


**CERAMIC POLYMER**  
A CHESTERTON INTERNATIONAL SUBSIDIARY

THE  
**COATING**  
COMPANY

COATINGS FOR HIGHEST REQUIREMENTS



**THE BEST PROTECTION AGAINST THE COST OF CORROSION?  
THE RIGHT PREVENTION!**

Corrosion has been calculated to cost the global economy more than € 2 billion annually with significant economic impact in most process industries. The utilization of protective coatings technology is a cornerstone of most company's comprehensive corrosion control program.

**BACKED BY KNOWLEDGEABLE AND INDUSTRY EXPERIENCED EXPERTS!**

For all questions regarding corrosion protection you can count on the expert team at Ceramic Polymer GmbH. Our certified coating inspectors place special emphasis on understanding your needs before consulting on a product. Whether choosing the optimum coating product, or seeking an on-site consultation, we are here assist you sustain the value of your investments.

## **THE GOAL OF CERAMIC POLYMER IS TO REDUCE YOUR COST OF CORROSION**

For 15 years, Ceramic Polymer GmbH has manufactured protective coatings with performance and ease of use foremost in mind. By incorporating micro particle reinforcements and advanced thermoset polymer technology we are able to provide outstanding corrosion protection and resistance to delamination under aggressive chemical and elevated temperature exposures.
















Our solvent-free protective coatings are safe and easy to use and are suitable for atmospheric and immersion exposures.

## **A STRONG PARTNER BY OUR SIDE**

Ceramic Polymer GmbH is a wholly owned subsidiary of the AW Chesterton Company which also manufactures a high performance 100% solids line of protective coatings under the ARC brand.



## PRODUCT PROPERTIES AND RESISTANCES

	CP-Synthofloor Beta 8016	CP-Synthofloor 8010	Ceramic-Polymer STP-EP (all versions)	Ceramic-Polymer SF/LF	Proguard 100 iso	Proguard CN 200	Proguard CN-1M (all versions)	Proguard CN-OC (all versions)	Ceramic-Polymer KTW1	Ceramic-Polymer XRC	Proguard 169 (37)
External coating	-	-	✓	✓	✓	-	-	-	-	✓	✓
Internal coating	-	-	✓	✓	✓	✓	✓	✓	✓	✓	-
Substrate: Steel	-	-	✓	✓	✓	✓	✓	stainless steel	✓	✓	✓
Substrate: Concrete, cementitious substrates (*Primer necessary)	Primer	Primer	✓*	✓*	✓*	✓*	✓*	-	✓*	✓*	-
Application methods											
 Airless spraying											
 Hand tools: Brush, roll, squeegee											
 Cartridge application											
Offshore, sea water	-	-	✓	✓	✓	✓	✓	✓	-	✓	✓
UV resistance, weather resistance	-	-	-	-	-	-	-	-	-	-	✓
Drinking water	-	-	-	-	-	-	-	-	✓	-	-
Mild chemical application	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	-
Chemicals (please consult us!)	✓	✓	-	-	-	✓	✓	✓	-	✓	-
Mild and moderate abrasion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
Severe abrasion	-	-	✓	-	-	-	✓	✓	-	✓	-
Volume solids	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	57 %
Temperature resistance - wet service	-	-	100 °C (212 °F)	80 °C (176 °F)	140 °C (284 °F)	130 °C (266 °F)	130 °C (266 °F)	130 °C (266 °F)	60 °C (140 °F)	130 °C (266 °F)	-
Temperature resistance - dry service	-	-	120 °C (248 °F)	90 °C (194 °F)	170 °C (338 °F)	150 °C (302 °F)	150 °C (302 °F)	150 °C (302 °F)	-	150 °C (302 °F)	120 °C (248 °F)
Adhesive strength (*bending tensile strength)	*30 MPa	*30 MPa	37 MPa	34 MPa	> 27 MPa	> 27 MPa	41 MPa	41 MPa	> 20 MPa	>38 MPa	-
Abrasion resistance (ASTM D4060)	-	-	53 mg	58 mg	80 mg	65 mg	48 mg	48 mg	90 mg	15 mg	-
Optional: electrostatic dissipative properties						✓					
Test - Cathodic disbondment				✓	✓	✓					
Test - Drinking water suitability (KTW)									✓		
Test - Growth of microorganisms (DVGW-W270)				✓					✓		
ISO 20340 - Offshorekonstruktionen				✓	✓	✓					
ISO 12944-2, Categories C5-M and IM1-3 - aggressive and saline atmosphere, long-term protection > 15 years			✓	✓		✓					✓
Optional: BAW approval Im 1 - for fresh and inland water				✓							
Salt spray test DIN EN ISO 9227:2006-10				10.000 h		10.000 h					
Autoclave test with explosive decompressions (natural gas, 100 bar, 100 °C (212 °F))						✓					
Thermo-Shock Test (30 min. 180 °C (356 °F) + 30 min. 0 °C (32 °F) - 1000 cycles)					✓						
Diluted acids	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Concentrated acids						✓	✓	✓		✓	

The above listed product properties could differ from actual achievements through specific application parameters. Please get in contact with technical services of Ceramic Polymer GmbH to select the optimum coating product for your scope of application.

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On the following pages you find these buttons.

If you need further information about a product, please visit our Website

[www.ceramic-polymer.de / Products](http://www.ceramic-polymer.de / Products)

With a click you can download the PDS (Product Datasheet)

and the SDS (Safety Datasheets) of each product.

## PRODUCT ADVANTAGES AND FIELDS OF APPLICATION

### EXTENSIVE PRODUCT RANGE FOR ULTIMATE COATING SOLUTIONS

To extend the service life of **Tanks, Vessels & Pipelines** effectively, protective coatings have to be suitable for a variety of service conditions. Our products are used by satisfied customers for:

- Storage tanks for crude oil, hydrocarbons, chemicals
- Vessels for drinking water
- Special tanks for urea (Ad-Blue), bio oils
- Biogas fermenters, bunker silos
- Production vessels and pressure tanks of all kinds
- Waste water ponds
- Swimming pool filters
- Gravel filters, sand filters, solid containers, tipping containers



**Marine Constructions & Offshore Installations:** Marine and offshore environments are some of the most demanding service conditions with UV, chlorides, erosion, corrosion combining to degrade structures and process equipment. Ceramic Polymer GmbH provides solvent-free protection systems, tested in accordance with ISO 20340. The relevant corrosivity categories for the offshore industry (DIN EN ISO 12944-2 – classes C5-M and IM1-3) are also completely satisfied by our high-performance portfolio.

- Bridges, steel constructions for hydraulic engineering
- Pipelines and tubing
- Ship components and offshore platforms
- Sheet piles and harbor facilities



Our coatings for **Concrete Protection** can rebuild and protect damaged and new structures from chemical and erosive attack. In the range of "secondary containment" our products achieve a safe barrier against aggressive chemicals.

- Wastewater plants
- Sumps, oil and petrol separators
- Biogas fermenters
- Drip pans, tank pits



### PRODUCT ADVANTAGES

- Highest corrosion protection
- Outstanding adhesion
- Extreme abrasion resistance
- High resistance to impact
- High bending flexibility
- Excellent chemical and thermal resistance
- Direct application on steel, stainless steel, concrete
- High savings on application costs
- Simple use
- Extreme Durability
- Solvent-free

## PREPARATION AND FINISH

### SURFACE PRETREATMENT

To maximize performance and longevity proper surface preparation is recommended.

At a minimum all surfaces to be coated should be clean, dry and free from contamination. Prior to application, all metal surfaces should be assessed and treated in accordance with ISO 8504:2000. Remove weld spatter and smooth weld seams and sharp edges. Oil or grease should be removed according to SSPC-SP1 solvent cleaning.

#### STEEL SUBSTRATES:

To ensure best adhesion results the surfaces should be prepared by abrasive blast cleaning to minimum SA 2.5 (ISO 8501-1:2007) or SSPC-SP10. An average surface roughness of R<sub>a</sub> 75-100 µm is required. Contact Ceramic Polymer GmbH for further information.

The coating system must be applied before oxidation of the steel occurs. If oxidation does occur the entire oxidized area should be re-blasted to the standard specified above. Surface defects revealed by the blast cleaning process should be ground, filled or treated in the appropriate manner.

#### CONCRETE SUBSTRATES:

Due to concrete's alkaline nature and porous surface it can easily absorb and react with acidic compounds leading to chemical leaching. All contaminated concrete shall be removed. When in doubt core sample testing may be required. Sound concrete shall have a tensile pull value of >1.5MPa. The resulting clean and rough surfaces shall exceed ICRI 03732 CSP 3 roughness grade and moisture content must be <6% (depending on product).

You will get detailed information with our Product Data Sheets and Application Instructions. We can also develop a Quality Assurance and Inspection Plan for your application, which you can follow step by step. Our ICORR Coating Inspectors will gladly consult you directly on site.

#### OTHER SUBSTRATES SUCH AS ALUMINUM, STAINLESS STEEL AND PLASTICS:

Please contact us. We gladly explain you the application of our products on special substrates. You can find specific coating systems for stainless steel substrates in this brochure.



### APPLICATION



#### AIRLESS SPRAYING:

On large areas our coatings are applied by airless spraying. Usually, no pre-heating of our products is required. For the ideal application, our products should have a material temperature of 20 °C (dependent on product). We give information regarding recommended airless pump, gear ratio, nozzle diameter and hose length on our technical Product Data Sheets.



#### BRUSH, ROLL OR SQUEEGEE:

Application by hand tools is required for repairs, small areas or for pre-coating of welded joints. Our primers for concrete substrates are generally applied with a roll or squeegee. In case of using our products as smooth filler, a tooth comb has to be employed.

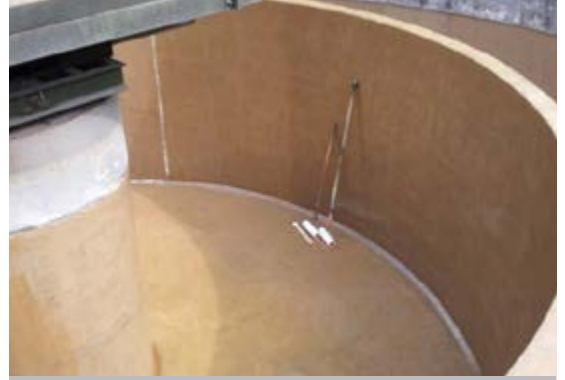


#### CARTRIDGE SYSTEMS:

An optimum solution for the fast and effective protection of areas, which are difficult to access, repairs or small projects. For this kind of application, selected coating products are available. We gladly consult you about this easy and cost-efficient way of long-term protection.

## PRODUCT DATASHEET CP-SYNTHOFLOOR BETA 8016

**CP-Synthofloor BETA 8016** is a 2-component special epoxy resin - medium viscosity, colorless, VOC <500 g/l, free of nonylphenol



### PROPERTIES

- Primer / key coat
- Medium viscosity
- Will discolour / fade if exposed to UV
- Very high chemical resistance
- Very high mechanical resistance
- Inert and harmless once cured

### RESISTANCE

- Water/sewage
- Alkalis
- Mineral oil
- Saline solutions
- Diluted acids
- Lubricants and fuels
- Dry temperature max. 80 °C (176 °F)
- Wet temperature short-term max. 60 °C (140 °F)



### APPLICATION

CP-Synthofloor BETA 8016 is a highly economical, filled epoxy resin, which is suitable as a primer and key coat on cementitious surfaces. This product offers good adhesion properties and wetting characteristics.

### PACKAGING AND COVERAGE

- 30 kg-pails (25 kg Part A + 5 kg Part B)  
Coverage: 60–75 m<sup>2</sup>



### TECHNICAL DATA

Mixing ratio A : B	100 : 20 by weight (5 : 1)
Density (23 °C (73,4 °F))	Approx. 1.50 g/cm <sup>3</sup>
Volume solids	Approx. 100 %
Viscosity (23 °C (73,4 °F))	Approx. 650 mPa·s ± 150
Compressive strength (DIN EN ISO 604)	60-90 MPa (depending on filler ratio)
Tensile strength (DIN EN ISO 178)	30 MPa
Water absorption	< 1.5 %
First contact with water	After 24 hours (23 °C (73,4 °F))
Color	Colorless

### APPLICATION DATA

Pot life (10 °C (50 °F) / 23 °C (73,4 °F) / 30 °C (86 °F))	Approx. 60 minutes / 40 minutes / 20 minutes
Substrate temperature	Minimum 10 °C (50 °F) up to maximum 30 °C (86 °F)
Material temperature	15 °C–25 °C (59 °F - 77 °F)
Maximum relative humidity of air	At 10 °C (50 °F): 75 % (dew point + 3 °C (37,4 °F)) At > 23 °C (73,4 °F): 85 % (dew point + 3 °C (37,4 °F))
Duration between applications (if sprinkled with quartz sand, the duration will increase)	10 °C (50 °F): minimum 24 hours / maximum 36 hours 23 °C (73,4 °F): minimum 12 hours / maximum 24 hours 30 °C (86 °F): minimum 6 hours / maximum 24 hours
Curing time / foot traffic (10 °C (50 °F) / 23 °C (73,4 °F) / 30 °C (86 °F))	24 hours / 16 hours / 12 hours
Curing time / mech. resistance (10 °C (50 °F) / 23 °C (73,4 °F) / 30 °C (86 °F))	72 hours / 48 hours / 24 hours
Curing time / chem. resistance (10 °C (50 °F) / 23 °C (73,4 °F) / 30 °C (86 °F))	7 days / 5 days / 4 days
Consumption	0.4–0.5 kg/m <sup>2</sup> as primer, always sprinkle with clean, dry quartz sand 0.4–0.8 mm (approx. 0.5 kg/m <sup>2</sup> )

All above values are approximate and may be used as a guideline for specification.



**CP-Synthofloor 8010** is a 2-component special epoxy resin,  
medium viscosity, colorless, unfilled  
VOC <500 g/l, free of nonylphenol



#### PROPERTIES

- Very deep penetration
- Fast curing
- Resistant to thermal deterioration
- Inert and harmless once cured
- Very high mechanical resistance
- Resistant to mastic asphalt up to +250 °C (482 °F)
- Thermal resistant

#### RESISTANCE

- Water / sewage
- Alkalis
- Mineral oil
- Saline solutions
- Diluted acids
- Lubricants and fuels (incl. aviation fuel)
- Mastic asphalt up to +250 °C (482 °F)
- Rising damp



#### APPLICATION

**CP-Synthofloor 8010** is a special epoxy resin for damp concrete surfaces, "green" concrete and concrete surfaces where rising damp is expected.

**CP-Synthofloor 8010** is suitable as primer and key coat. This particular chemical formulation allows excellent adhesion between the substrate and subsequent coats.

#### PACKAGING AND COVERAGE

- 25 kg-pails (18.12 kg Part A + 6.88 kg Part B)  
Coverage: 50–62 m<sup>2</sup>
- 200 kg-barrel and 1000 kg-container  
available on request



#### TECHNICAL DATA

Mixing ratio A : B	100 : 38 by weight (2.63 : 1)
Density (23 °C (73,4 °F))	Approx. 1.10 g/cm <sup>3</sup>
Volume solids	Approx. 100 %
Viscosity (23 °C (73,4 °F))	Approx. 700 mPa·s ± 100
Compressive strength (DIN EN ISO 604)	60–90 MPa (depending on filler ratio)
Tensile strength (DIN EN ISO 178)	30 MPa
Water absorption	< 1.0 %
Shore D-hardness (DIN EN ISO868)	> 80
Glass transition temperature	> 50 °C (122 °F))
First contact with water	After 24 hours (23 °C (73,4 °F))
Color	Clear

#### APPLICATION DATA

Pot life (8 °C (46,4 °F) / 23 °C (73,4 °F) / 30 °C (86 °F))	Approx. 40 minutes / 25 minutes / 15 minutes
Substrate temperature	Minimum 8 °C (46,4 °F) up to maximum 30 °C (86 °F)
Material temperature	15 °C–25 °C (59 °F–77 °F)
Maximum relative humidity of air	At 8 °C (73,4 °F): 75 % (dew point + 3 °C (37,4 °F)) At > 23 °C (37,4 °F): 85 % (dew point + 3 °C (37,4 °F))
Duration between applications (if sprinkled with quartz sand, the duration will increase)	8 °C (46,4 °F): minimum 16 hours / maximum 36 hours 23 °C (73,4 °F): minimum 6 hours / maximum 24 hours 30 °C (86 °F): minimum 3 hours / maximum 12 hours
Curing time / foot traffic (8 °C (46,4 °F) / 23 °C (73,4 °F) / 30 °C (86 °F))	24 hours / 12 hours / 6 hours
Curing time / mech. resistance (8 °C (46,4 °F) / 23 °C (73,4 °F) / 30 °C (86 °F))	48 hours / 16 hours / 12 hours
Curing time / chem. resistance (8 °C (46,4 °F) / 23 °C (73,4 °F) / 30 °C (86 °F))	5 days / 3 days / 2 days
Consumption	0.4–0.5 kg/m <sup>2</sup> per coat, we recommend 2 coats (always sprinkle with clean, dry quartz sand 0.4–0.8mm)

All above values are approximate and may be used as a guideline for specification.

## PRODUCT DATASHEET CERAMIC-POLYMER STP-EP

**Ceramic-Polymer STP-EP** is a surface tolerant two pack ceramic composite epoxy coating providing outstanding corrosion protection to a variety of metal, fiberglass, reinforced plastic and concrete substrates. **Ceramic Polymer STP-EP** is a thin-film, solvent-free coating material.



### APPLICATION RANGE

Internal and external coating for

- Steel structures
- Tanks and pipelines
- Offshore and onshore constructions



### TECHNICAL INFORMATION

Color	RAL tones, preferable gray tones
Surface	Satin
Volume Solids	Approx. 100%
VOC	Approx. 0 mg
Chemical resistance	Excellent
Abrasion resistance	53 mg loss (ASTM D 4060)
Adhesion	37 MPa (5,366 psi) on steel according to ASTM D4541
Specific Gravity (Mix)	Approx. 1.50

### APPLICATION DATA

Application methods	Airless spray pump (without filter), Ratio 1 : 68 or higher. Tip size: 0.015–0.019"; Hose length max. 15 m; Spray hose diameter min. ½" or hand application by roller and rake on blasted concrete.
Mixing ratio	5 : 1 by weight / 3 : 1 by volume
Mixing time	Component A: Stirup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	30 minutes at 20 °C (68 °F) / 25 minutes at 25 °C (77 °F) / 20 minutes at 30 °C (86 °F) / 15 minutes at 40 °C (104 °F) material temperatures - waiting time under continuous pressure may reduce pot life!
Material spray temp.	20 °C (68 °F) recommended
Thinner	Thinners should not be added. Ceramic Polymer cleaners should be used to clean and flush equipment.
Filters	Remove filters – product should be sprayed without filters in pump and gun.
Number of coats	Multiple coats – depending on specification. No limitation of WFT on horizontal surfaces. Minimum coating thickness 100 µm to achieve close film. Sagging limit on vertical surfaces: 200 µm at 20 °C (68 °F).

### CURING TIMES

Substrate temperature	Fully cured	Chemically resistant	Recoat (wet-in-wet)	
			minimum	maximum
20 °C (68 °F)	48 hrs	7 days	5 hrs	36 hrs
30 °C (86 °F)	24 hrs	5 days	3 hrs	24 hrs

All above values are approximate and may be used as a guideline for specification.

### FEATURES AND BENEFITS

- High chemical resistance
- Excellent abrasion resistance
- Surface tolerance
- 100 % resistance against all kinds of hydrocarbons
- 100 % resistance against sea water
- High temperature resistance up to 120 °C (248 °F) (dependent on medium)
- Solvent-free

### PACKAGING AND COVERAGE

- 19.98 kg-pails (16.65 kg Part A + 3.33 kg Part B)  
Coverage at a thickness of 100 µm: 132 m<sup>2</sup>  
Coverage at a thickness of 200 µm: 66 m<sup>2</sup>



PRODUCT DATASHEET **CERAMIC-POLYMER STP-EP-HV**

**Ceramic-Polymer STP-EP-HV** is a surface tolerant two pack ceramic composite epoxy coating providing outstanding corrosion protection to a variety of metal, fiberglass, reinforced plastic and concrete substrates. Due to a special hardener system the product provides high viscosity ("hv"-version).

**APPLICATION RANGE**

Internal and external coating for

- Vessels and process tanks
- Storage tanks for hydrocarbons
- Tubes and pipelines
- Offshore and onshore constructions

**TECHNICAL INFORMATION**

Color	RAL colors, preferable gray tones
Surface	Satin
Volume solids	Approx. 100 %
VOC	Approx. 0 mg
Flexural Strength	57 MPa (8,267 psi) according to ASTM D790
Chemical resistance	Excellent
Abrasion resistance	53 mg loss (ASTM D 4060)
Adhesion	37 MPa (5,366 psi) on carbon steel (ASTM D4541)
Specific Gravity (Mix)	Approx. 1.50

**APPLICATION DATA**

Application methods	Airless spray pump (without filter), Ratio 1 : 68 or greater. Tip size: 0.017-0.020"; Hose length max. 15m; Spray hose diameter min. ½" or hand application by roller and rake on blasted concrete.
Mixing ratio	5 : 1 by weight / 3 : 1 by volume
Mixing time	Component A: Stirup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	≥ 25 minutes at 20 °C (68 °F) / 20 minutes at 25 °C (77 °F) / 15 minutes at 30 °C (86 °F) / 10 minutes at 40 °C (104 °F) material temperature - waiting time under continuous pressure may reduce pot life!
Material spray temp.	20 °C (68 °F) recommended
Thinner	Thinners should not be added. Ceramic Polymer cleaners should be used to clean and flush equipment.
Filters	Remove filters – product should be sprayed without filters in pump and gun.
Number of coats	Multiple coats – depending on specification. No limitation of WFT on horizontal surfaces. Minimum coating thickness 150 µm to achieve close film. Sagging limit on vertical surfaces: 1000 µm at 20 °C (68 °F).

**CURING TIMES**

Substrate temperature	Fully cured	Chemically resistant	Recoat (wet-in-wet)	
			minimum	maximum
20 °C (68 °F)	48 hrs	7 days	5 hrs	36 hrs
30 °C (86 °F)	24 hrs	3 days	4 hrs	24 hrs

All above values are approximate and may be used as a guideline for specification.

**FEATURES AND BENEFITS**

- High chemical resistance
- Excellent abrasion resistance
- Surface tolerance
- Temperature resistance up to 120 °C (248 °F) (dependent on medium)
- 100 % resistance against all kinds of hydrocarbons
- 100 % resistance against sea water
- Solvent-free

**PACKAGING AND COVERAGE**

- 19.98 kg-pails (16.65 kg Part A + 3.33 kg Part B)  
Coverage at a thickness of 150 µm: 87 m<sup>2</sup>  
Coverage at a thickness of 250 µm: 52 m<sup>2</sup>



## PRODUCT DATASHEET CERAMIC-POLYMER SF/LF

**Ceramic-Polymer SF/LF** is a two pack ceramic composite epoxy coating providing excellent abrasion and corrosion protection to a wide variety of substrates in aggressive environments.



### APPLICATION RANGE

Internal and external coating for

- On- and Offshore facilities and splash zones
- Tubing and pipelines
- Waste water ponds



### TECHNICAL INFORMATION

<b>Color</b>	RAL colors
<b>Gloss</b>	Satin
<b>Volume solids</b>	Approx. 100 %
<b>VOC</b>	Approx. 0 mg
<b>Flexibility</b>	Excellent
<b>Sea water resistance</b>	> 6,000 hours sea water immersion test, ISO 20340
<b>Corrosion resistance</b>	> 10,000 hours salt spray (ISO 7253)
<b>Chemical resistance</b>	Very good
<b>Abrasion resistance</b>	58 mg loss (ASTM D 4060)
<b>Adhesion</b>	34 MPa (4,931 psi) on steel according to ASTM D4541
<b>Specific Gravity (Mix)</b>	Approx. 1.54

### FEATURES AND BENEFITS

- Solvent-free
- 1-layer-system
- Approval for DVGW-W270 – growth of micro-organisms (bio film)
- ISO 20340 (Performance requirements for protective paint systems for offshore and related structures)

### PACKAGING AND COVERAGE

- 16 kg-pails (12 kg Part A + 4 kg Part B)  
Coverage at a thickness of 300 µm: 35 m<sup>2</sup>  
Coverage at a thickness of 600 µm: 17 m<sup>2</sup>
- 30 kg-pails (22.5 kg Part A + 7.5 kg Part B)  
Coverage at a thickness of 300 µm: 65 m<sup>2</sup>  
Coverage at a thickness of 600 µm: 33 m<sup>2</sup>



### APPLICATION DATA

<b>Application methods</b>	Airless spray pump (without filter), Ratio 1:70 or higher. Tip size: 0.019-0.026"; Hose length max. 20 m; Spray hose diameter max. 3/4"; Material must be taken up directly (without intake hose); avoid waiting time under pressure (reduction of pot life!)
<b>Mixing ratio</b>	3 : 1 by weight / 1.97 : 1 by volume
<b>Mixing time</b>	Component A: Stirrup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
<b>Potlife</b>	40 minutes at 20 °C (68 °F) / 30 minutes at 25 °C (77 °F) / 20 minutes at 30 °C (86 °F) / 15 minutes at 40 °C (104 °F) material temperature - waiting time under continuous pressure may reduce pot life!
<b>Material spray temp.</b>	Optimal spraying temperature 20 °C (68 °F)
<b>Thinner</b>	Thinners must not be added. Use Proguard cleaners to clean and flush equipment.
<b>Filters</b>	Remove filters – product should be sprayed without filters in pump and gun.
<b>Number of coats</b>	1 or 2 coats - depending on environment. Minimum WFT 300 µm. Maximum WFT per layer: 600 µm (at 20 °C 68 °F).

### CURING TIMES

Substrate temperature	Gel	Fully cured	Chemically resistant	Recoat (wet-in-wet)	
				minimum	maximum
20 °C (68 °F)	2.5 hrs	48 hrs	9 days	10 hrs	48 hrs
30 °C (77 °F)	1.5 hrs	24 hrs	4 days	6 hrs	24 hrs

All above values are approximate and may be used as a guideline for specification.

PRODUCT DATASHEET **PROGUARD CN 100 ISO**

**Proguard CN 100 iso** is a two pack special composite coating containing micro-ceramic particles reinforcement, based on an ultra-modern Novolac-resin base, providing chemical resistance, corrosion and abrasion protection to a wide variety of substrates in extremely aggressive environments at elevated temperatures.

**APPLICATION RANGE**

- Internal and external coating for
  - Process vessels and storage tanks with extreme temperature changes
  - Storage tanks for crude oil, hydrocarbons, chemicals
  - Special tanks for urea (Ad-Blue), bio oils
  - Pressure vessels of all kinds
  - Pipelines for oil & gas

**TECHNICAL INFORMATION**

Color	Light Greay, Dark Gray
Gloss	Satin
Volume Solids	Approx. 100 %
VOC	Approx. 0 mg
Flexibility	Excellent
Seawater resistance	ISO 20340
Corrosion resistance	> 10,000 hours salt spray (ISO7253)
Chemical resistance	Excellent
Abrasion resistance	80 mg (ASTM D 4060)
Adhesion	> 27 MPa (3,916 psi) according to ISO 4624
Specific Gravity (Mix)	Approx. 1.19

**FEATURES AND BENEFITS**

- Excellent chemical resistance
- Extreme isolation properties
- Excellent temperature resistance up to 170 °C (338 °F) (dependent on medium)
- ISO 20340 (Performance requirements for protective paint systems for offshore and related structures)
- 1-layer-system
- Solvent-free

**PACKAGING AND COVERAGE**

- 15 kg-pails (13.5 kg part A + 1.5 kg part B)  
Coverage at a thickness of 500 µm: 25 m<sup>2</sup>  
Coverage at a thickness of 1000 µm: 12.6 m<sup>2</sup>

**APPLICATION DATA**

Application methods	Airless spray pump (without filter), Ratio 1:70 or higher. Tip size: 0.023-0.029"; Hose length max. 20 m; Spray hose diameter max. 3/4"; Material must be taken up directly (without intake hose); avoid waiting time under pressure (reduction of pot life!)
Mixing ratio	9 : 1 by weight / 7,5 : 1 by volume
Mixing time	Component A: Stirup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	30 minutes at 20 °C (68 °F) / 25 minutes at 25 °C (77 °F) / 20 minutes at 30 °C (86 °F) / 10 minutes at 40 °C (104 °F) material temperature - waiting time under continuous pressure may reduce pot life!
Material spray temp.	Minimum spraying temperature 20 °C (68 °F).
Thinner	Thinners must not be added. Use Proguard cleaners to clean and flush equipment.
Filters	Remove filters – product should be sprayed without filters in pump and gun.
Number of coats	1 or 2 coats - depending on environment. Minimum coating thickness 500 µm. Maximum coating thickness and sagging limit 1000 µm per layer at 20 °C (68 °F).

**CURING TIMES**

Substrate temperature	Fully cured	Chemically resistant	Recoat (wet-in-wet)	
			minimum	maximum
20 °C (68 °F)	48 hrs	7 days	10 hrs	24 hrs
30 °C (86 °F)	24 hrs	7 days	6 hrs	12 hrs

All above values are approximate and may be used as a guideline for specification.

## PRODUCT DATASHEET PROGUARD CN 200

**Proguard CN 200** is a two pack special composite coating containing micro-ceramic particles and nano-particle reinforcement, based on an ultra-modern Novolac-resin base, providing chemical resistance, corrosion and abrasion protection to a wide variety of substrates in extremely aggressive environments.



### APPLICATION RANGE

Internal coating for

- Different substrates such as metals, plastics, GFK, CFK and concrete
- Storage tanks for crude oil, hydrocarbons, chemicals
- Special tanks for urea (Ad-Blue), bio oils
- Biogas fermenter
- Process vessels, pressure vessels of all kinds
- Pipelines for oil & gas



### TECHNICAL INFORMATION

Color	Light gray, dark gray
Gloss	Satin
Volume solids	Approx. 100 %
VOC	Approx. 0 mg
Flexibility	Good
Sea water resistance	ISO 20340
Corrosion resistance	> 10,000 hours salt spray (ISO 7253)
Solvent resistance	Excellent, see resistance list
Chemical resistance	Excellent, see resistance list
Abrasion resistance	< 65 mg loss (ASTM D 4060)
Adhesion	> 27 MPa (3,916 psi) according to ISO 4624
Specific Gravity (Mix)	Approx. 1.64

### FEATURES AND BENEFITS

- Excellent chemical resistance
- Temperature resistance up to 150 °C (302 °F) (dependent on medium)
- High abrasion resistance
- ISO 20340 (Performance requirements for protective paint systems for offshore and related structures)
- 1-layer-system
- Short curing times
- Solvent-free
- Optional: antistatic property = Proguard CN 200 a.s.

### PACKAGING AND COVERAGE

- 16.5 kg-pails (15 kg Part A + 1.5 kg Part B)  
Coverage at a thickness of 500 µm: 20 m<sup>2</sup>  
Coverage at a thickness of 1000 µm: 10 m<sup>2</sup>



### APPLICATION DATA

Application methods	Airless spray pump (without filter), Ratio 1:70 or higher. Tip size: 0.019-0.026"; Hose length max. 20 m; Spray hose diameter max. 3/4"; Material must be taken up directly (without intake hose); avoid waiting time under pressure (reduction of pot life!)
Mixing ratio	10 : 1 by weight / 6.1 : 1 by volume
Mixing time	Component A: Stirup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	30 minutes at 20 °C (68 °F) / 25 minutes at 25 °C (77 °F) / 20 minutes at 30 °C (86 °F)/ 10 minutes at 40 °C (104 °F) material temperature - waiting time under continuous pressure may reduce pot life!
Material spray temp.	Minimum spraying temperature 20 °C (68 °F).
Thinner	Thinners must not be added. Use Proguard cleaners to clean and flush equipment.
Filters	Remove filters – product should be sprayed without filters in pump and gun.
Number of coats	1 or 2 coats - depending on environment. Minimum coating thickness 400 µm, maximum coating thickness and sagging limit 1000 µm per layer at 20 °C (68 °F).

### CURING TIMES

Substrate temperature	Fully cured	Chemically resistant	Recoat (wet-in-wet)	
			minimum	maximum
20 °C (68 °F)	48 hrs	7 days	10 hrs	96 hrs
30 °C (86 °F)	24 hrs	3 days	7 hrs	72 hrs

All above values are approximate and may be used as a guideline for specification.

PRODUCT DATA **PROGUARD CN-1M-V12/V15 H3**

**Proguard CN-1M** is a temperature and chemical high-resistant 2-pack special composite coating containing silanized high-tech-micro and nano-particle reinforcement, based on an ultra-modern hybridized epoxy-novolac-resin base.

**APPLICATION RANGE**

Internal coating for

- Storage tanks for crude oil, hydrocarbons, chemicals
- Special tanks for urea (Ad-Blue), bio oils
- Biogas fermenters
- Process vessels
- Pipelines for oil & gas

**TECHNICAL INFORMATION**

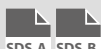
<b>Color</b>	Anthracite
<b>Gloss</b>	Satin
<b>Volume Solids</b>	Approx. 100 %
<b>VOC</b>	Approx. 0 mg
<b>Flexural Strength</b>	44 MPa (6,382 psi) according to ASTM D790
<b>Chemical resistance</b>	Excellent
<b>Abrasion resistance</b>	48 mg (ASTM D4060)
<b>Adhesion</b>	41 MPa (5,947 psi) on carbon steel (ASTM D4541)
<b>Specific Gravity (Mix)</b>	Approx. 1.3

**FEATURES AND BENEFITS**

- Excellent chemical resistance
- High corrosion and abrasion protection to a wide variety of substrates
- Temperature resistance up to 150 °C (302 °F) (dependent on medium)
- 1-layer-system
- Solvent-free
- Test series for internal coating on concrete according to DIN EN 858-1

**PACKAGING AND COVERAGE**

- CN-1M-V12 H3 - low-viscosity:  
12.5 kg-pails (10 kg Part A + 2.5 kg Part B)  
Coverage at a thickness of 100 µm: 96 m<sup>2</sup>  
Coverage at a thickness of 350 µm: 28 m<sup>2</sup>
- CN-1M-V15 H3 - high-viscosity:  
12.5 kg-pails (10 kg Part A + 2.5 kg Part B)  
Coverage at a thickness of 250 µm: 38 m<sup>2</sup>  
Coverage at a thickness of 600 µm: 16 m<sup>2</sup>

**APPLICATION DATA**

<b>Application methods</b>	Airless spray pump (without filter), Ratio 1 : 70 or higher. Tip size: 0.015-0.023"; Hose length max. 15 m; Spray hose diameter min. 1/2"; avoid waiting time under pressure (reduction of pot life!)
<b>Mixing ratio</b>	4 : 1 by weight / 3.28 : 1 by volume
<b>Mixing time</b>	Component A: Stir up intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
<b>Potlife</b>	30 minutes at 20 °C (68 °F) / 25 minutes at 25 °C (77 °F) / 20 minutes at 30 °C (86 °F) / 15 minutes at 40 °C (104 °F) material temperature - waiting time under continuous pressure may reduce pot life!
<b>Material spray temp.</b>	20 °C (68 °F) recommended
<b>Thinner</b>	Thinners should not be added. Proguard cleaners should be used to clean and flush equipment.
<b>Filters</b>	Remove filters – product should be sprayed without filters in pump and gun.
<b>Number of coats</b>	1 or 2 coats, depending on specification. Please consider: Application of the 2nd layer must be wet-on-wet! For CN-1M-V12 H3 – low-viscosity: Minimum coating thickness 100 µm, maximum thickness per layer: 350 µm. For CN-1M-V15 H3 – high-viscosity: Minimum coating thickness 250 µm, maximum thickness per layer: 600 µm at 20 °C (68 °F).

**CURING TIMES**

Substrate temperature	Fully cured	Chemically resistant	Recoat (wet-in-wet)	
			minimum	maximum
20 °C (68 °F)	48 hrs	7 days	0.5 hrs	4 hrs
30 °C (86 °F)	24 hrs	3 days	0.5 hrs	2.5 hrs

All above values are approximate and may be used as a guideline for specification.

## PRODUCT DATASHEET PROGUARD CN-1M-V12/V15 K3

**Proguard CN-1M** is a temperature and chemical high-resistant 2-pack special composite coating containing silanized high-tech-micro and nano-particle reinforcement, based on an ultra-modern hybridized epoxy-novolac-resin base.



### APPLICATION RANGE

Internal coating for

- Storage tanks for crude oil, hydrocarbons, chemicals
- Special tanks for urea (Ad-Blue), bio oils
- Biogas fermenters
- Process vessels
- Pipelines for oil & gas



### TECHNICAL INFORMATION

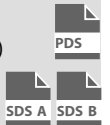
Color	Anthracite
Gloss	Satin
Volume Solids	Approx. 100 %
VOC	Approx. 0 mg
Flexural Strength	52 MPa (7,542 psi) according to ASTM D790
Chemical resistance	Excellent
Abrasion resistance	49 mg (ASTM D4060)
Adhesion	36 MPa (5,221 psi) on carbon steel (ASTM D4541)
Specific Gravity (Mix)	Approx. 1.3

### FEATURES AND BENEFITS

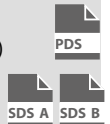
- Excellent chemical resistance
- High corrosion and abrasion protection to a wide variety of substrates
- Temperature resistance up to 150 °C (302 °F) (dependent on medium)
- 1-layer-system
- Solvent-free

### PACKAGING AND COVERAGE

- CN-1M-V12 K3 – low-viscosity:  
13.33 kg-pails (10 kg Part A + 3.33 kg Part B)  
Coverage at a thickness of 80 µm: 128 m<sup>2</sup>  
Coverage at a thickness of 200 µm: 51 m<sup>2</sup>



- CN-1M-V15 K3 – high-viscosity:  
13.33 kg-pails (10 kg Part A + 3.33 kg Part B)  
Coverage at a thickness of 250 µm: 40 m<sup>2</sup>  
Coverage at a thickness of 400 µm: 26 m<sup>2</sup>



### APPLICATION DATA

Application methods	Airless spray pump (without filter), Ratio 1 : 70 or higher. Tip size: 0.015–0.023"; Hose length max. 15 m; Spray hose diameter min. 1/2"; avoid waiting time under pressure (reduction of pot life!)
Mixing ratio	3 : 1 by weight / 2.36 : 1 by volume
Mixing time	Component A: Stirup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	30 minutes at 20 °C (68 °F) / 25 minutes at 25 °C (77 °F) / 20 minutes at 30 °C (86 °F) / 15 minutes at 40 °C (104 °F) material temperature - waiting time under continuous pressure may reduce pot life!
Material spray temp.	20 °C (68 °F) recommended
Thinner	Thinners should not be added. Proguard cleaners should be used to clean and flush equipment.
Filters	Remove filters – product should be sprayed without filters in pump and gun.
Number of coats	1 or 2 coats, depending on specification. Please consider: Application of the 2nd layer must be wet-on-wet! For CN-1M-V12 K3 – low-viscosity: Minimum coating thickness 80 µm, maximum thickness per layer: 200 µm. For CN-1M-V15 K3 – high-viscosity: Minimum coating thickness 250 µm, maximum thickness per layer: 400 µm at 20 °C (68 °F).

### CURING TIMES

Substrate temperature	Fully cured	Chemically resistant	Recoat (wet-in-wet)	
			minimum	maximum
20 °C (68 °F)	48 hrs	7 days	0.5 hrs	4 hrs
30 °C (86 °F)	24 hrs	3 days	0.5 hrs	2.5 hrs

All above values are approximate and may be used as a guideline for specification.



**Proguard CN-OC** is a temperature and chemical high-resistant 2- pack special composite coating containing silanized high-tech-micro and nano-particle reinforcement, based on an ultra-modern hybridized epoxy-novolac-resin base specifically designed for stainless steel substrates.



#### APPLICATION RANGE

Internal coating for stainless steel constructions as

- Storage tanks for crude oil, hydrocarbons, chemicals
- Special tanks for urea (Ad-Blue), bio oils
- Process vessels
- Pipelines for oil & gas
- Biogas fermenters



#### TECHNICAL INFORMATION

Color	Anthracite
Gloss	Satin
Volume Solids	Approx. 100 %
VOC	Approx. 0 mg
Flexural Strength	44 MPa (6,382 psi) according to ASTM D790
Chemical resistance	Excellent
Abrasion resistance	48 mg (ASTM D4060)
Adhesion	41 MPa (5,947 psi) on carbon steel (ASTM D4541)
Specific Gravity (Mix)	Approx. 1.3

#### FEATURES AND BENEFITS

- Excellent chemical resistance
- High corrosion and abrasion protection to stainless steel substrates
- Temperature resistance up to 150 °C (302 °F) (dependent on medium)
- Excellent adhesion on stainless steel
- 1-layer-system
- Solvent-free

#### PACKAGING AND COVERAGE

- CN-OC-V12 H3 – low-viscosity:  
12.5 kg-pails (10 kg Part A + 2.5 kg Part B)  
Coverage at a thickness of 100 µm: 96 m<sup>2</sup>  
Coverage at a thickness of 350 µm: 28 m<sup>2</sup>
- CN-OC-V15 H3 – high-viscosity:  
12.5 kg-pails (10 kg Part A + 2.5 kg Part B)  
Coverage at a thickness of 250 µm: 38 m<sup>2</sup>  
Coverage at a thickness of 600 µm: 16 m<sup>2</sup>



#### APPLICATION DATA

Application methods	Airless spray pump (without filter), Ratio 1 : 70 or higher. Tip size: 0.015-0.023"; Hose length max. 15 m; Spray hose diameter min. 1/2"; avoid waiting time under pressure (reduction of pot life!)
Mixing ratio	4 : 1 by weight / 3.28 : 1 by volume
Mixing time	Component A: Stirrup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	30 minutes at 20 °C (68 °F) / 25 minutes at 25 °C (77 °F) / 20 minutes at 30 °C (86 °F) / 15 minutes at 40 °C (104 °F) material temperature - waiting time under continuous pressure may reduce pot life!
Material spray temp.	20 °C (68 °F) recommended
Thinner	Thinners should not be added. Proguard cleaners should be used to clean and flush equipment.
Filters	Remove filters – product should be sprayed without filters in pump and gun.
Number of coats	1 or 2 coats, depending on specification. Please consider: Application of the 2nd layer must be wet-on-wet! For CN-OC-V12 H3 – low-viscosity: Minimum coating thickness 100 µm, maximum thickness per layer: 350 µm. For CN-OC-V15 H3 – high-viscosity: Minimum coating thickness 250 µm, maximum thickness per layer: 600 µm at 20 °C (68 °F).

#### CURING TIMES

Substrate temperature	Fully cured	Chemically resistant	Recoat (wet-in-wet)	
			minimum	maximum
20 °C (68 °F)	48 hrs	7 days	0.5 hrs	4 hrs
30 °C (86 °F)	24 hrs	3 days	0.5 hrs	2.5 hrs

All above values are approximate and may be used as a guideline for specification.

## PRODUCT DATASHEET PROGUARD CN-OC-V12/V15 K3

**Proguard CN-OC V15** is a temperature and chemical high-resistant 2- pack special composite coating containing silanized high-tech-micro and nano-particle reinforcement, based on an ultra-modern hybridized epoxy-novolac-resin base specifically designed for stainless steel substrates.



### APPLICATION RANGE

Internal coating for stainless steel constructions as

- Storage tanks for crude oil, hydrocarbons, chemicals
- Special tanks for urea (Ad-Blue), bio oils
- Process vessels
- Pipelines for oil & gas
- Biogas fermenters



### TECHNICAL INFORMATION

Color	Anthracite
Gloss	Satin
Volume Solids	Approx. 100 %
VOC	Approx. 0 mg
Flexural Strength	52 MPa (7,542 psi) according to ASTM D790
Chemical resistance	Excellent
Abrasion resistance	49 mg (ASTM D4060)
Adhesion	36 MPa (5,221 psi) on carbon steel (ASTM D4541)
Specific Gravity (Mix)	Approx. 1.3

### FEATURES AND BENEFITS

- Excellent chemical resistance
- High corrosion and abrasion protection to stainless steel substrates
- Temperature resistance up to 150 °C (302 °F) (dependent on medium)
- Excellent adhesion on stainless steel
- 1-layer-system
- Solvent-free

### PACKAGING AND COVERAGE

- CN-OC-V12 K3 – low-viscosity:  
13.33 kg-pails (10 kg Part A + 3.33 kg Part B)  
Coverage at a thickness of 80 µm: 128 m<sup>2</sup>  
Coverage at a thickness of 200 µm: 51 m<sup>2</sup>
- CN-OC-V15 K3 – high-viscosity:  
13.33 kg-pails (10 kg Part A + 3.33 kg Part B)  
Coverage at a thickness of 250 µm: 40 m<sup>2</sup>  
Coverage at a thickness of 400 µm: 26 m<sup>2</sup>



### APPLICATION DATA

Application methods	Airless spray pump (without filter), Ratio 1 : 70 or higher. Tip size: 0.015–0.023"; Hose length max. 15 m; Spray hose diameter min. 1/2"; avoid waiting time under pressure (reduction of pot life!)
Mixing ratio	3 : 1 by weight / 2.36 : 1 by volume
Mixing time	Component A: Stirup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	30 minutes at 20 °C (68 °F) / 25 minutes at 25 °C (77 °F) / 20 minutes at 30 °C (86 °F) / 15 minutes at 40 °C (104 °F) material temperature - waiting time under continuous pressure may reduce pot life!
Material spray temp.	20 °C (68 °F) recommended
Thinner	Thinners should not be added. Proguard cleaners should be used to clean and flush equipment.
Filters	Remove filters – product should be sprayed without filters in pump and gun.
Number of coats	1 or 2 coats, depending on specification. Please consider: Application of the 2nd layer must be wet-on-wet! For CN-OC-V12 K3 – low-viscosity: Minimum coating thickness 80 µm, maximum thickness per layer: 200 µm. For CN-OC-V15 K3 – high-viscosity: Minimum coating thickness 250 µm, maximum thickness per layer: 400 µm at 20 °C (68 °F).

### CURING TIMES

Substrate temperature	Fully cured	Chemically resistant	Recoat (wet-in-wet)	
			minimum	maximum
20 °C (68 °F)	48 hrs	7 days	0.5 hrs	4 hrs
30 °C (86 °F)	24 hrs	3 days	0.5 hrs	2.5 hrs

All above values are approximate and may be used as a guideline for specification.

PRODUCT DATASHEET **CERAMIC-POLYMER KTW-1**

**Ceramic-Polymer KTW-1** is a 2- pack special composite coating containing silanized high-tech-micro and nano-particle reinforcement, based on an ultra-modern A-resin and hardener base especially designed for drinking water applications.

**APPLICATION RANGE**

Internal coating for

- Storage tanks
- Filter tanks e. g. sand filters
- Pipelines
- Further drinking water applications

**FEATURES AND BENEFITS**

- High corrosion and abrasion protection to a wide variety of substrates
- Test series according to DVGW-W270
- Drinking water test series according to the UBA Coating-Guideline for 23 °C (73,4 °F) and 60 °C (140 °F)
- 1-layer-system
- Solvent-free

**TECHNICAL INFORMATION**

Color	Black
Surface	Satin
Volume Solids	100%
VOC	0 mg
Adhesion	Excellent; >20 MPa (2,901 psi) on carbon steel (ISO 4624)
Specific Gravity (Mix)	Approx. 1.25

**PACKAGING AND COVERAGE**

- 15 kg-pails (12 kg Part A + 3 kg Part B)  
Coverage at a thickness of 400 µm: 30 m<sup>2</sup>  
Coverage at a thickness of 800 µm: 15 m<sup>2</sup>

**APPLICATION DATA**

Application methods	Airless spray pump (without filter), Ratio 1 : 68 or higher. Tip size: 0.015-0.023"; Hose length max. 15 m; Spray hose diameter max. 1/2"; Material must be taken up directly (without intake hose); avoid waiting time under pressure (reduction of pot life!)
Mixing ratio	4 : 1 by weight / 3 : 1 by volume
Mixing time	Component A: Stirup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	25 minutes at 20 °C (68 °F) / 20 minutes at 25 °C (77 °F) / 12 minutes at 30 °C (86 °F) material temperature - waiting time under continuous pressure may reduce pot life!
Material spray temp.	Minimum 25 °C (77 °F) - lower spray temperatures may cause an orange peel coating surface!
Thinner	Thinners should not be added. Use Proguard cleaners to clean and flush equipment.
Filters	Remove filters - product should be sprayed without filters in pump and gun.
Number of coats	1 coat. Minimum coating thickness 400 µm. Maximum thickness per layer: 800 µm at 25 °C (77 °F).

**CURING TIMES**

Substrate temperature	Fully cured	Resistant to media	Recoat (wet-in-wet)	
			minimum	maximum
20 °C (68 °F)	48 hrs	7 days	-	-
30 °C (86 °F)	24 hrs	5 days	-	-

All above values are approximate and may be used as a guideline for specification.

## PRODUCT DATASHEET CERAMIC-POLYMER XRC

**Ceramic-Polymer XRC** is a temperature and chemical high-resistant 2-pack special SIC composite coating containing silanized high-tech-micro and nano-particle reinforcement, based on an ultra-modern hybridized epoxy-novolac-resin base. This system provides an excellent surface protection on a variety of substrates in extremely aggressive environments.

### APPLICATION RANGE

Internal and external coating for

- Sleeves
- Rollers for paper, plastic and printing industry
- Production vessels and plants
- Gravel filters, sand filters, solid containers



### TECHNICAL INFORMATION

Color	Anthrazit
Gloss	Satin
Volume solids	Approx. 100 %
VOC	Approx. 0 mg
Flexural Strength	54 MPa (7,832 psi) according to ASTM D790
Chemical resistance	Excellent
Abrasion resistance	15 mg (ASTM D4060)
Adhesion	38 MPa (5,511 psi) on carbon steel (ASTM D4541)
Specific Gravity (Mix)	1.5



### FEATURES AND BENEFITS

- Outstanding abrasion resistance
- Extrem high degree of cut resistance
- Excellent chemical resistance
- Temperature resistance up to 150°C (302 °F) (dependent on medium)
- Machinable after curing
- Solvent-free

### PACKAGING AND COVERAGE

- 12,5 kg-pails (10 kg Part A + 2,5 kg Part B)  
Coverage at a thickness of 250 µm: 33 m<sup>2</sup>  
Coverage at a thickness of 600 µm: 14 m<sup>2</sup>



### APPLICATION DATA

Application methods	Flowable, application by brush or coating roller or airless spray pump (without filter), Ratio 1:70 or higher. Tip size: 0.021-0.026"; Hose length max. 15 m; Spray hose diameter max. 3/4"; Material must be taken up directly (without intake hose); avoid waiting time under pressure (reduction of pot life!)
Mixing ratio	4 : 1 by weight / 3.3 : 1 by volume
Mixing time	Component A: Stirup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	30 minutes at 20 °C (68 °F) / 25 minutes at 25 °C (77 °F) / 20 minutes at 30 °C (86 °F) / 15 minutes at 40 °C (104 °F) material temperature. - waiting time under continuous pressure may reduce pot life!
Material spray temp.	25 °C (77 °F) recommended.
Thinner	Thinners must not be added. Use Proguard cleaners to clean and flush equipment.
Filters	Remove filters – product should be sprayed without filters in pump and gun.
Number of coats	1 or 2 coats, depending on specification. Minimum coating thickness 250 µm. Maximum thickness per layer: 600 µm at 25 °C (77 °F). Extended layer thickness dependent on application method, please consult us! Please consider: Application of the 2nd layer must be wet-on-wet!
Machine processing	After full curing mechanical grinding is possible.

### CURING TIME

substrate temperature	cured	machinable	chemically resistant	recoat (wet-on-wet)	
				Minimum	Maximum
20°C (68 °F)	48 hrs	3 days	7 days	0.5 hrs	wet-on-wet
30°C (86 °F)	24 hrs	2 days	3 days	0.5 hrs	wet-on-wet

All above values are approximate and may be used as a guideline for specification.

PRODUCT DATASHEET **PROGUARD 169 (37)**

**Proguard 169 (37)** is a 2-component highly-crosslinked polyurethane topcoat with outstanding color stability and excellent physical properties. The glossy, nonporous surface is long-term resistant against UV-radiation and weathering.

**APPLICATION RANGE**

External coatings for

- Steel structures
- Tanks and pipelines
- Bridges
- Automotive, Railway
- On and offshore facilities
- Applications under environmental influences

**FEATURES AND BENEFITS**

- Extreme UV-stability and weather resistance
- Temperature resistance up to 120 °C (248 °F) dry heat (at temperatures above 100 °C (212 °F) light and bright colors may become yellow)
- One coat, fast curing
- ISO 12944-2 / classification Im1-3 & C5

**TECHNICAL INFORMATION**

Color	RAL, NCS
Surface	Gloss
Volume Solids	Approx. 57 %
VOC	Approx. 354 g/liter
Flash Point	> 25 °C
Flexibility	Excellent
Chemical resistance	According to ISO 12944-2 C5-M
UV-stability	Excellent
Specific Gravity (Mix)	Approx. 1.25 (dependent on color)

**PACKAGING AND COVERAGE**

- 11.5 kg-pails (9 kg Part A + 2.5 kg Part B)  
Coverage at a thickness of dry 40 µm: 144 m<sup>2</sup>  
Coverage at a thickness of dry 80 µm: 66 m<sup>2</sup>

**APPLICATION DATA**

Application methods	All spray methods. Brush + roll for repair only.
Mixing ratio	3.6 : 1 by weight / 3.03 : 1 by volume
Mixing time	Component A: Stirup intensively by mechanical means Components A+B: Mix up homogeneous. Mixer speed >100 rpm
Potlife	3 hours at 20 °C (68 °F) / 2.5 hours at 25 °C (77 °F) / 2 hours at 30 °C (86 °F) / 1 hour at 40 °C (104 °F) material temperature - waiting time under continuous pressure may reduce pot life!
Material spray temp.	20 °C (68 °F) recommended
Thinner	Proguard 169 - Thinners
Filters	Check to ensure that filters are clean
Number of coats	One coat. Minimum layer thickness (dry-DFT) 40 µm - maximum layer thickness 80 µm.

**CURING TIMES**

Substrate temperature	Dust-dry	Tack free	Cured	Recoat (wet-in-wet)	
				minimum	maximum
20 °C (68 °F)	1 hrs	8 hrs	96 hrs	48 hrs	-
30 °C (86 °F)	0.75 hrs	5 hrs	48 hrs	36 hrs	-

All above values are approximate and may be used as a guideline for specification.

CORROSION PROTECTION MADE EASY! **HIGH-QUALITY CARTRIDGE SYSTEMS**

For select products we have adopted the Sulzer Mixpac technology packaging, to simplify small surface area applications.

**COST SAVINGS**

- Low Invest - cost-efficient solution for a wide range of small applications
- Shorter working times, no need of extensive mixing procedure
- Prevention of mixing failures
- No loss of material, no cured residues in the package

**SIMPLE APPLICATION**

- Automatic mixing allows exact mixing ratio
- Even application, low spray losses
- Cold application possible (20 °C/ 68 °F), without preheating
- Portability - lightweight, portable dispenser for versatile use

**HIGH-QUALITY COMPONENTS**

- Solid MIXPAC™ cartridge of Sulzer Chemtech Technology
- Patented cartridge seal
- Spray mixer tried and tested QUADRO™ mixing technology
- Clean resealable after use, remaining material usable for at least 6 months

Suitable dispenser of the company Sulzer are available from us.

We offer 2 different types for the fast, clean and economic application of 2-component coatings:

**MANUAL DISPENSER**

MixCoat™ Manual System is a lightweight, manual dispenser, which is excellently suited for repair purposes of all kinds. The applied coating is easy to distribute by conventional hand tools e. g. spatula.



For the protection of welds and edges an appropriate mixing tip with brush is additionally available.

**SPRAY DISPENSER**

MixCoat™ Spray is a lightweight spray dispenser. This device requires only a pressurized air connection (compressor, 7 bar, 250 l/min). Due to the low weight exact spraying over a long period is possible. Moreover, the dispenser can be operated with one hand.



For the completion of this system the Hybrid-Flex-System can also be purchased. The dispenser is put on easily with a belt; the flexible hose (1.5 m or 3 m) with the attached spray nozzle provides a proper coating result. This combination is the ideal solution for spray coating of small surfaces or areas which are difficult to access.

## PRODUCTS FOR CARTRIDGE APPLICATION

**STP-EP-HV Cartridge** is a 2-Component-Ceramic-Composite-Epoxy-Coating with a high surface tolerance.

### FEATURES

- Surface tolerant
- Resistant against hydrocarbons
- Resistant against sea water
- Excellent abrasion resistance
- High temperature stability (long-term up to 120 °C (248 °F))
- Solvent-free
- Recommended layer thickness > 200 µm  
- sagging limit for vertical surfaces: 500 µm



### SALES UNIT

- 1.5 kg Cartridge – 1000 ml volume of matched mixing ratio
- Coverage approx. 1.5 m<sup>2</sup> at a thickness of 500 µm

### COLOR

- Gray



**CN-1M Cartridge** is a 2-Component-Special-Internal-Coating containing silanized high-tech-micro and nano-particle reinforcement.

### FEATURES

- Excellent chemical resistance
- High temperature stability (long-term up to 150 °C (302 °F))
- High abrasion resistance
- High adhesion on steel and concrete
- Solvent-free
- 1-layer-system
- Recommended layer thickness > 250 µm  
- sagging limit for vertical surfaces: 600 µm



### SALES UNIT

- 1.2 kg Cartridge – 1000 ml volume of matched mixing ratio
- Coverage approx. 2 m<sup>2</sup> at a layer thickness of 400 µm

### COLOR

- Black



**CN-OC Cartridge** is a 2-Component-Special-Internal-Coating for stainless steel substrates containing silanized high-tech-micro and nano-particle reinforcement.

### FEATURES

- Especially for stainless steel, aluminum and zinc coated surfaces
- Excellent chemical resistance
- High temperature stability (long-term up to 150 °C (302 °F))
- High abrasion resistance
- Outstanding adhesion
- Solvent-free
- 1-layer-system
- Recommended layer thickness > 250 µm  
- sagging limit for vertical surfaces: 600 µm



### SALES UNIT

- 1.2 kg Cartridge – 1000 ml volume of matched mixing ratio
- Coverage approx. 2 m<sup>2</sup> at a layer thickness of 400 µm

### COLOR

- Black





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