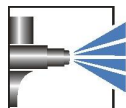


# EFDEDUR-Hydro-Lackfarbe WU1451R/HU0448

|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------|--------|------------------------------------------|--------------------------------|---------------------------|-----------------------------------|-----------------------------------------------|----------|------------------------------------|--------------|---------------------|--------------|-----------------------|---------|---------------------|----------|---------|-----------------------|----------------|-----------------------|-----------------------------------------|--------------------------|---------|--------------------------|----------------------------------|---------------------------------------|---------------|---------------------------------------|----------------------------------------|---------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------|------------------------|
| <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>Very good light and weather resistance</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| <b>Technical / Physical Data</b>                        | <table> <tr> <td>Binder-Base</td><td>Acrylate 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>glossy<br/>80-90 Angle 60°</td></tr> <tr> <td>Viscosity<br/>DIN 53211 (formerly)</td><td>Flow time 23-38 seconds<br/>4 mm viscosity cup</td></tr> <tr> <td>Hardener</td><td>HU0448<br/>See technical data sheet</td></tr> <tr> <td>Mixing ratio</td><td>Parts by weight 4:1</td></tr> <tr> <td>Mixing ratio</td><td>Parts by volume 3,7:1</td></tr> <tr> <td>Thinner</td><td>demineralised water</td></tr> <tr> <td>pH-Value</td><td>7,5-8,5</td></tr> <tr> <td>Density<br/>calculated</td><td>1,10-1,20 g/ml</td></tr> <tr> <td>Density<br/>calculated</td><td>1,05-1,15 g/ml<br/>after adding hardener</td></tr> <tr> <td>Solid Mass<br/>calculated</td><td>42-46 %</td></tr> <tr> <td>Solid Mass<br/>calculated</td><td>44-48 %<br/>after adding hardener</td></tr> <tr> <td>Solid content in volume<br/>calculated</td><td>330-370 ml/kg</td></tr> <tr> <td>Solid content in volume<br/>calculated</td><td>340-380 ml/kg<br/>after adding hardener</td></tr> <tr> <td>Material usage<br/>theoretical, without application loss</td><td>105-115 g/m², Layer thickness 40 µm<br/>after adding hardener</td></tr> <tr> <td>Reference colour of the<br/>specified values</td><td>Colour of WU1451RM2161</td></tr> </table> | Binder-Base | Acrylate resin | Colour | All common colour shades                 | Gloss value<br>DIN EN ISO 2813 | glossy<br>80-90 Angle 60° | Viscosity<br>DIN 53211 (formerly) | Flow time 23-38 seconds<br>4 mm viscosity cup | Hardener | HU0448<br>See technical data sheet | Mixing ratio | Parts by weight 4:1 | Mixing ratio | Parts by volume 3,7:1 | Thinner | demineralised water | pH-Value | 7,5-8,5 | Density<br>calculated | 1,10-1,20 g/ml | Density<br>calculated | 1,05-1,15 g/ml<br>after adding hardener | Solid Mass<br>calculated | 42-46 % | Solid Mass<br>calculated | 44-48 %<br>after adding hardener | Solid content in volume<br>calculated | 330-370 ml/kg | Solid content in volume<br>calculated | 340-380 ml/kg<br>after adding hardener | Material usage<br>theoretical, without application loss | 105-115 g/m², Layer thickness 40 µm<br>after adding hardener | Reference colour of the<br>specified values | Colour of WU1451RM2161 |
| Binder-Base                                             | Acrylate resin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Colour                                                  | All common colour shades                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Gloss value<br>DIN EN ISO 2813                          | glossy<br>80-90 Angle 60°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Viscosity<br>DIN 53211 (formerly)                       | Flow time 23-38 seconds<br>4 mm viscosity cup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Hardener                                                | HU0448<br>See technical data sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Mixing ratio                                            | Parts by weight 4:1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Mixing ratio                                            | Parts by volume 3,7:1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Thinner                                                 | demineralised water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| pH-Value                                                | 7,5-8,5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Density<br>calculated                                   | 1,10-1,20 g/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Density<br>calculated                                   | 1,05-1,15 g/ml<br>after adding hardener                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Solid Mass<br>calculated                                | 42-46 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Solid Mass<br>calculated                                | 44-48 %<br>after adding hardener                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Solid content in volume<br>calculated                   | 330-370 ml/kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Solid content in volume<br>calculated                   | 340-380 ml/kg<br>after adding hardener                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Material usage<br>theoretical, without application loss | 105-115 g/m², Layer thickness 40 µm<br>after adding hardener                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Reference colour of the<br>specified values             | Colour of WU1451RM2161                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| <b>Substrate</b>                                        | <ul style="list-style-type: none"> <li>Primer</li> <li>ABS (acrylonitrile butadiene styrene)</li> <li>PVC (polyvinyl chloride)</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, wax and separating agent residue. Preliminary tests are recommended for assuring the suitability of coating qualities on the substrate.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| <b>Structure recommendation</b>                         | <table> <tr> <td>Substrate</td><td>KTL-primed</td></tr> <tr> <td>Primer</td><td>WU1995KM2413<br/>Mixing ratio 10:1/HU0448</td></tr> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Substrate   | KTL-primed     | Primer | WU1995KM2413<br>Mixing ratio 10:1/HU0448 |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Substrate                                               | KTL-primed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |
| Primer                                                  | WU1995KM2413<br>Mixing ratio 10:1/HU0448                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |                |        |                                          |                                |                           |                                   |                                               |          |                                    |              |                     |              |                       |         |                     |          |         |                       |                |                       |                                         |                          |         |                          |                                  |                                       |               |                                       |                                        |                                                         |                                                              |                                             |                        |

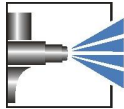
Our technical data sheets are to provide you with advice based on our latest state of knowledge. This guidance does not release you from your own obligation to test our products for their suitability for your intended purposes and applications. The sale of our products is in accordance with our terms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



## EFDEDUR-Hydro-Lackfarbe

### WU1451R/HU0448

|                                   |                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                   |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   |                                                                                                                                                                                                            | Dry film thickness 60 µm                                                                                                                                                                                                                                                                          |
|                                   | ■ Top coat                                                                                                                                                                                                 | WU1451RM2161<br>Mixing ratio 4:1/ HU0448<br>Dry film thickness 40 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                                                                                                                                                                 | 480 hours<br>Water ingress Wb < 1,0 mm<br>DIN EN ISO 4628-8                                                                                                                                                                                                                                       |
|                                   | ■ Temperature resistance                                                                                                                                                                                   | Short time loading 120°C<br>Continuous loading 70°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 80 µm - risk of reaction bubbles. |                                                                                                                                                                                                                                                                                                   |
|                                   | ■ Object temperature                                                                                                                                                                                       | 10-30 °C                                                                                                                                                                                                                                                                                          |
|                                   | ■ Processing conditions                                                                                                                                                                                    | Room temperature 18-22 °C<br>Relative humidity 40-60 %                                                                                                                                                                                                                                            |
|                                   | ■ Processing time                                                                                                                                                                                          | max. 4 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                                                                                                                                                                                          | 30-60 Sec./ 4 mm Viscosity cup (DIN 53211)<br>Nozzle 0,23 mm Angle 40°<br>Material pressure 80 bar<br>Atomiser pressure 3                                                                                                                                                                         |
|                                   | ■ High pressure spraying                                                                                                                                                                                   | 30-50 Sec./ 4 mm Viscosity cup (DIN 53211)<br>Nozzle 1,5 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.                                                                                                                                 |
|                                   | ■ <b>Health &amp; Safety at Work guidelines</b>                                                                                                                                                            | The standard personal safety precautions must be observed when handling painting materials. Detailed information about dangerous substances, safety data and recommendations concerning Health & Safety at Work and environmental protection can be found in the corresponding safety data sheet. |



## EFDEDUR-Hydro-Lackfarbe WU1451R/HU0448

|                              |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                          |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| <b>Curing</b>                | ■ Air drying                                                                                                                                                                                                                                                                                                                                                                                     | at 20°C, 50% relative humidity with air movement         |
|                              | ■ Dust drying                                                                                                                                                                                                                                                                                                                                                                                    | after 60 min.<br>(degree of drying 1/ DIN EN ISO 9117-5) |
|                              | ■ Dry to the touch                                                                                                                                                                                                                                                                                                                                                                               | after 8 hrs.<br>(degree of drying 4/ DIN EN ISO 9117-5)  |
|                              | ■ Full drying                                                                                                                                                                                                                                                                                                                                                                                    | after 8 days<br>(pendulum damping/DIN EN ISO 1522)       |
|                              | ■ Intermediate drying                                                                                                                                                                                                                                                                                                                                                                            | 60 min./ 20 °C                                           |
|                              | ■ Oven drying                                                                                                                                                                                                                                                                                                                                                                                    | possible to 80°C                                         |
| <b>Resistance to storage</b> | ■ 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.                                                                                                                                                                                                                                         |                                                          |
|                              | 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.                                                                 |                                                          |
| <b>Specific comments</b>     | ■ <b>EFD-info</b><br>Refer to the EFD information for further technical information.<br>Nr. 109 + 111                                                                                                                                                                                                                                                                                            |                                                          |
|                              | ■ <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><br>The information provided here contains reference values and does not constitute a specification. |                                                          |