

# TECHNICAL DATA SHEET

Date of issue: 26.05.2009

Last updating: n°8 26.04.2021



**Name:** ACRYLIC DTM UHS GLOSS  
**Definition:** two-pack acrylic-urethane enamel  
**Code:** 661.1

**Category:** Top coat  
**V.O.C. limit:** 420 g/l  
**V.O.C. ready to use:** 390\*\* g/l  
**Product according to 2004/42/CE**  
**\*\* only if applied without dilution**

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## 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 tests<sup>1</sup>. 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 metals<sup>2</sup> 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.
- **Plastics<sup>3</sup>:** 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.

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<sup>1</sup> 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).

<sup>2</sup> This solution is recommended for indoor and outdoor coatings. When outdoor, if it is expressly requested to increase the corrosion resistance of the system, apply a coat of primer of the type recommended above.

<sup>3</sup> 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       | 661.1  | Acrylic DTM UHS gloss | 100 parts | 100 parts |
| Component B       | 01.014 | Polirex NY            | 25 parts  | 30 parts  |
| As an 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 15-20% when using 01.H3 hardener, to obtain a viscosity of 6-8" Ford 8.

## APPLICATION

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

## TECHNICAL DATA

**PRODUCT TYPE:** Two pack product

**FILM APPEARANCE (ASTM D 523):** Gloss, 85±5 gloss

**COLOURS:** On request (the binder 661.1.K1 must be used in a binder/tinters ratio of 75/25 with the tinters of the tinting system)

**SPECIFIC WEIGHT (iso 2811):** 1,23 ± 0,07 g/cm<sup>3</sup> (component A only)

**SPECIFIC WEIGHT (iso 2811):** 1,20 ± 0,07g/cm<sup>3</sup> (A+B)

**SUPPLY VISCOSITY :** 8000 ± 2000 cPs at 25° C

**SOLID ON VOLUME:** 59 ± 3% ready to use

**SOLIDS CONTENT:** 68 ± 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 coat

**THICKNESS:** from 100 µm up to 300 µm dry

**THEORETIC YIELD:** 3-8 m<sup>2</sup>/kg

**POT-LIFE AT 20° C:** 3 hours. At higher temperatures, pot-life decreases.

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

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**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 after light sanding.  
**YELLOWING (ASTM D 4587):** after 500 hours, ΔE<6

## CHEM. RESIST .<sup>5</sup> (UNI EN ISO 12720):

|                                           |      |     |        |
|-------------------------------------------|------|-----|--------|
| HCl solut. 10%                            | mark | 4-3 | 7 days |
| HNO <sub>3</sub> solut. 10%               | mark | 4-3 | 7 days |
| H <sub>2</sub> SO <sub>4</sub> solut. 10% | mark | 5-4 | 7 days |
| Acetic acid solut. 10%                    | mark | 4   | 7 days |
| Mix of NaCl 10%, Lactic acid 5%           | mark | 5   | 7 days |
| Synthetic sweat                           | mark | 5   | 7 days |
| H <sub>2</sub> O <sub>2</sub> 35%         | mark | 5-4 | 7 days |
| NH <sub>3</sub> solut. 30%                | mark | 5   | 7 days |
| NaOH solut. 10%                           | mark | 5   | 7 days |
| Acetone                                   | mark | 5-4 | 7 days |
| Cyclohexanone                             | mark | 1   | 2 days |
| Solvelso 100                              | mark | 3   | 7 days |
| Ethyl acetate                             | mark | 5-4 | 7 days |
| Ethanol                                   | mark | 5   | 7 days |
| Synthetic oil                             | mark | 5   | 7 days |
| Idraulic oil                              | mark | 5   | 7 days |
| Transmission oil SAE 30                   | mark | 5   | 7 days |
| Engine oil 15W40                          | mark | 5   | 7 days |
| Unleaded gasoline                         | mark | 5   | 7 days |

**REPAINTING:** From 30 minutes to 6 hours with itself. Otherwise wait 24 hours then lightly sand the surface to be repainted.

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

<sup>5</sup> 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.