



Nason[®] Industrial NI-680 DTM PU Topcoat

Product Description

NI-680 is a 2 pack glossy, high film build and isocyanate cured polyurethane topcoat, designed for application as direct-to-metal (DTM). This product is based on Axalta owned technology resulting with a highly durable coating, which delivers outstanding weathering and good anti-corrosion properties. Nason[®] Industrial NI-680 is a mix system using custom colour Mix binder ST100-680 and concentrated Nason[®] Industrial tints that enables matching industrial and standard colours.

Gloss

80 – 85 GU @ 60°

Note: To adjust gloss level, addition of ST600-002 Nason[®] Industrial Matting Agent is recommended. We are currently working on a useful reference Table 1, below – work in progress.

Colour

White; Black; Golden Yellow; AS 2700 colours.

Product Features

- Excellent mechanical properties
- Excellent weathering durability
- Good anticorrosion properties
- Good appearance
- Tintable

Product Benefits

- Long lasting film integrity & durability
- High quality high gloss finish
- Extended service life
- Use for manufacturing & material handling
- Fast turnaround time & high productivity

Product Uses / Applications

Direct-To-Metal on hot rolled carbon steel, weathered and properly treated galvanized, aluminium with outstanding weathering and good anti-corrosion properties.

- Commercial transport & components;
- Mobile mining, earth moving, construction and agricultural equipment & attachments;
- Fabricated structural steel, handrails;
- Material handling equipment;
- Industrial plant equipment and machinery (including chemical plants);
- Pipeline and tank exteriors.

Not Recommended for

As a one coat system in severely corrosive environments.

Immersion service.

Application over alkyd primers and TPA coatings

Physical Data (depending on colour)

	ST100-680	ST200-545	RTS
Volume Solids (average):	46.0%	64.7%	41 – 43%
Weight Solids (average)	65.5%	70.9%	57 – 60%
VOC (average):			480 – 500 g/L
Specific Gravity (mixed, average):	1.38 g/mL	1.06 g/mL	1.20 – 1.30 g/L
Dry Film Thickness:	90 - 120 µm		
Theoretical Coverage (average):	3.5 – 4.5 m ² /L (at 120 µm DFT)		
Flash Point:	27°C	24.5°C	



Dry Time

Air Dry at 25°C & 50% RH at 100 microns dry film thickness:

Dust Free: 30 - 45 minutes Dry To Handle: 2 - 4 hours
 Hard Dry: 24 hours

Bake:

Approx. 45 minutes @ 60°C after 30 minutes flash-off @ 20°C (depending on filmbuild)

Surface Preparation

Previously painted surface:

Clean using an Axalta recommended wax and grease remover.

Sand well or well scour with 3M Scotch Brite Pad grey, and subsequently re-clean all the areas before the application of Nason® Industrial NI-680 DTM PU Topcoat.

Test suitability of the existing coating before application of Nason® Industrial NI-680 DTM PU Topcoat.

New work:

Can be applied as Direct-To-Metal over properly prepared and sanded: aluminium, steel, and weathered galvanized surfaces.

All surfaces should be cleaned with solvent (SSPC-SP1) to remove any grease or oil contamination prior to priming.

- For best results on steel, abrasive blast surface to an SSPC-SP-6 Commercial Blast. Profile should be 2.0 to 2.5 mils. Average peak to valley surface profile shall be 1.5 to 2.5 mils. If blasting is not possible or practical, then Hand Tool Clean to an SSPC-SP 2 or Power Tool Clean to an SSPC-SP 3 may be used with sacrifice in performance vs blasted surfaces.
- Aluminum surfaces should be properly treated. Surface preparations must include sanding or brush off blasting (SSPC-SP7), Alodine treatment or other preparation necessary to ensure adhesion.
- Can be applied over other surface preparations, such as phosphatizing. Galvanized steel surface preparation may include detergent washing, pre-treatment and must include sanding/abrasion for new surfaces; for weathered surfaces, detergent washing and sanding. For new galvanized surfaces, an appropriate primer should be used.



Application

Mix 4:1 with ST200-545 Nason® Industrial 2K PU HS Activator, or ST200-546 Nason® Industrial 2K PU HS Slow Activator, and 0 – 10% Nason® Industrial ST300-501 Slow Dry Thinner (no thinner required for airless application).

Pot Life: 4 hours @ 10°C, 2 hours @ 25°C, 1 hour @ 40°C

Gun Setup

- | | | | |
|----------------------------|--------------------------|---------------|-------------|
| • Pressure Pot: | 1.1 mm | 2.5 – 3.5 bar | 40 – 50 psi |
| • Conventional: | 1.5 – 1.8 mm | 2.5 – 3.5 bar | 40 – 50 psi |
| • Airless Spray: | 0.28 mm | 100 bar | |
| • HVLP: | 1.5 – 1.8 mm | 0.7 bar | 10 psi |
| • Number of Coats: | 2 – 3 (for 90-120um dft) | | |
| • Flash-off Between Coats: | 15 - 20 minutes | | |



Application Conditions:

Do not apply if material, substrate or ambient temperature is less than 10°C or above 45°C. The Substrate must be at least 3°C above the dew point. Relative humidity should be below 90%.

Cleanup Solvents

Axalta recommended gun cleaning thinner.

Dry Film Characteristics

Maximum Service Temperature:	90°C (continuous service)
Exterior Exposure:	VERY GOOD
Water Resistance:	VERY GOOD
Acid / Alkali Resistance:	VERY GOOD
Oil and Petrol Resistance:	VERY GOOD
Abrasion Resistance:	VERY GOOD

Table 1

ST680 : ST002 Mixing Ratio	WHITE/PASTEL Colours	OTHER Colours
wt/wt	Average gloss @60°	Average gloss @60°
0 - 100	TBA	TBA
20:80	TBA	TBA
40:60	TBA	TBA
50:50	TBA	TBA
60:40	TBA	TBA
70:30	TBA	TBA
80:20	TBA	TBA
90:10	TBA	TBA
100 - 0	TBA	TBA

Recoating

Thoroughly scuff the surface with 3M Scotch Brite Pad grey.
Recoat with 1 – 2 coats of Nason® Industrial NI-680 DTM PU Topcoat, as necessary.

Shelf Life

12 months minimum in sealed original container
Store at room temperature away from direct sunlight.

Availability

Nason® Industrial Tints		ST-XX
Nason® Industrial DTM PU Topcoat	20 L	NI-680
Nason® Industrial ST680 DTM Binder	10 L	ST100-680
Nason® Industrial ST680 DTM Binder	20 L	ST100-680
Nason® Industrial 2K PU HS Activator	4 L	ST200-545
Nason® Industrial 2K PU HS Slow Activator	1 L	ST200-546
Nason® Industrial ST501 Slow Dry Thinner	4 L	ST300-501
Nason® Industrial ST502 Standard Thinner	4 L	ST300-502
Nason® Industrial ST002 Matting Agent	1 L	ST600-002

This product is intended for use by professional trade and industrial applicators in compliance with relevant Health, Safety & Environmental standards and legislation.

The applicator must use suitable Personal Protective Equipment (PPE), in particular full body coverall, gloves, goggles and air respirator. Provide adequate ventilation when using in confined spaces

This product, when mixed with hardener will contain free isocyanates. For more detailed information, refer to Material Safety Data Sheets of the products used.

This Technical Data Sheet is issued by Axalta Coatings Systems as a guidance only. The information contained herein is current and correct to the best of our knowledge at the time of issuance.

The user must ensure suitability of the product and its performance for the application at hand. Axalta Coating Systems assumes no responsibility nor provides any warranty.