

Technical Information

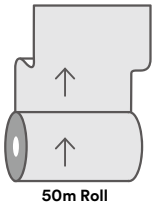
DI-NOC Series Selection

It is important to consider the intended use when selecting DI-NOC patterns. Please refer to the most up-to-date 3M™ DI-NOC™ Architectural Finishes Technical Data Sheet and Installation Guide, which can be found by visiting 3M.com/AMD. You may also contact your 3M Sales Representative for additional information.

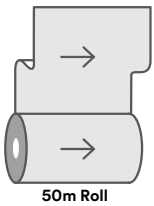
Horizontal Print Series

3M™ DI-NOC™ Architectural Finishes Fine Wood (FW) and Wood Grain (WG) Series include horizontal pattern options, which simplify the use of horizontal wood grains by changing the print direction.

Printing direction = Direction of the wood grain length

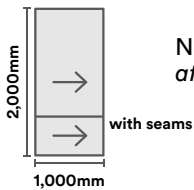


Vertical Print Series
Wood grain patterns of vertical print series:
horizontal to the length

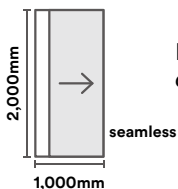


Horizontal Print Series
Horizontal print series wood grain patterns:
vertical to the length

Affixing a Horizontal Pattern Film on Door



Normal wood grain patterns:
affix twice for one door



Horizontal print series wood grain patterns:
complete by affixing once

▶ The following chart reflects the horizontal patterns with the corresponding vertical match.
◀

Horizontal	Vertical
FW-606H	FW-1134
FW-607H	FW-1133
FW-608H	FW-1123
FW-609H	FW-1113
FW-1039H	FW-1124
FW-1040H	FW-1137
FW-1121H	FW-1022
FW-1130H	FW-1129
FW-1136H	FW-1135
FW-1139H	FW-1138
FW-1145H	FW-1143
WG-1392H	WG-2705

Horizontal Print Series products have "H".

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Product Characteristics

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

Characteristic	Value	
Material	Film	Vinyl (most finishes)
	Adhesive	Pressure-sensitive acrylic, permanent
	Release Liner	Silicone-coated poly paper
Thickness	Film + Adhesive	8 mils (200 microns) nominal, not including release liner; Some designs vary slightly in thickness due to embossing
	Release Liner	6.2 mils (157 microns)
Maximum Roll Size	Standard	48 in. x 164 ft. (1,220mm x 50m)
	AR, WG-GN, VM, ET	48 in. x 82 ft. (1220mm x 25m)
Maximum Weight	55 lbs. (25kg) (approx.) for a 164 ft. (50m) roll	

Product Performance

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

Characteristic	Evaluation	Results
Dimensional Stability*	4 in. x 4 in. (100mm x 100mm) crosscut in film, after 2 days at room temperature	Largest gap: < 0.01 in. (0.3mm)
Heat Resistance*	Aged at 150°F (65°C) for 28 days	No delamination or visible change
Thermal Cycle Resistance*	Cycled between -22°F and 150°F (-30°C and 65°C) for 12 days	No delamination or visible change
Moisture Resistance*	Aged at 104°F (40°C), 95% humidity for 30 days	No delamination or visible change
Cold Impact Resistance*	2 lb. (907g) weight dropped from 5 in. (12.7cm) height, at 32°F (0°C) using a Gardner Impact Tester	No cracks in film
Ultraviolet Light Exposure	Exposed to carbon arc accelerated UV light for 250 hours	No visible change
Abrasion Resistance	Taber® CS-17 Abrasion wheel: 1kg loading weight, 7,000 cycles	No wear-through of surface finish
Fire Resistance	When used in Interior Applications as defined by NFPA 101 "Life Safety Code", Test Method ASTM E84	Most Products have Class A
Industry-Specific Testing	IMO Certification/USCG Type Approval, Intertek Firedoor, CAN/ULC-S102.2	Consult 3M Technical Services

*Product applied to an aluminum plate.

Technical Information

Stain Resistance

Contaminant was in contact with the film surface for 24 hours and then removed using water or mild detergent. Diluted Isopropyl Alcohol may be used for more difficult stains. Results may vary.

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

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

Cleaning and Maintenance

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 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

Application and Removal Guidelines

The values in these tables are typical, and are based on test data deemed reliable but are not warranted. See the 3M™ DI-NOC™ Architectural Finishes Installation Guide for additional information.

Characteristic	Value
Application Surface Type	Smooth, hard, non-porous (sealed) material
Application Location	Interior
Application Temperature	54–100°F (12–38°C) air and application surface
Application Method	Dry application
High Humidity Environments	Products are not recommended for Interior Applications where condensation consistently occurs, or large changes in humidity occur
Product Removal	Heat at 176–212°F (80–100°C)

Resistance to Solvents, Cleaners and other 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	Hydrogen Peroxide	72 hours	No visible change
Alcohol	Ethanol	24 hours	No visible change
	Isopropyl Alcohol	72 hours	
Cleaners, Disinfectants and Other Chemicals	Clorox® Bleach — 50% bleach/50% water	72 hours	No visible change
	Ecolab® TB Disinfectant Cleaner		
	Formula 409®		
	Lysol®		
	3M™ Quat Disinfectant #5 — 3M		
	3M™ Sharpshooter™ — 3M		
	Virox®		

Refer to the 3M™ DI-NOC™ Technical Data Sheet for additional details.

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. Some surfaces are porous and must be sealed before application of DI-NOC to prevent outgassing of the surface over time.

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: lb./in. (N/25mm)		
		No Adhesion Promoter	WP-2000* (water-based)	3M™ Tape Primer 94 (solvent-based)
Wood	MDF (with sealer)	● ³	●	●
	Painted MDF	●	●	●
Boards	Gypsum Board (with skim coat and sealer)	● ³	●	●
Metals	Aluminum	●	●	●
	Anodized Aluminum	●	●	●
	Stainless Steel	●	●	●
Glass	Glass	●	●	●
Plastics ¹	ABS	●	●	●
	Acrylic	●	●	●
	Polyester (PETG)	●	●	●
	Polypropylene	○	●	●
	Polyethylene	○	●	○
	Polycarbonate	●	●	●
	DI-NOC Film	● ²	●	●

● = Acceptable adhesion
○ = Fails in adhesion

- 1 Bubbles may appear under film due to outgassing if plastic substrate is not fully cured before application.
- 2 If DI-NOC is wrapped and overlapped around edges, use of an adhesion promoter is highly recommended due to additional stress from wrapping DI-NOC.
- 3 Sealer was wiped with Isopropyl alcohol to improve adhesion. Adhesion was tested using a spring scale per the 3M™ DI-NOC™ Architectural Finishes Installation Guide and passed at 800–1,000 g/in.

*WP-2000 undiluted for testing.

Comply™ Adhesive Technology

Comply Adhesive has air-release channels that allow trapped air bubbles to escape during application. Dry application only.

