

TECHNICAL DATA SHEET

Date of issue: 26.05.2009

Last updating: n°7 26.04.2021



Name:	ACRYLIC DTM UHS SEMIMATT	Category:	Top coat
Definition:	Two-pack acrylic-urethane enamel	V.O.C. limit:	420 g/l
Code:	661.3	V.O.C. ready to use:	390** g/l
Product according to 2004/42/CE			
** only if applied without dilution			

NATURE OF THE PRODUCT

Two-pack acrylic-urethane topcoat, based on hydroxylated acrylic resins and aliphatic isocyanic adduct to mix before use.

GENERAL USES

Product for applications on direct adhesion and high dry film thickness. It is suitable for general use, machines tools, coachwork, marine sector, industrial applications, concrete applications, doors and windows-frames, plastics, earthmover, containers, etc.

Suitable for use with direct adhesion on metals and plastics. Considering the variety of commercially available materials, we strongly recommend doing preliminary tests¹. To improve the adhesion on metal we suggest acid washing with our 07.044 thinner and diluting the product with the same thinner.

If special yellowing resistance to and to exposure to atmospheric agents is required, we recommend using the anti-UV additive 03.007, at 1.5-3% (calculated by weight on the product without hardener).

APPLICATION METHOD

PREPARATION OF SURFACES

The cleaning of the application surface should be total and painstaking and it is a fundamental and necessary condition to obtain positive result of the painting cycle.

The product shows direct adhesion on metals² without a previous primer application. Because of the big variety of substrates is always better to perform some preliminary tests before.

- **Ferrous surfaces:** SA2 1/2 sandblasting or perfect mechanical cleaning of the substrate by sanding to remove rust and calamine, followed by degreasing with surfactants aqueous solutions or organic solvents.
- **Galvanized sheet:** no sanding, but careful degreasing with our thinner 07.115 or 07.044, and final cleaning with silicone remover 07.051. The use of acidic thinners such as 07.044, slow, and 07.115, quick, improve greatly the adhesion performance on this surface, especially if, contrary to what is specified above, it has been sanded short before.
- **Aluminum:** accurate sanding followed by careful degreasing with our thinner 07.115 or 07.044, and final cleaning with silicone remover 07.051. When it is not possible to sand the surface, the use of acids thinners such as 07.044, slow, and 07.115, quick, improves greatly the adhesion performance on this surface. For this application we suggest using the additive 03.040 (3% to 5% by weight in the product without hardener, an excess can give a slight haze in the gloss colours). Nevertheless, we suggest testing the adhesion on a sample before proceeding with large applications.
- **Plastics³:** elimination of any molding release agents. Sanding with brown scotch brite followed by accurate degreasing with suitable solvents. We suggest testing the adhesion on a test sample before proceeding with large applications.

If conditions require the use of a primer, we recommend: Acrydur 69.3 series, Epofix 29.3 series, Basic 2 69.4 series. Follow the surface preparation instructions given in the TDS of the selected primer.

¹ To improve the adhesion on metal we recommended using the additive 03.040 at 3-5% (calculated by weight on the product without hardener, an excess can give a slight haze in the gloss colours).

² If it is necessary to improve the corrosion resistance of the painted artefact, we suggest to apply a primer.

³ Considering the big variety of plastics, we recommend performing some preliminary tests.

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PREPARATION OF THE PRODUCT

	code	name	By Weight	By Volume
Component A	661.3	Acrylic DTM UHS semi-matt	100 parts	100 parts
Component B	01.014	Polirex NY	25 parts	30 parts
In alternative	01.H3	Acryrex HS	20 parts	25 parts

Carefully mix until an even colour and consistency are obtained. For airless application no dilution is required, for standard airmix application dilute with our polyurethane thinner 07.013 at 10-15% when using 01.014 hardener, and at 20-25% when using 01.H3 hardener, to obtain a viscosity of 6-8" Ford 8.

APPLICATION

Spray gun: nozzles of 1,4-1,7 mm. diameter and 3-5 atm. pressure.
Airless. nozzle 0,09 inches, 180-240 bar
Roller or brush⁴: only for large surfaces

TECHNICAL DATA

PRODUCT TYPE: Two pack product

FILM APPEARANCE (ASTM D 523): Semi-matt, 35±5 gloss

COLOURS: By request (binder/tinters ratio: 80/20)

SPECIFIC WEIGHT (ISO 2811): 1,30 ± 0,07g/cm³ (component A only)

SPECIFIC WEIGHT (ISO 2811): 1,25 ± 0,07g/cm³ (A+B)

SUPPLY VISCOSITY : 9000 ± 2000 cPs at 25° C

SOLID ON VOLUME: 60 ± 3% ready to use

SOLIDS CONTENT: 70 ± 3% (A+B)

DRYING AT 20°C

- Dust dry: 20-30 minutes
- Touch dry: 4-6 hours
- Total hardening : 24-36 hours
- Maximum chemical resistance: After 10 days

RECOMMENDED COATS: Minimum two crossed coats

THICKNESS⁵: from 100 µm up to 300 µm dry

THEORETIC YIELD⁶: 3-8 m²/kg

⁴ You may need Antifoam additive 03.009 in order to avoid bubble formation whilst using these tools

⁵ Considering a dry film.

⁶ The theoretical yield has been calculated for the thickness suggested and over plane and regular surfaces.

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POT-LIFE AT 20° C:	3 hours. At higher temperatures, pot-life decreases.			
SALT SPRAY TEST (ASTM B 117):	If applied with a final thickness of 150-180µm, 500 hours; with a final thickness of 250-300µm, it reaches 1000 hours.			
IMPACT TEST (ASTM D 2794):	36 kg direct			
ADHESION (ASTM D 3359):	B=5 on iron, galvanized sheet and aluminium always slightly sanded			
YELLOWING (ASTM D 4587):	after 500 hours, $\Delta E < 6$			
CHEM. RESIST .⁷ (UNI EN ISO 12720):				
	HCl solut. 10%	vote	4-3	7 days
	HNO ₃ solut. 10%	vote	3	7 days
	H ₂ SO ₄ solut. 10%	vote	4-3	7 days
	Acetic acid solut. 10%	vote	4	7 days
	Mix of NaCl 10%, Lactic acid 5%	vote	5	7 days
	Synthetic sweat	vote	5	7 days
	H ₂ O ₂ 35%	vote	1	3 days
	NH ₃ solut. 30%	vote	5	7 days
	NaOH solut. 10%	vote	3	7 days
	Acetone	vote	5	7 days
	Cyclohexanone	vote	1	3 days
	Solvello 100	vote	4	7 days
	Ethyl acetate	vote	5-4	7 days
	Ethanol	vote	5	7 days
	Synthetic oil	vote	5	7 days
	Idraulic oil	vote	5	7 days
	Transmission oil SAE 30	vote	5	7 days
	Engine oil 15W40	vote	5	7 days
	Unleaded gasoline	vote	5	7 days

REPAINTING: From 30 minutes to 6 hours with itself. Otherwise wait 24 hours then, after a previous light sanding, the product can be over-coated.

STORAGE STABILITY: One year for A component, 6 months for B component in closed packs, in a cool, dry place, away from any sources of heat.

⁷ The quality of chemical resistance goes from a value of 5 (means optimum) to 1 (means not good). For further information please contact Siro's technical service.