detergent and water, then use clear water. Wipe gently with a soft cloth.
Difficult stains	Spot-clean with 70/30 IPA (70% Isopropyl Alcohol/30% water) cleaning solution, ethanol or citrus cleaner.

Type of Surface Damage	Appearance of Surface Damage	Method to Reduce Visibility
Mar	Dragging an item, such as a colored briefcase, across the film and leaving a deposit of color on the surface.	Rub with a soft cloth and warm soapy water to remove the mar.
Scratch	Breaking the surface layer of film leaving a slightly jagged whitish mark on the surface, such as by dragging a sharp rivet from a purse.	Rub with a surface restorer such as 3M™ Marine Vinyl Cleaner & Restorer to reduce the visibility of scratches.
Gouge	Breaking through the entire film, such as severe impact from sharp chairs or carts.	Repair by removing the damaged film and replacing an entire panel of film.

3M™ DI-NOC™ Architectural Finishes EX Series is removable with heat from supported substrate within the Expected Performance Life.

LEEDv4 Credits

This section describes some of the options for acquiring LEED credits using 3M™ DI-NOC™ EX Series Architectural Finishes.

NOTE: Each application is different. It is the sole responsibility of the end user to evaluate and determine whether LEED credits can be acquired.

ID+C, BD+C MR Credit, Construction and Demolition Waste Management

Option 2: Product can be used to refinish exterior surfaces minimizing overall construction waste.

BD+C MR Credit, Building Life-Cycle Impact Reduction

Option 3: Building and Material Reuse - Product can be used to refinish exterior surfaces.

O+M MR Credit, Purchasing - Facility Maintenance and Renovation

Product can be used to refinish exterior surfaces.



BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION INFORMATION

Environmental Product Declaration (EPD) or Life Cycle Analysis (LCA)

EPD and/or LCA information not available.

Raw Material Source and Extraction Reporting

Raw Material source and extraction information for this product is considered to be 3M confidential and is therefore not available.

Extended producer responsibility

Take-back or recycling program for this product is not available.

Bio-based materials

Product have not been tested to ASTM D6866.

Wood products

Product does not contain wood-based materials.

Materials reuse

Product can be used to refinish salvaged, refurbished, or reused materials.

Recycled content

Product does not contain pre- or post-consumer recycled content.

Material Ingredient Reporting

Product ingredient information for this product is considered to be 3M confidential and is therefore not available.

GreenScreen Benchmark or Cradle to Cradle Certification

Assessment or Certification not available on this product.

REACH Optimization

REACH Substance of Very High Concern certifications are on 3M.com/Regs (US) or 3M.com/SVHC (Europe).

Product Manufacture Supply Chain Optimization

Based on our analysis, 3M meets required process and safety requirements as outlined in the criteria.

Location Valuation Factor

Based on supply chain, this product would not meet location valuation factor requirements of being extracted, manufactured, and purchased within 100 miles.

Shelf Life, Storage and Shipping

The shelf life as defined below remains an indicative and maximum data, subject to many external and non-controllable factors. It may never be interpreted as warranty.

The shelf life is never more than 2 years from the date of manufacture on the original box.

Storage conditions: +4°C to +35°C, out of sunlight, original container in clean and dry area.

Health and Safety

When handling any chemical products, read the manufacturer's container labels and the Safety Data Sheets (SDS) for important health, safety and environmental information.

Follow the link to obtain SDS sheets for 3M products on 3M.com/SDS.

IMPORTANT! When using any equipment, always follow the manufacturer's instructions for safe operation.

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