

3M™ DI-NOC™ Architectural Finishes

Technical Data Sheet

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Product Description

3M™ DI-NOC™ Architectural Finishes are decorative surface finishes available in 500+ designs. 3M DI-NOC designs offer the warmth of wood grain, sleek feel of metal, cool of natural stone and hundreds of other designs.

Featured Benefits of 3M™ DI-NOC™ Architectural Finishes

- Applications — Ideal for casework, doors, columns, walls and more.
- Substrates — Use on metal, wood, glass and more.
- Aesthetics — Resemble natural materials and other types of surfaces to deliver the look you want.
- Remodel and Reuse — Goes up fast, with less likelihood of error and waste, and bring life to existing assets. The architectural finishes convert wood or metallic spaces to reflect an entirely new design with abstract or colored finishes.
- Easy Application — 3M™ Comply™ Adhesive technology is repositionable and virtually eliminates bubbles, simplifying and speeding application. It also bonds powerfully to many substrates.

3M™ DI-NOC™ Architectural Finishes Specifications

The values in these tables are typical, and are based on test data deemed reliable but are not warranted.

Material	Vinyl (most finishes)
Form - Standard	48 in. X 164 ft (1,220 mm x 50 m) roll length options based on availability
Thickness	8 mils (0.2mm) nominal (release paper liner excluded). Some designs vary slightly in thickness due to embossing
Weight	Approximately 44 lbs (20kg) for a 50m roll



3M™ DI-NOC™ Architectural Finishes are flexible finish films, able to contour to most surfaces.



Patterns FW-7017, FW-522 and MW-1074 are used in the retail setting above.



General Characteristics and Data

Characteristic	Evaluation	Results
Dimensional Stability	4" x 4" (100mm x 100mm) crosscut was made in the center of 6" x 6" (150mm x 150mm) film applied to an 8"x 8" (200mm x 200mm) aluminum plate. After 2 days, the largest gap at the crosscut point was measured.	Largest gap: under 0.01" (0.3mm)
Heat Resistance	Film was applied to an aluminum plate and aged at a temperature of 150°F (65°C) for 28 days.	No delamination or visible change
Thermal Cycle Resistance	Film was applied to an aluminum plate and cycled between -22°F and 150°F (-30°C and 65°C) for 12 days.	No delamination or visible change
Moisture Resistance	Film was applied to an aluminum plate and aged at a temperature of 113°F (45°C) and 95% humidity for 30 days.	No delamination or visible change
Cold Impact Resistance	Film was applied to an aluminum plate and a weight of 2 lbs (907g) was dropped from 5 inches (12.7cm) high at a temperature of 32°F (0°C) using a Gardner Impact Tester.	No cracks in film
Weatherability	Exposed to a Sunshine Weather Meter for 250 hours.	No visible change
Flammability	Most DI-NOC™ architectural finishes received a Class A rating when tested per ASTM E84.	Class A
Removal	Removable with heat at 176°-212°F (80°-100°C)	—

Stain Resistance

Contaminant was in contact with the film surface for 24 hours and then removed using water or mild detergent. Results may vary.

Contaminant	Results
Coffee	●
Tea	○
Cola	●
Milk	●
Red Wine	●
Ketchup	●
Soy Sauce	●
Oleic Acid Oil	●
Vinegar	●
Mustard	●
Crayon	○
Shoe Polish	●
Betadine iodine	●
Soap solution (1%)	●
Ammonia Solution (10%)	●
Citrate Solution (10%)	●
Ethyl Alcohol (50%)	●

- Removed with water
- Removed with mild detergent
- A little stain remained

Resistance to Solvents and Chemicals

Film was applied to an aluminum plate, left for 72 hours, then immersed in the following chemicals:

Classification	Solvent	Immersion Time	Result
Water	Water	24 hours	No visible change
Acid	Chloride (10%)	24 hours	No visible change
Base (Alkali)	Sodium Hydroxide (10%)	24 hours	No visible change
Alcohol	Ethanol	24 hours	No visible change
Ester	Ethyl Acetate	5 minutes	Deterioration observed
Ketone	Methyl Ethyl Ketone	5 minutes	Deterioration observed
Aromatic	Toluene	5 minutes	Deterioration observed

Adhesion Compatibility with Application Surfaces

The following table contains peel adhesion information for the Product peeled from various surfaces. A number of surfaces have acceptable adhesion without the use of adhesion promoter. Examples of increased adhesion with adhesion promoters on certain surfaces is presented. Surfaces vary widely, so adhesion should be assessed for each customer substrate.

Test specimens were applied to the substrate and conditioned at 68°F (20°C) for 48 hours, then peel tested at 180 degrees at a tensile speed of 12 inches (300mm) per minute.

Substrate	Application Surface	Adhesion Promoter		
		NO ADHESION PROMOTER	WP-2000 (water-based)	Primer 94 (solvent-based)
Wood	MDF (w/ sealer)	○	●	●
	Painted MDF	●	●	●
Boards	Gypsum Board (w/ sealer)	○	●	○
Metals	Aluminum	●	●	●
	Anodized Aluminum	●	●	●
	Stainless Steel	●	●	●
Glass	Glass	●	●	●
Plastics*	ABS	●	●	●
	Acrylic	●	●	●
	Polyester (PET G)	●	●	●
	Polypropylene	○	●	●
	Polyethylene	○	●	○
	Polycarbonate	●	●	●
	DI-NOC™ Film**	○	●	●

WP-2000 undiluted for testing

● Acceptable adhesion

○ Fails in adhesion

* Bubbles may appear under film due to outgassing if plastic substrate is not fully cured before application.

** Due to additional stress from wrapping DI-NOC™, use of an adhesion promoter is highly recommended.

Storage and Shipping

- Store in a clean, dry area at an ambient temperature of 95°F (35°C) or less
- Protect from excessive moisture
- Protect from direct sunlight
- If rerolled, roll with the film side facing out on at least a 3 inch (76mm) core.

Consider These Factors in Determining the Suitability of the Product

Be sure you understand the unique characteristics of these Products and consider them in determining whether the Product is suitable for your use. Please refer to the Technical Data Sheet for the Product you are using for additional information.

1. Substrate texture affects Product adhesion and application ease.
 - ☐ Unless the substrate is very smooth, its texture may be visible through Product.
 - ☐ Compounds used to smooth a textured substrate permanently change that substrate.
 - ☐ Product removal may damage the substrate or its finish.
2. Application surface conditions affect Product adhesion.
 - ☐ Ensure that the existing paint, surface finish, or wall covering has excellent bond to the substrate area where Product will be applied.
 - ☐ Repair, prime and paint the substrate, as needed.
 - ☐ An adhesion promoter may be required to increase Product adhesion.
3. Human and environmental conditions affect Product.
 - ☐ Temperature and humidity: constant or variable.
 - ☐ Direct UV light (sunlight).
 - ☐ Heating or cooling ducts in close proximity.
 - ☐ Unsealed substrates in front of water sources.
 - ☐ People or equipment that will be in contact with Product.
4. The Product may contain a splice. The location of the splices is marked with a tab along the edge of the Product. The installer will need to determine the impact of the splice and work around it to make the best use of the material layout.

Considerations for Design Selection by Product Series

Product Series	Considerations in Product Design Selection					Notes
	Texture of Application Surface	Damage to Film Surface	Pattern Match for Butt Seams	Asymmetry Due to Reflection After Butt Seams	Lighting Environment After Application	
SE Stucco		●				Wrap squeegee in a soft cloth to prevent damage to the film surface. Replace cloth when it becomes worn or stained.
LE Leather/ Metallic Leather						Embossed patterns may appear inconsistent due to the frequency of pattern repetitions. Confirm suitable visual appearance prior to application when applying on a large surface.
SI Silk			●	●	●	<p>Do not use on compound curves or complex shapes. Avoid damaging film edges during application.</p> <p>The texture of this pattern has a grain: apply each sheet in the same direction and use a butt joint.</p> <p>Confirm suitable visual appearance of gloss both for pattern match and in adjacent sheets prior to application.</p> <p>Delicate lines are visible in the pattern under down lights or spot lights.</p>
NU Nuno			●	● Particularly NU-1240, NU-1241	●	<p>Do not use on compound curves or complex shapes. Avoid damaging film edges during application.</p> <p>Confirm suitable visual appearance of gloss and pattern match on butt joints or adjacent sheets prior to application.</p>
FE Weave			●			<p>Do not overlap seams due to significant texture in embossed pattern.</p> <p>Embossed patterns may appear inconsistent due to the frequency of pattern repetitions. Check for suitable visual appearance when applying on a large surface.</p> <p>Do not use on compound curves or complex shapes. Avoid damaging film edges during application.</p> <p>Use caution during cold weather application; cold stretching may rip film.</p>
GE G-Emboss	●	●	●	●		<p>Surface of film may be damaged when exposed to friction, or dented when subjected to weighted objects.</p> <p>Remove stains immediately. Stains in embossed grooves may be difficult to remove. Follow DI-NOC film cleaning procedure.</p>
RS Random Style		●	●			<p>Surface of film may be damaged when exposed to friction, or dented when subjected to weighted objects.</p> <p>Remove stains immediately. Stains in embossed grooves may be difficult to remove. Follow DI-NOC film's cleaning procedure.</p> <p>Do not use on compound curves or complex shapes.</p>
CA Carbon	●	●	●	● CA-418, 420, 422, 423		Surface of film may be damaged when exposed to friction, or dented when subjected to weighted objects.

HG High Gloss and Whiteboard (WH-111)		<p>Do not use: outside; in high temperature; in high humidity; on stretchable substrate; on compound curves; on complex surfaces.</p> <p>Do not stretch or attempt to reposition the film during application, which may deform, buckle or ripple the film. Determine starting point and apply carefully.</p> <p>Seams will be visible when using a butt joint.</p> <p>Film may bubble due to outgassing if applied to acrylic or polycarbonate that is not fully cured.</p> <p>Fingerprints and other stains may be visible on films' glossy surface; can usually be removed by wiping with a dry or wet cloth.</p>
ME Metallic		<p>ME-536 has a transparent protective liner on the surface to prevent film damage during application. Peel off after application. Keep unused film tightly rolled to prevent protective liner from popping off the face of the film.</p>
VM Metallic		<p>Do not attempt to reposition the film during application, which can cause the film to separate from the adhesive.</p> <p>Excessive stretching during application may cause an uneven color and pattern.</p> <p>Test and approve for suitable appearance before applying to compound curves or complex shapes.</p> <p>For VM-167, VM-168, VM-381, VM-383, VM-452: use care not to crease the film during application, which may wrinkle the surface.</p> <p>Film may bubble due to outgassing if applied to acrylic or polycarbonate that is not fully cured.</p>
FW Fine Wood		<p>Do not use the the direction of the logos on the back of the release paper liner as a pattern guide: they may not align with the grain.</p>
MW Metallic Wood		
LW Little Weave, PA Metallic		
FW Fine Wood Large-patterns product (e.g., FW-791)		<p>To confirm the color, pattern, and suitability for butt seams, always view a film sample of at least 8.5" x 11".</p>
Wipe Wood Grain WG-156, WG-157, WG-159, WG-166		<p>The film surface has a special treatment. Do not use butt joints. Apply with reveals or joint separations.</p>
WG-GN Wood Grain Gloss		<p>Wrap squeegee in a soft cloth to prevent damage to the film surface. Replace cloth when it becomes worn or stained</p> <p>Immediately after application, clean the film surface with a soft cloth and water or a mild detergent.</p>

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Limited Warranty and Limited Remedy

Limited Warranty

1. 3M warrants that a Product will be free from defect in manufacture ("3M Warranty") on 3M's Product shipment date ("Warranty Period"). EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, THE 3M WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, RIGHTS OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND THOSE ARISING FROM A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. THE BUYER IS RESPONSIBLE FOR DETERMINING IF A PRODUCT IS SUITABLE FOR ITS PARTICULAR PURPOSE AND APPLICATION METHODS.

2. For a buyer's convenience, 3M may provide engineering or technical information, recommendations, installation instructions, and other infor-

mation or materials relating to Product ("Other Product Information"), but 3M makes only the 3M Warranty and does not warrant any Other Product Information.

3. 3M has no obligation under the 3M Warranty as to Product that has been: (a) modified, altered or processed in any manner; (b) stored, applied, installed, or used in a manner other than that 3M recommends in this Technical Data Sheet and in all Other Product Information; (c) damaged through contact with a person or thing, misuse, accident, neglect, or other action by anyone other than 3M; or (d) exposed to excessive heat, humidity, dirt or UV light.

Limited Remedy

If any Product is proven not to have met the 3M Warranty on the buyer's receipt, then **the buyer's exclusive remedy, and 3M's sole obligation, will be, at 3M's option, to replace that Product quantity or refund the applicable purchase price.**

Limitation of Liability

3M WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO A BUYER FOR DIRECT (other than the Limited Remedy stated above), SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS) IN ANY WAY RELATED TO A PRODUCT, THIS TECHNICAL DATA SHEET, OR OTHER PRODUCT INFORMATION, REGARDLESS OF THE LEGAL OR EQUITABLE THEORY ON WHICH SUCH DAMAGES ARE SOUGHT.

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