N0007R04 – TECHNICAL DATA SHEET ALLUMINIO TR
REV. NUM. 4 01/11

1. *CHEMICAL NATURE*

Semi-glossy fast drying synthetic enamel for external and internal use based on petrol resin.

2. *MAIN CHARACTERISTICS*

- *The film of paint obtained is semi-glossy (50-60 gloss) and compact.*
- *Very good hiding power*
- *Very fast drying*
- *The film of paint obtained has nota ant-scratch properties (given the kind of aluminium used).*
- *The product has an optimal adherence directly on metal.*
- *Very good resistance to atmospheric agents, good against aliphatic hydrocarbons and lubricants.*
- *The film obtained has surface hardness kind 3H.*
- *The film of paint obtained, once completely dried, has a good resistance to high temperature till to 200°C (not free flames.)*
- *Suitable to be applied by electrostatic kind applications .*

3. *KIND OF USE*

The product is specifically studied for the painting of hot water and vapour pipes, protection of bituminous sheathings for external, stoves and chimneys.

4. *SURFACE PREPARATION TO COVER*

It is absolutely essential that the support surface be thoroughly cleaned and free of oil and grease. Depending on the condition of the surface a phosphor degreasing or an alkali degreasing treatments can be made (particularly suitable for carbon steel or galvanized sheet iron); in case of very bad metal surface conditions (oxidations or rust) it is always recommended to submit the metal under a process of chemical conversion , pickling (very addressed for aluminium and fusion cast iron) , or mechanical cleaning by sandpapering, steel wool treatment, brushing or sandblasting (anchoring profile from 25 to 50 microns corresponding to grade SA 2,5). When it couldn't be possible to follow one of the above mentioned recommendations , we suggest a manual treatment by the cleaning with degreasing thinner suitable for all the kind of metal surfaces (elimination of working greases or ant-oxidant protective oils.

KIND OF SURFACE TO COVER –IMPURITIES TO ELIMINATE	***SURFACE TREATMENT RECOMMENDED***
New carbon steel with presence of working greases and/or antioxidant protective oils	*Nozzle alkali degreasing with IDRONET or sandblasting grade SA 2,5*
Old carbon steel with the presence of calamine, oxidations or compact layers of rust	*Apply the rust converter POLITAN, sandpaper, brushing or sandblasting grade SA 2,5*
Aluminium	*Nozzle phosphor-degreasing IDROPHOS, sandpapering with fine abrasive or steel wool treatment*
Fusion cast iron with presence of calamine, oxidations or compact layers of rust	*Apply the rust converter POLITAN, sandpaper, brushing or sandblasting grade SA 2,5*
Galvanized sheet iron (electrozincing) with light presence of residuals from the zincing process	*Nozzle phosphor-degreasing IDROPHOS, sandpapering, steel wool treatment, or very light sandblasting.*
Galvanized sheet iron (hot- rolled zincing) with strong presence of residuals from the zincing process	*Nozzle alkali degreasing with IDRONET steel wool treatment, or lightly sandblasting*
Welding on carbon steel with presence of oxidations	*Brushing and application of rust converter POLITAN*
Old painting with presence of covering parts during the loss of adherence or bubbles rust.	*Lightly sandpapering, steel wool treatment, brushing or sandblasting till the grade SA 2,5*

In order to receive most detailed information about the cleaning treatments above described we recommend to look the technical data sheets of every single product listed. When the surface cleaning treatment above mentioned is considered finish, we recommend to never leave the metal uncovered for more than 12h without the application of a temporary protective process or a rustproof coat in order to avoid the formation of oxidations that can damage the quality of the painting products subsequently applied.

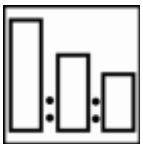
5. *RUSTPROOF / PRIMERS RECOMMENDED AS PRIMER COAT FOR INDOOR OR OUTDOOR*

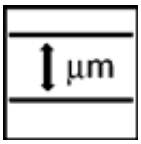
The product is suitable to be applied on metal surface; anyway for anticorrosive painting process it need the primer coat application.

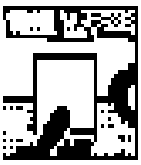
	Carbon steel	Sand-blasted carbon steel	Rolled Aluminium	Cast Iron	Galvanized sheet iron	Old Paint	Recommended to outdoor	Recommended to indoor	Min. interval of over-painting
ACRIDUR HS	●	●		●		●	●	●	30 min. (25 °C)
EPOFER F.Z.	●	●	●	●	●	●	●	●	60 min. (25 °C)
EPOPRIMER F.Z.	●	●	●	●	●	●	●	●	60 min. (25 °C)
EPOFOND	●	●	●	●	●	●	●	●	60 min. (25 °C)
EPICOAT	●	●	●	●	●	●	●	●	60 min. (25 °C)
FOSFER F.Z.	●	●		●		●	●	●	60 min. (25 °C)
IRIFER C.M. EC	●	●		●		●	●	●	60 min. (25 °C)
IRIFER F.Z.	●	●		●		●	●	●	30 min. (25 °C)
IRIFER R	●	●		●		●	●	●	30 min. (25 °C)
POLCAR	●	●		●		●	●	●	30 min. (25 °C)
REPOX HS	●	●	●	●	●	●	●	●	60 min. (25 °C)
VIBIPOX	●	●	●	●	●	●	●	●	60 min. (25 °C)
ZINC PROTECT	●	●	●	●	●	●	●	●	60 min. (25 °C)

For no metal surface it is essential to apply a primer coat suitable to the characteristics of the surface to cover before to proceed with the application of the top coat. In any case it is recommended to carry out preliminary test or take contact with our technical service to evaluate possible solutions.

6. *EQUIPMENTS AND GENERAL RECOMMENDATIONS FOR THE PRODUCT APPLICATIONS*

	*MIXING RATIO*	*CATALYSIS:* *optional 5-20% (weight or volume)* *HARDENER :* *CATALIZZATORE 2030 (Cod L0014)* *DILUTION:* *20-25 seconds by spray with mixed-air spray gun* *20-25 seconds by mixed air spray gun HVLP* *10-15 seconds by spraying* *10-15 seconds by airless or membrane pump.* *THINNER :* *DILUENTE NITRO ANTINEBBIA (Cod D0002)*
	*MIXTURE INDUCTION TIME*	*Non applicabile*
	*VISCOSITY OF APPLICATION (cup Ford 4 mm at 25 °C)*	*20-25 seconds by spray with air-mix spray gun* *20-25 seconds by spray with air-mix spray gun HVLP* *45-60 seconds by airless or membrane pump* *25-40 seconds by immersion (depending on the piece and speed of emersion)*
	*EQUIPMENT*	*Air-mix spray gun , nozzle 1,4-1,6 mm* *Air-mix HVLP nozzle 1,4-1,6 mm* *Air-mix or airless spray, nozzle 0,23-0,28 mm* *airmix high pressure spray 1,1-1,2 mm* *immersion*
	*PRESSURE*	*2,5-3,5 with air-mix spray gun* *2,0-2,5 with air-mix spray gun HVLP* *2,0-3,0 bar (air) and 100 bar (material) airless or air-mix spray* *1,0-2,0 bar (air) and 2,5-3,5 bar (material) high pressure air-mix spray*

	*NUMBER OF COATS*	*1 soft + 1 full, or 2 full within 30 minutes each other depending on the kind of equipment and the method of application used, and on the structure of the object to paint. Maximal interval of over-painting 2-3 hours; over that time the second coat loose the adherence from the first coat and will need 7 days at least in order to be sandpapered or a treatment of steel wool and painting again without problems of any kind (shrivel up).*
	*THICKNESS*	*Humid film = 60-80 microns* *Dry film = 40-50 microns*
	*FLASH OFF*	*15-20 minutes wait, then possible to be over-painted with a second coat*
	*THEORETICAL YIELD*	*7-8 m^2/Kg (apparent loss 30% included)* *125-150 gr/m^2 (thickness 100 humid microns)* *8-9 m^2/lt (apparent loss 30% included)* *100-120 ml/m^2 (thickness 100 humid microns)*
	*AIR DRYING*	*Dust free after 15-20 minutes* *Touch free after 1 H* *Mark free after 3 h* *Dry in depth after 6/8 h*
	*OVEN DRYING*	*At 50 °C completely dry after 2 h* *At 80 °C completely dry after 1H* *Dry in depth after 2 days*
	*EMPLOY CONDITIONS*	*Room temperature = 12-35 °C* *Surface temperature = at least 5 °C and surface free of condensate* *Environment humidity = 50-70% max*
	*NOTE*	*1) for electrostatic applications thin the product as described above and add 0,5-2,0 % ADDITIVO ELETTROSTATICO (Cod. C0033- additive for electrostatic)* *2) in order to quick the initial drying time, thin the product following the method described and add 0,5-1,0% of MISCELA ESSICCATIVI - exsiccative mixture (Cod. G0001)* *3) in order to improve the brilliance, increase the surface hardness and quick the drying in depth, carryout the optional catalysis (for spraying applications only) as mentioned under the point MIXING RATIO. In these cases subtract the percentage of the hardener used to the total quantity of thinner previewed for the dilution* *4) in order to quick the general drying time of the system and improve the over paint add 3-5% of SOLUZIONE PERGUT (Cod. G0003)* *5) in order to reduce the brilliance or make the product completely matt, add MATT POWDER OK 500 (Cod. C0039)*



SUGGESTIONS

1) stirring with care the pigment pasta and the converter before the use
2) carry out the colour comparison with the standard match before the final application (it's better with the product already catalysed)

ADDITIONAL INFO

1) strictly follow methods and times of over painting to avoid to incur in phenomenon of removal or wrinkling up of the below layer paint. These problems can happen if the times of painting are not respected

7. *CLEANING OF EQUIPEMENT / POSSIBLE PAINT-STRIPPING*

Immediately after the application and till 4-5 hours use DILUENTE NITRO EXTRA (NITRO THINNER) after that equipment or painted handmade need the paint-stripper.

8. *STORAGE*

The product must be preserved in the original closed can protected from excessive cold and warm conditions. Once the product is thinned , must be used within few days. Information about labels and manipulation are available in the safety data sheet . Liquid or solid contents must be disposed following the local law.

9. *TECHNICAL DATA*

LOOK	Viscous fluid
SPECIFIC GRAVITY (ISO 2811-1:1997)	1.146 gr/ml
SOLID CONTENT (ISO 3521:1993)	67.2% in weight –55.8% in volume
VISCOSITY FLOW TIME (ISO 2431:1993)	Seconds tazza Ford 4 mm
DYNAMICAL VISCOSITY (ISO 2884:1:1999)	cPs
V.O.C. (THEORETICAL CALCULATION)	< 670 gr/litre
FILM LOOK	Film plate, clean compact and imperfections free
ADHERENCE (ISO 2409:1992)	Gt 0-1 (direct on carbon steel)
GLOSSY (ISO 2813:1994)	40-50 gloss
SURFACE HARDNESS (ISO 2815:2003)	85 Buchholz
ELASTICITY (ISO 1519:2002)	Distance between breaking point and mandrel extremity 4 mm
IMPACT TEST (ISO 6272-1:2002)	Direct breaking 50 cm (hammer 1Kg) – indirect breaking 90 cm (hammer 2Kg)
SALT FOG (ASTM B 117-97)	after 120 h blistering 2 and grade of penetration 2 mm
QUV TEST (ISO 4892-1:1999)	after 200 h 25% loss of brilliance
WATER RESISTANCE (ISO 2812-2:1993)	after 300 h matting, whitening, light blistering
ACIDS RESISTANCE (ISO 2812-1:1993)	after 300 h matting, whitening, light blistering
ALKALY RESISTANCE (ISO 2812-1:1993)	after 300 h light blistering
BAD WEATHER RESISTANCE (ISO 2810:2004)	after 1 year 30% loss of brilliance and 15% color change
LUBRICANT RESISTANCE (ISO 2812-1:1993)	no change from the beginning condition
SOLVENTS RESISTANCE (ISO 2812-1:1993)	Not resistant

All tests have been made on a grey colour sample (close to RAL 7001) for direct applications on carbon steel (thickness 10/10) after 7 days of storage at room temperature

Parameters of reference used to determine technical data

SURFACE HARDNESS	*< 60 Buchholz = soft, 60-80 Buchholz = average, > 80-100 Buchholz = hard, > 100 Buchholz = very hard*
ELASTICITY	*< 1 mm = elastic, 1-3 mm = average, > 3-4 mm = stiff > 5 mm = very stiff*
IMPACT TEST	*0-40 cm = stiff, 40-80 cm = average, > 80 cm = elastic*
SALT FOG (blistering maximal 2 and maximal grade of penetration 2 mm)	*0-50 h = poor, 50-150 h = discrete,150-350 h = average, 350-500 h = good, 500-800 h = perfect, > 800 h = very anticorrosive*
QUV TEST (200 h)	*0-10% = perfect, 10-20% = good, > 20% = poor*
ACIDS RESISTANCE	*Sulphuric acid solution 5%*
ALKALY RESISTANCE	*sodium hydroxide solution 5%*
LUBRICANT RESISTANCE	*Hydraulic Oil kind OSO 36*
BAD WEATHER RESISTANCE	*0-5% = perfect, 5-15% = good, > 15% = poor*
SOLVENT RESISTANCE	*Acetone*

All the information mentioned in this document have been written based on the technical knowledge gathed during the years and on laboratory tests . Anyway they can't be used as form of our responsibility or excuse for contestations deriving from the inappropriate employ of the product as the conditions of application can't be under our direct control