Commercial Solutions Division

3M™ DI-NOC™ Architectural Finishes

Standard Constructions

Product Description

3M™ DI-NOC™ Architectural Finishes are flexible PVC films with Comply™ adhesive intended to cover all type of the surfaces, such as wall covering, furniture, fixture, ceiling, doors, elevators and exterior/interior applications.
3M™ DI-NOC™ Architectural Finishes are durable, dimensionally stable, vinyl films that were specifically developed for interior/exterior decorations and refurbishment.
3M™ DI-NOC™ Architectural Finishes are CE marked according the Construction Products Directive 89/106 /EEC and tested according to the EN 15102: 2008 Decorative wall covering.

For performance characteristics please see the referring Declaration of Performance by comparing the listed design series with our product catalogue.

3M™ Comply™ are air release channels allowing fast and easy, bubble-free application of films.

Product Line

AE (abstract earth)	ME/VM (metallic)
AM (advanced metallic)	MW (metallic wood)
BW (big wave)	NU (nuno)
CA (carbon)	PA (metallic)
CH (cross hairline)	PC (sand)
CN (concrete)	PS (single color)
DW (dry wood)	RS (random squares)
ET (effect)	RS (random style)
FA/PT/SE (abstract soft)	RT/PG/LZ (abstract hard)
FE (weave)	SE (stucco)
FW (fine wood)	SI (silk)
HG (high gloss)	ST (stone)
HS (hide seek)	TE (tech fiber)
LE (leather)	WG (wood grain)
LW (little wave)	

Important Note

Please refer to the Installation Guidelines for interior dry applications of 3M™ DI-NOC™ Architectural Finishes Standard for additional information. Please consider specific recommendations for MT Matte Finish patterns, due to the film's special surface.

Product Characteristics

These are indicative values for unprocessed products.
Contact your 3M representative for a custom specification.

Physical & Application

Material	PVC
Surface finish	depends on design
Thickness (film)	210 µm - 250 µm (varies between film constructions)
Adhesive type	acrylic
Liner	Polyethylen coated paper

Adhesion	N/25 mm	FTM 1: 180° peel, substrate: see listed below; cond: 24 h 23°C/50%RH

Substrate	Adhesion
Veneer	4.9
Melamine Baked Steel Sheet	30.4
PVC	44.1
Aluminum	29.1
Stainless Steel Sheet	37.2
Acrylic Board	38.2
Mortar	3.9

Application method	dry only!	
Applied shrinkage	< 0.4 mm	FTM 14
Application temperature (minimum air and substrate)	+12°C	for flat surfaces
	+16°C	for curved surfaces
	+18°C	for moderate compound curves and corrugations

Important Notice

3M recommends applying DI-NOC products at +12°C to +38°C.

Surface type	flat to simple curved, moderate compound curves and corrugations depending on product pattern
Substrate type	metal, wood and plastic material, see section Primer below for more details
Graphic removal	Good to remove without or little heat except where primer has been used 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.

Chemical Resistance

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

Chemical Agent	Exposure Time	Result
Heptane	5 hours	No
Ethyl alcohol	5 hours	No
Water	7 days	No
Salt Spray (5%, 43°C)	7 days	No

Stain resistance

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

Substances

Milk, coffee, wine, lemon juice, tea, sodium hydroxide (10%), soybean oil, salt water (1%), household cleaner, soapy water (1%), synthetic detergent, hydrochloric acid (10%), vinegar.
Test result: No effect

Storage

Shelf life	Use within two years from the date of manufacture on the sealed original box. Use within one year after opening the box.
Storage conditions	+4°C to +35°C, out of sunlight, original container in clean and dry area.

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

Flammability

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

Primer

Generally, on flat surfaces primer is not required. Only if the surface energy of the substrate is low or on critical surfaces with sharp radius, edges where 3M DI-NOC is stretched, primers should be used. For high surfaces energy substrates such as metal or paint no primer is required. Primer is required at any overlaps of the film, i.e. underneath the butt joint and wherever the material is stretched, see overview of primers below:

Primer	Substrate
Solvent based (Generally used on low surface energy substrate) Solvent primers are: **3M™ Scotchmount™ 4297** or **Primer 94** (from 3M Automotive)	Calcium Silicate (with sealer coating) Plywood MDF board Aluminum Stainless steel Painted or coated metals Films (including DI-NOC™ films) PVC laminated steel Mortar (with sealer coating)
WP-2000 Water based (can be diluted 1 part primer 2 parts water) Without diluting primer is high in viscosity	Plaster board Calcium Silicate (with sealer coating) Plywood
WP-3000 (for small areas) Water based	Plywood MDF board Painted or coated metals, etc.

Durability

The durabilities mentioned in the table below are the results of illustrative lab tests. The values show the best performance expected from these products, provided that the film will be processed and applied professionally according to 3M's recommendations.
The durability statements do not constitute warranties of quality, life and characteristics.
The durability of products is also influenced by:

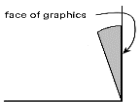
- the type of substrate and thorough preparation of the surface (with 3M™ Surface Preparation System)
- application procedures
- environmental factors
- the method and the frequency of cleaning

Unprocessed film — The following durability data are given for unprocessed film only!

Climatic 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.

Zone 1	Northern Europe, Italy (north of Rome), Russia
Zone 2	Mediterranean area without North Africa, South Africa
Zone 3	Gulf area, Africa

Exposure types

Vertical: 

The face of the graphic is ±10° from vertical.

Interior: Interior means an application inside a building without direct exposure to sunlight.

Vertical outdoor exposure only for films which have the outdoor recommendations	**Zone 1** 5 years	**Zone 2** 4 years	**Zone 3** 3 years
Interior application interior	**Zone 1** 12 years	**Zone 2** 12 years	**Zone 3** 12 years

Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs to recommend other products.

Films applied to

- vehicles outdoor exposure
- surfaces that are not clean and smooth
- surfaces with poor paint to substrate adhesion

Important Notice	- also when 3M DI-NOC Architectural Finishes is used horizontally, for example on a counter, it can be exposed to abrasion which is greater than normal. This can lead to premature wear and/or damage to the film. In these cases 3M™ DI-NOC™ Architectural Finishes Abrasion Resistant Series is recommended. 3M does not recommend the use of an overlaminate. - 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. Application performance statements are based upon representative values obtained from testing throughout Japan/Europe. However, actual performance will be determined by substrate selection and preparation, exposure conditions and maintenance of the marking. - 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).
Graphic removal from	- signs or existing graphics that must remain intact.
Graphics subjected to	- gasoline vapors or spills.
Important Notice	- 3M Commercial Solutions products are not tested against automotive manufacturer specifications!

Converting Information

3M DI-NOC Architectural Finishes is normally applied in sheets directly from the roll. In case people want to cut or screen-print that is possible but not the primary intention of the film.

Electronic Cutting

The variable characteristics of electronically controlled cutting equipment require users to verify their specific requirements.

The film is not designed for the purpose of e-cutting and not warranted, however, should you wish to electrocut this material 3M would advise the following:

Application Tape	3M™ SCPS-55 is recommended for prespacing of cut letters.
Sharpness of knife blade	Dull blades impart a serrated look to the edge of the cut film.
Weight of knife blade	The ideal weight slightly scores the liner. Too little weight does not cut completely through the film and the adhesive. Excessive weight cuts the liner and causes the blade to drag, accelerating wear and creating a serrated cut edge on the film. Avoid cutting sharp corners as these can tear during the application process. Test any application tape used to ensure that this does not cause the film layers to separate during installation.
Weeding	It is recommended to weed 3M DI-NOC Architectural Finishes immediately after cutting. This is to minimize the effect of possible adhesive flow 24 hours or more after cutting. **Note:** 3M DI-NOC is not treated with antistatic charges. When weeding check removability of small pieces. Being a multilayer film, separation can occur when weeding. This may increase weeding time on small parts.
Temperature and relative humidity	Temperature and relative humidity are minor considerations, but avoid extreme or rapid fluctuating conditions.
Roll storage	Store the film in the same environment as the cutting equipment.
Further information	For more details refer to our instruction bulletin 4.1 'Sheeting, Scoring, Film Cutting', please. >Instruction Bulletin 4.1'Sheeting, Scoring, Film cutting'<

Converting Information

Whilst 3M DI-NOC Series PS can be screen printed or PIJ printed, other products such as the Controltac™ series of films, for example, are more suitable for this process.

Screen Printing / Digital Printing

Screen printing or PIJ printing is not warranted.

Shipping finished graphics	Flat, or rolled film side out on 130 mm (5 inch) or larger core. These methods help to prevent the liner from wrinkling or application tape, if used, from popping off.

Application

Refer to Instruction Bulletin DI-NOC for general application information.

>Installation Guidelines for interior dry applications of 3M™ DI-NOC™ Architectural Finishes Standard<

Maintenance and Cleaning

For cleaning of applied 3M DI-NOC Architectural Finishes use a soft textile with detergent and water. Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline).
For heavy dirt accumulation use detergent and water at +70°C to +80°C.

Refer to Instruction Bulletin 6.5 ‘storage, handling, maintenance and removal of films and sheetings’, for general maintenance and cleaning information.

>Instruction Bulletin 6.5 'Storage, Handling, Maintenance and Removal of Films and Sheetings'<

LEED®v4 Credits

DI-NOC™ Standard Constructions can contiribute to credits under LEED®v4. Please note that each application is different. It is the sole responsibility of the end user to evaluate and determine whether LEED®v4 credits are applicable. Refer to Customer Information DI-NOC 'LEED®v4 credits'

>Customer Information DI-NOC LEED®v4 credits<

Important Safety Remark

Application to glass

The application of colored or printed film onto glass with sunlight exposure can lead to glass breakage through thermal expansion of the glass. The local conditions must be examined for the danger of glass break by uneven heat absorption through sun exposure. Type of glass (insulation glass, float glass, LSG, toughened safety glass, semi-tempered glass, etc.), glass dimension, joint condition, flexibility of the sealant, quality of the edge finishing, geographical orientation and partial shadow during sun exposure are the determining factors. Light color designs and application on the outside of the window are to be preferred. A free non-applied framework of 4 mm around the entire window front can help to dissipate the absorbed warmth. According to common knowledge a thermal crack can occur at temperature differences of approx. 130°C (toughened safety glass), approx. 40°C (float glass) or approx. 110°C (semi-tempered glass). Coldest place is usually under the framework in the embedded joined window part, the warmest place is typically on the darkest place in the format. Because of the many above mentioned factors, glass breakage cannot be fully predicted, therefore 3M does not accept liability for glass breakage when using this film for window graphics.

Remarks

This bulletin provides technical information only.

Important notice

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.

Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection therewith.

As outdoor graphics age, natural weathering occurs causing a gradual reduction in gloss, slight color changes, some lifting of the graphic at the edges or around rivets, and ultimately a minor amount of cracking.

These changes are not evidence of product failure and are not covered by a 3M warranty.

Additional information

Visit the web site of your local subsidiary at www.3Mgraphics.com for getting:

- more details about 3M™ MCS™ Warranty and 3M™ Performance Guarantee
- additional instruction bulletins
- a complete product overview about materials 3M is offering

3M United Kingdom PLC
Commercial Solutions Division
Cain Road
Bracknell, RG12 8HT
UK

www.3m.co.uk/graphics-and-signage-uk/

3M Ireland (Dublin)
The Iveagh Building
The Park, Carrickmines
Dublin 18
Ireland

www.3m.co.uk/graphics-and-signage-uk/