

3M Architectural Markets featuring 3M™ DI-NOC™ E-Series Architectural Finishes

Technical Data Sheet DI-NOC E-Series
Release A, Effective May 2013

Product Description

3M™ DI-NOC™ E-Series Architectural Finishes (the “Product”) are the latest decorative surface finishes available from 3M. Using non-vinyl films, these Products offer customers a more environmentally sustainable solution. For further information on 3M's commitment to sustainability, please click this link or go to www.3M.com/sustainability.

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

- Applications — Ideal for casework, doors, columns and walls.
- Substrates — Use on metal, wood, glass and more.
- Aesthetics — Designs resemble many types of surfaces to deliver the look you want, at the price you need.
- Remodel and Reuse — Goes up fast, with less likelihood of error and waste, and bring life to existing assets. The architectural finishes refresh wood or metallic spaces to reflect an entirely new design aesthetic.
- Easy Application — 3M™ Comply™ Adhesive technology is repositionable and virtually eliminates bubbles, simplifying and speeding application. It also bonds powerfully to many substrates.
- Custom Design Availability — Work with 3M Architectural Markets to explore the option of creating a design specifically for your space.



3M™ DI-NOC™ E-Series Architectural Finishes are ideal for adding sophistication to trade show columns.

Note: 3M™ DI-NOC™ E-Series Architectural Finishes are not intended for applications with compound curves. If this capability is required, please consider the vinyl-based 3M™ DI-NOC™ Architectural Finishes.

3M™ DI-NOC™ E-Series Architectural Finishes Specifications

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

Material	Form — Standard	Thickness	Weight
Polyolefin	48" X 164 feet [1,220 mm(W) x 50 m(L)] roll	7 mil (0.17mm) nominal (release paper liner excluded). Some designs vary slightly in thickness due to embossing.	Approximately 44 lbs (20kg) (for a 50m roll)

General Characteristics 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 0.06" (0.15mm)
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 and 150°F (-30 and 65°C) for 14 days.	No delamination or visible change
Moisture Resistance	Film was applied to an aluminum plate and aged at a temperature of 104°F (40°C) and 95% humidity for 28 days.	No delamination or visible change
Weatherability	Exposed to a Sunshine Weather Meter for 250 hours.	No visible change
Flammability	This Product received a Class A rating when tested per ASTM E84.	Class A
Abrasion Resistance	4,000 cycles with no wear-through of surface finish (JIS K7204) CS-17 wheel, loading weight 1kg.	—
Removal	Removable with heat at 176°-212°F (80°-100°C)	—



Resistance to Solvent and Chemicals

Film was applied to an aluminum plate, left for 12 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

Adhesive Strength to a Base Material

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.

Classification	Substrate	With No Primer lbs/in (N/25mm)	Primer Application DP-900N lbs/in (N/25mm)
Wood	Luan Veneer	2.7 (12)	6.3 (28)
	China Veneer	2.7 (12)	7.4 (33)
	MDF	—	5.8 (26)
Boards	Gypsum Board	—	1.3 (6)*
	Calcium Silicate Board	—	5.4 (24)**
	State Board	4.3 (19)	8.8 (39)
Metals	Baked Enamel Steel Finish	4.0 (18)	6.5 (29)
	Bonderized Steel Plate	6.6 (28)	6.7 (30)
	Vinyl Chloride Steel Plate	9.4 (42)***	—
	Aluminum	5.6 (25)	—
	Stainless Steel	6.1 (27)	—
Plastics	Galvanized Steel Plate	5.4 (24)	8.8 (39)
	Acrylic	6.5 (29)	7.4 (33)
	ABS	5.6 (25)	9.4 (42)
	Melamine	4.0 (18)	6.3 (28)
Inorganic	Polyester	5.4 (24)	6.7 (30)
	Mortar	2.2 (10)	9.0 (40)
Glass	Glass	4.7 (21)	—

* Cohesive failure of substrate's paper layer.

** We applied DP-900N for comparison, although the recommended primer was EC-138NT.

*** Although a vinyl-chloride steel substrate is sufficient in primary adhesive performance without the primer treatment, it is highly recommended to apply the primer due to adhesive reduction over time.

Stain Resistance

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

Classification	Contaminant	Result
Food and Beverages	Coffee	●
	Tea	○
	Cola	●
	Milk	●
	Red Wine	●
	Ketchup	●
	Soy Sauce	●
	Oleic Acid Oil	●
	Vinegar	●
Cleaning Solutions	Salt Water (1%)	●
	Soap suds (1%)	●
	Ammonia Solution (10%)	●
	Oxygenated Water (3%)	●
	Citrate Solution (10%)	●
	Formalin (36%)	●
	Ethyl Alcohol (50%)	●

- Wiped with water
- Wiped with mild detergent
- ⦿ A little stain remained

* Results may differ depending on the manufacturer.

Considerations for Product Design Selection

Product Series	Considerations		Notes
	Smoothness of Substrate Surface	Damage to Film Surface	
All Products	●	●	<ul style="list-style-type: none"> ≈ Suitable for use on smooth, flat or simple curved surfaces. Do not use on compound curved surfaces. ≈ Product removal may damage the substrate or its finish. ≈ Rolls may contain a splice.

Base Substrate Material Compatibility

Substrate Material	Substrate	DI-NOC E-Series
Wood	Luan Veneer	●
	Particleboard	●
	MDF	●
	Untouched Wood	○
Boards	Gypsum Board	●
	Calcium Silicate Board	●
Mortar	Mortar	●
Metal	Baked Enamel Steel Finish	●
	Galvanized Steel	●
	PVC Coated Steel	●
	Aluminum	●
	Stainless Steel	●
	Copper	○
	Tin	○
Overlap Application	Overlap Application	●
Laminates	Melamine Board	●
	Plastic Laminate	●
Glass	Glass	●
	Holohyaline Surface Finish	●
Plastics	Artificial Marble	●
	Acrylics	●*
	ABS	●*
	Hard Vinyl Chloride	●
	Soft Vinyl Chloride	○
	Polycarbonate	●*
	Polyethylene	○
	Polypropylene	○
	Nylon	○
	Fluoro-Resin	○
Rubbers	○	
Sealing Agent	○	

- Compatible
- Fails in adhesion

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

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 (7.6 m) core

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 information 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.

For more information or to order samples, please visit www.3MArchitecturalMarkets.com

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