



# FREOPOX-Hydro-Primer

## WE1935K/HE0041

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------|----------|--------------------------|----------------------------------|------------------------|-------------|---------------------------------------------------|------------|------------------------------------|----------------|---------------------|----------------|-----------------------|-----------|---------------------|------------|---------|-------------------------|----------------|-------------------------|-----------------------------------------|----------------------------|-------------|----------------------------|--------------------------------------|-----------------------------------------|---------------|-----------------------------------------|----------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------|------------------------|
| <b>Characteristics</b>                                    | <ul style="list-style-type: none"> <li>■ Water-thinnable 2C coating</li> <li>■ Application, e.g. in the vehicle construction sector</li> <li>■ Fast initial drying</li> <li>■ Very good corrosion protection</li> <li>■ "Wet-in-wet" process</li> <li>■ Good grindability</li> <li>■ Rapid recoatability</li> <li>■ Good adhesion to steel and non-ferrous metals</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| <b>Technical / Physical Data</b>                          | <table> <tr> <td>■ Binder-Base</td><td>Epoxy resin crosslinked with polyamine</td></tr> <tr> <td>■ Colour</td><td>All common colour shades</td></tr> <tr> <td>■ Gloss value<br/>DIN EN ISO 2813</td><td>mat<br/>40-50 Angle 85°</td></tr> <tr> <td>■ Viscosity</td><td>1600-2200 mPa.s/ Spindle 5<br/>60 revolution/ min.</td></tr> <tr> <td>■ Hardener</td><td>HE0041<br/>See technical data sheet</td></tr> <tr> <td>■ Mixing ratio</td><td>Parts by weight 8:1</td></tr> <tr> <td>■ Mixing ratio</td><td>Parts by volume 6,3:1</td></tr> <tr> <td>■ Thinner</td><td>demineralised water</td></tr> <tr> <td>■ pH-Value</td><td>8,0-9,0</td></tr> <tr> <td>■ Density<br/>calculated</td><td>1,32-1,42 g/ml</td></tr> <tr> <td>■ Density<br/>calculated</td><td>1,28-1,38 g/ml<br/>after adding hardener</td></tr> <tr> <td>■ Solid Mass<br/>calculated</td><td>60,7-61,7 %</td></tr> <tr> <td>■ Solid Mass<br/>calculated</td><td>58,5-59,8 %<br/>after adding hardener</td></tr> <tr> <td>■ Solid content in volume<br/>calculated</td><td>322-342 ml/kg</td></tr> <tr> <td>■ Solid content in volume<br/>calculated</td><td>327-347 ml/kg<br/>after adding hardener</td></tr> <tr> <td>■ Material usage<br/>theoretical, without application loss</td><td>173-183 g/m<sup>2</sup>, Layer thickness 60 µm<br/>after adding hardener</td></tr> <tr> <td>■ Reference colour of the<br/>specified values</td><td>Colour of WE1935KRU124</td></tr> </table> | ■ Binder-Base | Epoxy resin crosslinked with polyamine | ■ Colour | All common colour shades | ■ Gloss value<br>DIN EN ISO 2813 | mat<br>40-50 Angle 85° | ■ Viscosity | 1600-2200 mPa.s/ Spindle 5<br>60 revolution/ min. | ■ Hardener | HE0041<br>See technical data sheet | ■ Mixing ratio | Parts by weight 8:1 | ■ Mixing ratio | Parts by volume 6,3:1 | ■ Thinner | demineralised water | ■ pH-Value | 8,0-9,0 | ■ Density<br>calculated | 1,32-1,42 g/ml | ■ Density<br>calculated | 1,28-1,38 g/ml<br>after adding hardener | ■ Solid Mass<br>calculated | 60,7-61,7 % | ■ Solid Mass<br>calculated | 58,5-59,8 %<br>after adding hardener | ■ Solid content in volume<br>calculated | 322-342 ml/kg | ■ Solid content in volume<br>calculated | 327-347 ml/kg<br>after adding hardener | ■ Material usage<br>theoretical, without application loss | 173-183 g/m <sup>2</sup> , Layer thickness 60 µm<br>after adding hardener | ■ Reference colour of the<br>specified values | Colour of WE1935KRU124 |
| ■ Binder-Base                                             | Epoxy resin crosslinked with polyamine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Colour                                                  | All common colour shades                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Gloss value<br>DIN EN ISO 2813                          | mat<br>40-50 Angle 85°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Viscosity                                               | 1600-2200 mPa.s/ Spindle 5<br>60 revolution/ min.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Hardener                                                | HE0041<br>See technical data sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Mixing ratio                                            | Parts by weight 8:1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Mixing ratio                                            | Parts by volume 6,3:1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Thinner                                                 | demineralised water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ pH-Value                                                | 8,0-9,0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Density<br>calculated                                   | 1,32-1,42 g/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Density<br>calculated                                   | 1,28-1,38 g/ml<br>after adding hardener                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Solid Mass<br>calculated                                | 60,7-61,7 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Solid Mass<br>calculated                                | 58,5-59,8 %<br>after adding hardener                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Solid content in volume<br>calculated                   | 322-342 ml/kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Solid content in volume<br>calculated                   | 327-347 ml/kg<br>after adding hardener                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Material usage<br>theoretical, without application loss | 173-183 g/m <sup>2</sup> , Layer thickness 60 µm<br>after adding hardener                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| ■ Reference colour of the<br>specified values             | Colour of WE1935KRU124                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| <b>Substrate</b>                                          | <ul style="list-style-type: none"> <li>■ Steel, passivated or pretreated substrates</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |                                        |          |                          |                                  |                        |             |                                                   |            |                                    |                |                     |                |                       |           |                     |            |         |                         |                |                         |                                         |                            |             |                            |                                      |                                         |               |                                         |                                        |                                                           |                                                                           |                                               |                        |
| <b>Pretreatment</b>                                       | <ul style="list-style-type: none"> <li>■ The substrate must be free of adhesion-impairing substances such as oil, grease, rust, scale, rolling skin, wax and separating agent residue. Preliminary tests are recommended for assuring the suitability of coating qualities on the substrate.</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.



# **FREOPOX-Hydro-Primer** **WE1935K/HE0041**

|                                   |                                                                                                                                                                                                             |                                                                                                                                                                     |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | For more stringent requirements, we recommend:<br>for corrosion protection - e.g. phosphating<br>for adhesion - e.g. blasting, pickling, sanding                                                            |                                                                                                                                                                     |
| <b>Structure recommendation</b>   | ■ Substrate                                                                                                                                                                                                 | on blasted steel plate                                                                                                                                              |
|                                   | ■ Primer                                                                                                                                                                                                    | WE1935KRU124<br>Mixing ratio 8:1/ HE0041<br>Dry film thickness 60 µm                                                                                                |
|                                   | ■ Top coat                                                                                                                                                                                                  | WU1488GRG743<br>Mixing ratio 3,3:1/ HU0448<br>Dry film thickness 70 µm                                                                                              |
| <b>Mechanical Test</b>            | ■ Cross-cut-test<br>DIN EN ISO 2409                                                                                                                                                                         | Gt 0                                                                                                                                                                |
| <b>Resistance Test</b>            | ■ Condensate constant climate<br>DIN EN ISO 6270-2 (CH)                                                                                                                                                     | 240 hours<br>Degree of blistering 0 (S 0)<br>DIN EN ISO 4628-2                                                                                                      |
|                                   | ■ Salt spray test (NSS)<br>DIN EN ISO 9227                                                                                                                                                                  | 744 hours<br>Water ingress Wb < 1 mm<br>DIN EN ISO 4628-8                                                                                                           |
|                                   | ■ Temperature resistance                                                                                                                                                                                    | Short time loading 120°C                                                                                                                                            |
|                                   | ■ Chemical resistance                                                                                                                                                                                       | Needs to be checked.<br>The temperature and concentration of chemicals have a major influence on the test outcome.                                                  |
| <b>Processing and application</b> | ■ Prior to use, stir well or mix components homogeneously (e.g. with fast mixer). To prevent skin formation, over-coat with water.<br>Dry film thickness must not exceed 250 µm - risk of reaction bubbles. |                                                                                                                                                                     |
|                                   | ■ Object temperature                                                                                                                                                                                        | 10-30 °C                                                                                                                                                            |
|                                   | ■ Processing conditions                                                                                                                                                                                     | Room temperature 18-25 °C<br>Relative humidity 40-60 %                                                                                                              |
|                                   | ■ Processing time                                                                                                                                                                                           | max. 5 hrs./ 20 °C<br>End of the processing time cannot be detected from gelling.<br>The processing time can decrease at higher temperatures and/or under pressure. |
|                                   | ■ Airmix spraying                                                                                                                                                                                           | 130-150 Sec./ 6 mm Viscosity cup (DIN 53211)<br>Nozzle 0,33 mm Angle 30°<br>Material pressure 120 bar<br>Atomiser pressure 4                                        |
|                                   | ■ High pressure spraying                                                                                                                                                                                    | 50-70 Sec./ 4 mm Viscosity cup (DIN 53211)<br>Nozzle 1,7 mm<br>Spray pressure 3 bar                                                                                 |
|                                   | ■ Rolling / painting                                                                                                                                                                                        | as delivered viscosity                                                                                                                                              |
|                                   | ■ Over-coating capability                                                                                                                                                                                   | possible with same quality,<br>dry at the earliest after matting                                                                                                    |
|                                   | ■ Cleaning of equipment                                                                                                                                                                                     | Immediately with water - possibly with addition of 5-10 % by weight EFD cleaning agent 400916.<br>Dried-on equipment with org. solvents, e.g. EFD thinner 400424.   |

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.



## FREOPOX-Hydro-Primer WE1935K/HE0041

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | <ul style="list-style-type: none"> <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 substances, 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>■ Air drying at 18-25°C, 40-60% relative humidity with air movement</li> <li>■ Dust drying after 15 min.<br/>(degree of drying 1/ DIN EN ISO 9117-5)</li> <li>■ Dry to the touch after 2 hrs.<br/>(degree of drying 4/ DIN EN ISO 9117-5)</li> <li>■ Full drying after 8 days<br/>(pendulum damping/DIN EN ISO 1522)</li> <li>■ Oven drying possible to 70°C</li> </ul>                                                                                                                                                        |
| <b>Resistance to storage</b> | <ul style="list-style-type: none"> <li>■ Approx. 12 month in original packagings at an ambient temperature of 5 to 25 °C. Protect from frost. Open packages are to be used within a short time.</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>EFD-info</b><br/>Refer to the EFD information for further technical information.<br/>Nr. 111 + 510</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.</li> </ul> <p>The information provided here contains reference values and does not constitute a specification.</p> |