



# FREOPOX-Powder Coating

## PL2003A

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------|------------------|---------------------------------------------------|
| <b>Characteristics</b>                                                | <ul style="list-style-type: none"> <li>■ Powder coating for interior use</li> <li>■ Application, e.g. in the vehicle construction sector</li> <li>■ satin glossy, smooth</li> <li>■ Degassing setting</li> <li>■ Good mechanical resistance and surface hardness</li> <li>■ Smooth to apply</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                      |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| <b>System Coating</b>                                                 | <ul style="list-style-type: none"> <li>■ System Liquid Coating</li> </ul> <p>For various applications, there are coatings available, whose optical appearance regarding colour, gloss degree and surface is in optimum balance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| <b>Technical / Physical Data</b>                                      | <table> <tr> <td>■ Binder-Base</td><td>epoxy polyester resin</td></tr> <tr> <td>■ Colour</td><td>all common colour shades</td></tr> <tr> <td>■ Gloss value<br/>DIN EN ISO 2813</td><td>satin glossy<br/>65-75 geometry 60°</td></tr> <tr> <td>■ Test layer thickness</td><td>70 µm by colour RAL 9010</td></tr> <tr> <td>■ Density<br/>calculated</td><td>1,2-1,7 g/cm³ colour-dependent</td></tr> <tr> <td>■ Material usage</td><td>0,1 kg/m² with 70 µm<br/>mean test layer thickness</td></tr> </table>                                                                                                                                                                                                  | ■ Binder-Base                                           | epoxy polyester resin                                     | ■ Colour                                   | all common colour shades                                  | ■ Gloss value<br>DIN EN ISO 2813                          | satin glossy<br>65-75 geometry 60°              | ■ Test layer thickness | 70 µm by colour RAL 9010                                                                                              | ■ Density<br>calculated | 1,2-1,7 g/cm³ colour-dependent | ■ Material usage | 0,1 kg/m² with 70 µm<br>mean test layer thickness |
| ■ Binder-Base                                                         | epoxy polyester resin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Colour                                                              | all common colour shades                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Gloss value<br>DIN EN ISO 2813                                      | satin glossy<br>65-75 geometry 60°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Test layer thickness                                                | 70 µm by colour RAL 9010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Density<br>calculated                                               | 1,2-1,7 g/cm³ colour-dependent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Material usage                                                      | 0,1 kg/m² with 70 µm<br>mean test layer thickness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| <b>Mechanical Test</b><br>on steel panel ST 1405                      | <table> <tr> <td>■ Cross-cut-test<br/>DIN EN ISO 2409</td><td>Gt 0</td></tr> <tr> <td>■ Erichsen index<br/>DIN EN ISO 1520</td><td>&gt;3 mm</td></tr> <tr> <td>■ Impact-Test<br/>DIN EN ISO 6272-1</td><td>&gt;60 kg cm (front)</td></tr> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ■ Cross-cut-test<br>DIN EN ISO 2409                     | Gt 0                                                      | ■ Erichsen index<br>DIN EN ISO 1520        | >3 mm                                                     | ■ Impact-Test<br>DIN EN ISO 6272-1                        | >60 kg cm (front)                               |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Cross-cut-test<br>DIN EN ISO 2409                                   | Gt 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Erichsen index<br>DIN EN ISO 1520                                   | >3 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Impact-Test<br>DIN EN ISO 6272-1                                    | >60 kg cm (front)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| <b>Resistance Test</b>                                                | <ul style="list-style-type: none"> <li>■ on iron-phosphatized steel sheet</li> </ul> <table> <tr> <td>■ Condensate constant climate<br/>DIN EN ISO 6270-2 (CH)</td><td>500 hours<br/>Water ingress Wb &lt; 1 mm<br/>DIN EN ISO 4628-8</td></tr> <tr> <td>■ Salt spray test (NSS)<br/>DIN EN ISO 9227</td><td>240 hours<br/>Water ingress Wb &lt; 1 mm<br/>DIN EN ISO 4628-8</td></tr> <tr> <td>■ SO<sub>2</sub>-industry atmosphere<br/>DIN EN ISO 3231</td><td>10 cycles at 0,2 l SO<sub>2</sub><br/>no change</td></tr> <tr> <td>■ Chemical resistance</td><td>Needs to be checked.<br/>The temperature and concentration of chemicals<br/>have a major influence on the test outcome.</td></tr> </table> | ■ Condensate constant climate<br>DIN EN ISO 6270-2 (CH) | 500 hours<br>Water ingress Wb < 1 mm<br>DIN EN ISO 4628-8 | ■ Salt spray test (NSS)<br>DIN EN ISO 9227 | 240 hours<br>Water ingress Wb < 1 mm<br>DIN EN ISO 4628-8 | ■ SO <sub>2</sub> -industry atmosphere<br>DIN EN ISO 3231 | 10 cycles at 0,2 l SO <sub>2</sub><br>no change | ■ Chemical resistance  | Needs to be checked.<br>The temperature and concentration of chemicals<br>have a major influence on the test outcome. |                         |                                |                  |                                                   |
| ■ Condensate constant climate<br>DIN EN ISO 6270-2 (CH)               | 500 hours<br>Water ingress Wb < 1 mm<br>DIN EN ISO 4628-8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Salt spray test (NSS)<br>DIN EN ISO 9227                            | 240 hours<br>Water ingress Wb < 1 mm<br>DIN EN ISO 4628-8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ SO <sub>2</sub> -industry atmosphere<br>DIN EN ISO 3231             | 10 cycles at 0,2 l SO <sub>2</sub><br>no change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| ■ Chemical resistance                                                 | Needs to be checked.<br>The temperature and concentration of chemicals<br>have a major influence on the test outcome.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |
| <b>Processing and application</b><br>Dependent on plant and buildings | <ul style="list-style-type: none"> <li>■ <b>Processing / Loading</b><br/>Corona, Tribo</li> <li>■ <b>Pretreatment</b><br/>The substrate must be free of adhesion-impairing substances such as oil, grease, rust, scale, rolling skin, wax and separating agent residue.<br/>If requirements are more demanding than this, we recommend appropriate levels of</li> </ul>                                                                                                                                                                                                                                                                                                                                     |                                                         |                                                           |                                            |                                                           |                                                           |                                                 |                        |                                                                                                                       |                         |                                |                  |                                                   |

Our technical data sheets are to provide you with advice based on our latest state of knowledge. This guidance does not release you from your own obligation to test our products for their suitability for your intended purposes and applications. The sale of our products is in accordance with our terms of business and delivery.

Page: 1 / 2  
Version: 0  
16.05.2021

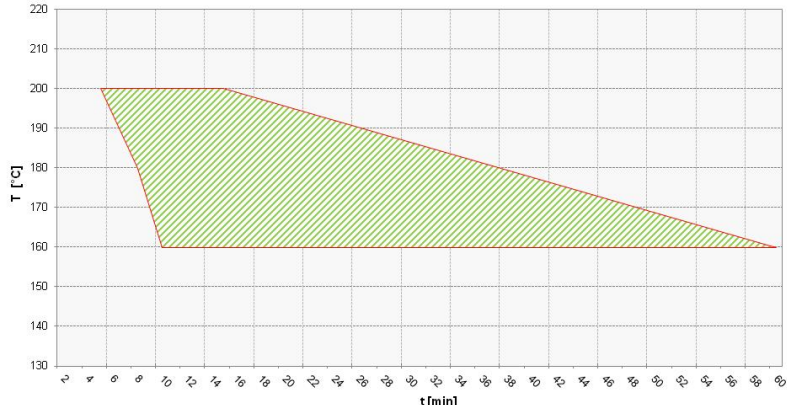
DIN EN ISO 9001  
IATF 16949  
EMAS

**Emil Frei GmbH & Co. KG**  
Döggingen  
Am Bahnhof 6  
78199 Bräunlingen | GERMANY  
Phone +49 [0] 7707.151-0  
Fax +49 [0] 7707.151-238  
www.freilacke.de  
info@freilacke.de



# FREOPOX-Powder Coating

## PL2003A

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | <p>phosphatizing or chromating.</p> <ul style="list-style-type: none"> <li>■ <b>Touch-up coating:</b> on enquiry</li> <li>■ <b>Health &amp; Safety at Work guidelines</b><br/>The standard personal safety precautions must be observed when handling painting materials. Detailed information about dangerous goods, safety data and recommendations concerning Health &amp; Safety at Work and environmental protection can be found in the corresponding safety data sheet.</li> </ul>                                                                                        |
| <b>Curing</b>                | <ul style="list-style-type: none"> <li>■ <b>Object temperature</b><br/>Recommended baking temperature 10 min./160 °C</li> </ul> <p>Baking window tested in colour shade RAL 9010<br/>green cross-hatching = baking conditions with good final properties</p>                                                                                                                                                                                                                                  |
| <b>Resistance to storage</b> | <ul style="list-style-type: none"> <li>■ Approx. 36 month in original packagings at an ambient temperature of 5 to 25 °C. Powder coatings must be stored in a cool and dry place.</li> </ul> <p>The minimum storage stability of each batch is stated on the product label. The material does not necessarily become unusable if stored for longer than this period. However, for quality assurance purposes, an inspection of these materials is essential to ensure that they are still suitable for the intended application.</p>                                             |
| <b>Specific comments</b>     | <ul style="list-style-type: none"> <li>■ <b>Protective screening:</b> 160 µm</li> <li>■ <b>Compatibility with other powder coatings:</b> Needs to be checked</li> <li>■ <b>Test conditions</b><br/>All information is based on a standard climate 23/50 DIN EN 23270.<br/>All information is based on our product knowledge and experience. We have no direct influence on the application itself. Please do not hesitate to contact us for further information.<br/>The information provided here contains reference values and does not constitute a specification.</li> </ul> |