

1 DESCRIPTION

A **POLYESTER** thermosetting powder coating TGIC free with good chemical, mechanical, abrasion resistances and outstanding steel or aluminium corrosion protection in a single layer through cathodic protection and barrier effect. It is recommended for indoor and outdoor application. Recommended applications: ACE steel machinery. Available an industrial version of the product with higher mechanical properties (RAN) Also available an hybrid version (RAH) only for indoor application.

Benefits:

- It is possible to replace two layers systems by a single coat. Primer and top coat in one. Cost and time savings.
- According to ISO 9.227 “Corrosion test in artificial atmospheres. Salt spray test” it achieves more than 1440 hours (protection C5) at neutral salt spray (NSS) corrosion resistance at the scribe mark.
- No blistering or delamination
- Good corrosion resistance at the edges and weldings
- Excellent UV and weathering resistance
- High adhesion to steel or aluminium substrates

2 STANDARDS

According to ISO 12.944-2 “Corrosion protection of steel structures by protective paint systems. Classification of environments” the corrosivity categories are:

- C1: Very low corrosivity
- C2: Low corrosivity
- C3: Medium corrosivity
- C4: High corrosivity
- C5: Very high corrosivity

This classification combined with the high durability (15 to 25 years) is the base for the QUALISTEELCOAT (QSC) classes:

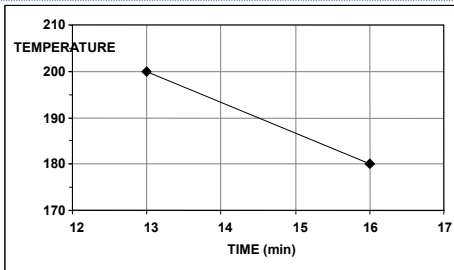
Base Material	Number of layers	QSC	C1	C2	C3	C4	C5
Steel	1	ST1					
	2	ST2					
	3	ST3					
Continuously galvanized steel	1	SZ1					
	2	SZ2					
	3	SZ3					
Hot-dip galvanized steel	1	HD1					
	2	HD2					
	3	HD3					
Steel coated by thermal spraying	1	MS1					
	2	MS2					
	3	MS3					

Even though QSC only recognize the possibility of C4 for a single coat over galvanized steel, Anticorrosive Series range achieves C5 in salt spray tests without any metallization treatment over the steel.

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3 PROPERTIES

Gloss (60°) (EN ISO 2813)	70-80 GU *
Density (g/cc) :	1,4 to 1,7
Particle size (EN ISO 13320)	Average diameter 40-50 µm
Coverage	10 to 12 m ² /kg at 60 µm
Type of application	Corona
VOC	0,00-0,29% (Percentage by weight)
Curing cycle	 <p>The graph shows a linear decrease in temperature over time. The y-axis is labeled 'TEMPERATURE' and ranges from 170 to 210. The x-axis is labeled 'TIME (min)' and ranges from 12 to 17. Two data points are plotted: (13, 200) and (16, 180). A straight line connects these two points.</p>
Storage Stability	18 months in a sealed bag when stored in a dry place, preferably at temperatures below 30°C.

Product recommendations:

- Complete curing is needed to obtain an optimal corrosion resistance
- Single layer thickness of 80-100 µm is required.
- It is possible to apply two layers of the same Anticorrosive coating to achieve C5 category at salt spray test.
- This product is not designed to replace the galvanize protection.
- A good interaction with the pre-treatment is the key to optimise the corrosion resistance. The most common pretreatments are the iron phosphate and zinc phosphate.

(*) Within this series of products there can be gloss level variations of up to 5 G.U. from that specified. This is normal and does not affect the final product quality.

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4 TESTS

Tests conditions: All tests are carried out under laboratory conditions, on zinc phosphate, 0.8 mm thick panels, at 90 µm, cured 15 minutes at 190°C.

Mechanical Resistance		
Properties	Tests	Results
Adhesion (EN ISO 2409)	Scotch tape 1 mm square	GT 0
Bending (ISO 1519)	Mandrel (5 mm)	No cracking
Impact test (EN ISO 6272-2)	1 kg at 40 cm	Good for both sides
Cupping test (EN ISO 1520)	Erichsen	6 mm
Corrosion Resistance		
Neutral Salt Spray (ISO 9227)	Corrosion creep ≤2 mm from scribe, after 1440 hours exposure.	
Blistering (ISO 4628-2)	0 after 1440 hours exposure.	
Rusting (ISO 4628-3)	Ri0 after 1440 hours exposure.	
Cracking (ISO 4628-4)	0 (S0) after 1440 hours exposure.	
Flaking (ISO 4628-5)	0 (S0) after 1440 hours exposure	
Delamination (ISO 4628-8)	0 after 1440 hours exposure.	
Humidity chamber (EN ISO 6270-2)	No loss of protection after 500 hours exposure	

5 HEALTH, SAFETY AND THE ENVIRONMENT

It is important to read the label on the container and the product MATERIAL SAFETY DATA SHEET (MSDS).

Classification of the substance: GH S09

Transport hazard class ADR 9