

## Hydro Dip Primer 5401

Universal, water-based dip primer, with excellent oil resistance



### Field of application

For all applications which require a high oil resistance and rapid further processing. Ideal for cast components for e.g. automobile accessories, agricultural and construction machines, motors and gear constructions as well as general cast components.

### Properties

- excellent oil resistance (heat) e. g. Klübersynt GH6-220, Klüber Summit Ultima 46, Klüber DSL 46, Mobile Glygoyle 30, Delta Lube 06
- excellent coolant lubricant resistance e. g. Cimstar 35-135, Castrol Hysol RX, Castrol SL 35 XBB
- good corrosion protection
- quick further processing possible
- excellent adhesion on steel and many NI metals
- very good mechanical values
- good machinability
- water dilutable
- VOC compliant

### Technical Data

<b>Basis</b>	Water based mixed polymerisate, contains zinc-phosphate
<b>Color</b>	Beige, red brown, light gray, white, black
<b>Degree of gloss</b>	Matt
<b>Density</b>	1.15 to 1.50 g/cm <sup>3</sup> (in accordance with DIN ISO 8130-2) <sup>1)</sup>
<b>Theoretical coverage</b>	250 to 281 m <sup>2</sup> /kg (with 1 µm dry film thickness) <sup>1)</sup>
<b>VOC content</b>	< 60 g/l
<b>Solid content</b>	43 to 59 weight % <sup>1)</sup>
<b>Cosolvent content</b>	3.5 to 5.0 weight % <sup>1)</sup>
<b>Cross-cut test</b>	Gt 0 (in accordance with DIN EN ISO 2409) <sup>3)</sup>
<b>Erichsen cupping</b>	≥ 8 mm (in accordance with DIN EN ISO 1520) <sup>3)</sup>
<b>Impact test</b>	revers: ≥ 100 ip direct: ≥ 100 ip (in accordance with ASTM D 2794-69) <sup>3)</sup>

## Technical Data

<b>Salt spray test</b>	Delamination at the scribe $\leq$ 3 mm (in accordance with DIN EN ISO 4628-8) <sup>2)</sup> , on degreased steel $\geq$ 96 h <sup>3)</sup> , on SA 2½ sand-blasted steel: $\geq$ 120 h (in accordance with DIN EN ISO 9227-NSS)
<b>Condensation water test</b>	Degree of blistering 0 (S0) (in accordance with DIN EN ISO 4628-2) <sup>2)</sup> on degreased steel $\geq$ 240 h <sup>3)</sup> , on SA 2½ sand-blasted steel: $\geq$ 240 h (in accordance with DIN EN ISO 6270-2)
<b>Delivery viscosity at 20 °C</b>	80 to 100 sec./DIN 4 mm
<b>pH-value</b>	8.0 to 9.0
<b>Flash point</b>	incombustible
<b>Labeling</b>	See current safety data sheet.

- 1) depending on color  
2) single-layer  
3) Gardobond OC

## Coating suggestion

Substrates <sup>4)</sup>	Prime coat	Intermediate coat <sup>5)</sup>	Top coat
<b>Steel/Cast</b> Preferably sand-blasted (degree of purity at least SA 2 ½ according to DIN EN ISO 12944, Part 4 ) iron or zinc-phosphated	Hydro Dip Primer 5401 40 to 50 µm	Hydro Dip Primer 5401 40 to 50 µm	Hydrapid 1C AC Paint 5481, 5482 40 to 60 µm
			Hydro 2C PUR Paint 5860, 5861, 5862, 5863 40 to 60 µm
			Synthetic Resin Paint 5460, 5461, 5462 30 to 50 µm
			2C PUR Acrylic Paint 5740, 5741, 5742, 5743 40 to 80 µm

<sup>4)</sup> Generally, the substrate shall be free from grease, oil, separating and drawing agents as well as corrosion products and other impurities.

<sup>5)</sup> In the case of topcoats with intense color shades, an additional intermediate coat in color RAL 9010 (approx. 40 µm) using 5482.-.9010, for example, is required.

## Process

<b>Compatibility</b>	Compatibility is given only in combination with the thinners and paints mentioned in this Technical Data Sheet.  Material has to be stirred until homogeneous before application.
<b>substrate temperature</b>	15 to 30 °C (object temperature 3 °C above dew point)
<b>Humidity</b>	< 75 % relative humidity
<b>Thinning</b>	Demi-Water 5110. (conductance < 50 µS/cm). Disperse homogeneously by stirring.

## Application

Dipping

## Curing conditions

**Air drying**  
(at + 20 °C, 65 % r. h.) Dust-dry after 30 to 45 minutes, non-sticky after 1 to 2 hours. Fully cured after 7 to 10 days.

**Oven-drying** Keep a flash-off period of 15 to 20 minutes, then stove in for approx. 30 minutes at an object temperature of 60 °C or for approx. 20 minutes at an object temperature of 80 °C.

At lower temperatures and/or higher air humidity longer drying times are possible.

## Technical data of solution preparation <sup>6)</sup>

dipping viscosity (sec.) <sup>7)</sup>	35 to 50
pH value	8.0 to 9.0
Bath temperature (°C)	18 to 23
cosolvent content (weight -%)	3.5 to 5.0

<sup>6)</sup> The values are based on current laboratory data that may need to be adjusted depending on substrate and plant to the bath protocol.

<sup>7)</sup> measured in a DIN 4 mm flow cup at 20 °C; depending on substrate and plant the dipping viscosity may differ

## Container sizes

30 kg, 200kg, 1.000 kg

## Shelf life

6 months after receipt.

Store in a sealed container in a dry place and at room temperature (at most 25 °C). Protect from heat sources and direct sunlight. Always keep the containers tightly sealed. Protect the contents from surface drying and drying out. Dried paint residues and surface-dried skin are insoluble in paint and can only be removed by sieving.

**Minimum shelf life** Refer to label

## Dip bath stability

For optimal dip bath stability, the turnover must be at least 1 per year. Influencing factors such as transfer of any contaminants and pretreatment media as well as fluctuations of temperature, viscosity, solids, conductivity, cosolvent and pH or other deviations from the bath parameters defined here and in the bath report as well as equipment failures/malfunctions, such as interruption of paint circulation or defects in the filtration unit, will result in stability problems of the painting system that may not be correctable. To ensure dip bath stability, daily bath tests must be performed and logged by the user. A sample of the dip bath must be provided to the supplier once a month for testing. The user must completely clean the dip bath once a year.

## Remark

This Technical Data Sheet is based on intense development work and many years of practical experience. The contents do not constitute any contractual relationship. The user/buyer is not released from his/her obligation to test our products for suitability for the intended application. In addition, our General Terms and Conditions shall apply. As soon as a new edition of this Technical Data Sheet is issued, the previous specifications become invalid. If you need the current version, please contact your Brillux consultant, Version 5.

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