

Proguard M-ST2 is a 2-component anti corrosive coating, based on special epoxy resins and a modified phenalkamine curing agent. Application possible at high relative humidity, resistant to abrasion, chemical impact and water immersion (in compliance with NORSOK M-501).

APPLICATION RANGE

- External coating for
 - Offshore and onshore constructions
 - Splash zones
 - Tubes, pipes and valves
 - All steel structures in contact with sea water (immersed)

TECHNICAL INFORMATION

Color	Grey (mio color M2807)
Gloss	Eggshell gloss
Volume solids	± 82 volume %
VOC	≤ 160 gr/ltr.
Sea water resistance	NORSOK M-501, Edition 6, System 7B
Saltspray	>5500 hours (ISO 9227-NSS / ASTM B 117)
Corrosion Resistance (TNO Electrochemical Impedance Spectroscopy)	R _c 1.30*10 ⁸ , n=0.98 (21 days)
Adhesion	13.0 MPa (ISO 4624) / 11.0 MPa (ASTM D4541)
Specific Gravity (Mix)	~ 1.60 (at 20 °C)



FEATURES AND BENEFITS

- High solid
- Immersion qualified
- Splash zone resistant
- Abrasion resistant
- Excellent mechanical properties
- Good curing at low temperatures (5 °C)
- Temperature resistance up to 200 °C (dry load)
- ISO 12944: Corrosivity classes C5-I, C5-M, IM-1, IM-2, IM-3
- Certified according to NORSOK M-501, Edition 6, System 7B

APPLICATION DATA

Application methods	Preferably by means of airless or airmix spray equipment. When using brushes, a different film thickness and possibly inferior flow will be achieved.			
Airless spray	Thinner: n.a. / Quantity: 0 vol. % / Nozzle: 0.015-0.017" / Flow pressure: 150-175 bar / DFT: 80-250 µm			
Airmix	Thinner: Proguard M-ST2 Thinner / Quantity: 5-10 vol. % / Nozzle: 0.015-0.017" / Flow pressure: 70-100 bar / DFT: 80-250 µm			
Brush - Roller	Thinner: Proguard M-ST2 Thinner / Quantity: 0-5 vol. % / DFT: 80 µm			
Airspray	Thinner: Proguard M-ST2 Thinner / Quantity: 5-10 vol. % Nozzle: 2.0-3.0 mm / Flow pressure: 3-4 bar / DFT: 80-250 µm			
Mixing ratio	0.96 : 1 by weight / 1 : 1 by volume			
Mixing instructions	Mix Part A and Part B intensively, preferably using a mechanical mixing device. The temperature of the mixed product should at least be 5°C during application.			
Potlife	4-5 hours at 20 °C material temperature - waiting time under continuous pressure may reduce pot life!			
Thinner	The paint can be applied without thinning when using airless spray equipment (18- 23°C). The eventual necessary amount of Proguard M-ST2 Thinner depends on used equipment, application method and temperature of the mixed product. The Thinner should also be used to clean and flush equipment immediately after application.			
Dry film thickness	Standard: 80-250 µm (depends on application process)			
Theoretical Consumption	film thickness per coat: dry	film thickness per coat: wet	kg/m ²	m ² /kg
Please contact Chesterton International technical services for specific system and application advice.	80 µm	98 µm	0.16	6.25
	250 µm	305 µm	0.49	2.04
Practical coverage	The performance in practice depends on various circumstances. As a guideline for airless spraying: For large dimensions: 70% of the theoretical coverage. For small dimensions: 50% of the theoretical coverage.			

All above values are approximate and may be used as a guideline for specifications. Consumptions vary according to conditions.

SURFACE PREPARATION

Preliminary treatment, steel untreated	The surface needs to be pretreated according ISO12944 part 4 § 6.2.3. Remove grease, oil, dirt etc. using an appropriate cleansing agent and a high pressure spraying pistol. Grit blasting to purity degree Sa 2½ in accordance with ISO 8501-1. After blasting remove all dust from the entire surface with compressed air which is free of moisture and grease. Apply first coating layer within 6 hours. In case the final coating layer is applied on the construction site, extra precautions need to be taken.
Preliminary treatment, hot dip galvanised surface	The surface needs to be pretreated according ISO12944 part 4 §6.2.3.4.1 (sweep blast, with inert grit). Remove grease, oil, dirt etc. using an appropriate cleansing agent. Lightly blast the entire zinc surface with an inert blasting agent (grain size: 0.3 - 0.5 mm, blasting pressure: 2.0 - 2.5 bar, nozzle opening: 6 mm minimum). After blasting, the entire surface must have a uniform flat appearance. Depending on the zinc layer thickness, max. 5 - 10 µm of zinc can be removed. After blasting remove all dust from the entire surface with compressed air which is free of moisture and grease. Apply first coating layer within 2 hours.
Touch up	Touching up of damages or untreated parts at the construction site. Remove grease, oil, dirt etc. using an appropriate cleansing agent. Remove the rust from all mechanical damage with rotating steel wire brushes, sanding discs or steel wire brushes and coarse sandpaper to purity degree St3, in accordance with ISO 8501-1. Smooth the transition of cleansed parts to parts with intact coats of paint by sanding and scraping. After sanding, remove all dust from the entire surface with compressed air which is free of moisture and grease. Then touch up the object with the entire paint system, as described in this paint advice. Touch up light surface damages only with the product of the top coat, as described in the paint advice.

CONDITION DURING APPLICATION

The temperature of the substrate should be at least 3° C above dew point. Keep application area well ventilated during application and drying, in order to reduce evaporated solvents.

CURING TIMES

Substrate temperature	Dust free	Manageable	Recoatable
10 °C	6 hrs.	30 hrs.	16 hrs.
20 °C	4 hrs.	16 hrs.	8 hrs.

Dry times: at 55 % RH and a standard dry film thickness of 250 µm. Maximum interval unlimited provided the surface is clean and free of grease and/or oil. At a higher dry film thickness longer drying time should be taken in account. During drying and curing the relative humidity should remain under 90%. Furthermore, any contact with moisture must be avoided during this period. In case of water spillage during the curing cycle white spots may occur..

STORAGE AND PACKING

Preferred storage conditions are to keep the containers in a dry and cool area between 5°C and 40°C provided with adequate ventilation. The containers should be sealed tightly.

Packing	15.7 kg kit (7.8 kg Part A + 8 kg Part B) + 31.4 kg kit (15.4 Part A + 16 kg Part B)
Shelf life:	12 months (in original unopened can)

QUALITY ASSURANCE AND INSPECTION

To ensure a continuous quality of the product, the quality assurance and inspection plan of Chesterton International GmbH has to be considered. Recommendations for qualified test control units are also available.

HEALTH AND SAFETY

Observe the precautionary notices on the container label, and read the Material Safety Data Sheet before use. The product is intended for use by properly qualified professional applicators in industrial conditions. The product is flammable and should be kept away from sparks, open flames, and other sources of ignition. Smoking is prohibited in the application area. Wear suitable respiratory equipment and apply in well ventilated areas. Avoid contact with skin and eyes.

DISCLAIMER

All technical information in this Product Data Sheet is signified as material description and based on laboratory tests and practical experiences under normal conditions. During individual use, actual measured data may vary due to circumstances beyond our control. In particular, the recommendations regarding the application and use require the proper storage and treatment of our products. Due to differences in materials, substrates and real site conditions Chesterton International GmbH does not assume any warranty or liability for application results or fitness for a particular purpose, of any legal relationship whatsoever, neither from this information, nor from any given recommendations, or from any other oral advice. The user of the product must check the product's suitability for the intended application and purpose. Chesterton International GmbH reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our general terms and conditions of sale and delivery. The most recent issue of the Product Data Sheet has to be considered, please ask always for the current version.