**CN-1M Cartridge** is a temperature and chemical high-resistant 2-pack special composite coating containing silanized high-tech-micro-particle reinforcement, based on an ultra-modern hybridized epoxy-novolac-resin. As cartridge-kit the product is especially suitable for repairs, coating of small surfaces and areas which are difficult to access.

### APPLICATION RANGE

- As internal coating for repairs, coating of small surfaces and areas which are difficult to access for:
  - Storage tanks and process vessels for crude oil, hydrocarbons, chemicals
  - Special tanks for urea, bio oils
  - Biogas fermenters
  - Pipelines for oil & gas

### TECHNICAL INFORMATION

<table>
<thead>
<tr>
<th>Color</th>
<th>black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss</td>
<td>satin</td>
</tr>
<tr>
<td>Volume solids</td>
<td>98 % (±1 %)</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>44 MPa (6,382 psi) according to ASTM D790</td>
</tr>
<tr>
<td>Chemical resistance</td>
<td>Excellent</td>
</tr>
<tr>
<td>Abrasion resistance</td>
<td>48 mg (ASTM D4060)</td>
</tr>
<tr>
<td>Adhesion</td>
<td>41 MPa (5,947 psi) on carbon steel (ASTM D4541)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Approx. 1.2 g/cm³</td>
</tr>
</tbody>
</table>

### APPLICATION DATA

- **Application methods:** 2-Component-Mixpack-Cartridge.
  Only applicable with suitable dispenser, available at Ceramic Polymer GmbH
- **Mixing ratio:** 3 : 1 per volume, ready for use.
- **Potlife (20°C):** reclosable after use, min. 6 months usable
- **Material application temp.:** minimum 20 °C (68 °F) maximum 40 °C (104 °F)
- **Number of coats:** One or multiple coats, depending on specification. Application of the 2nd layer must be wet-on-wet! Minimum coating thickness 250 μm; sagging limit per layer: 600 μm at 20 °C (68 °F) material temperature.

<table>
<thead>
<tr>
<th>Theoretical consumption</th>
<th>film thickness per coat: dry</th>
<th>film thickness per coat: wet</th>
<th>kg/m²</th>
<th>m²/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>250 μm</td>
<td>255 μm</td>
<td>0.31</td>
<td>3.23</td>
</tr>
<tr>
<td></td>
<td>600 μm</td>
<td>612 μm</td>
<td>0.73</td>
<td>1.37</td>
</tr>
</tbody>
</table>

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

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**FEATURES AND BENEFITS**

- Excellent chemical resistance
- High corrosion and abrasion protection
- Temperature resistance up to 150 °C (302 °F) (dependent on medium)
- High-solid content
- Clean resealable after use, remaining material usable for at least 6 months
- Shorter working time, no need of extensive mixing procedure
- Cold application possible (20 °C / 68 °F), without preheating
- Prevention of mixing failures
- Portability - lightweight, portable dispenser for versatile use

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01/2019 We reserve the right to make technical changes.
SURFACE PREPARATION

All surfaces to be coated should be clean, dry and free from contamination. Prior to application, all 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.

Abrasive Blast Cleaning
For best adhesion results the surfaces should be prepared by abrasive blast cleaning to minimum SA 2.5 (ISO 8501-1:2007) or SSPC-SP10. A sharp, angular surface profile of Rₜ 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 reblasted 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
Refer to Ceramic Polymer GmbH for specific recommendations.

CONDITION DURING APPLICATION

Substrate temperature should be minimum 10 °C (50 °F) and minimum 3 °C (37 °F) above dew point. Relative humidity should be below 85 %. Temperature and relative humidity must be measured in the vicinity of the substrate.

CURING TIMES

<table>
<thead>
<tr>
<th>Substrate temperature</th>
<th>Fully cured</th>
<th>Chemical resistance</th>
<th>Recoat Airless spraying</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 °C (68 °F)</td>
<td>24 hrs</td>
<td>7 days</td>
<td>only wet-on-wet!</td>
</tr>
<tr>
<td>25 °C (77 °F)</td>
<td>20 hrs</td>
<td>4 days</td>
<td>only wet-on-wet!</td>
</tr>
<tr>
<td>30 °C (86 °F)</td>
<td>18 hrs</td>
<td>3 days</td>
<td>only wet-on-wet!</td>
</tr>
<tr>
<td>40 °C (104 °F)</td>
<td>12 hrs</td>
<td>2 days</td>
<td>only wet-on-wet!</td>
</tr>
</tbody>
</table>

STORAGE AND PACKING

Preferred storage conditions are to keep the containers in a dry and cool area below 35 °C (95 °F) provided with adequate ventilation. The containers should be sealed tightly.

Packing
1.2 kg cartridge-kit. Total volume 1,000 ml with matched mixing ratio.

Shelf life:
1 year, after usage remaining material usable for at least 6 months

QUALITY ASSURANCE AND INSPECTION

To ensure a continuous quality of the product, the quality assurance and inspection plan of Ceramic Polymer 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 Ceramic Polymer 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. Ceramic Polymer 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.

01/2019 We reserve the right to make technical changes.