Brillux Industrial Coatings

Technical Data Sheet

Hydrapid 1C Acrylic Dip Primer 5406

Especially fast-drying, single-component, water-based dip primer with excellent corrosion protection

Composition
Water–based acrylate resin

Colors
Beige, red brown, light gray, white, black

Gloss grade
Matt

Properties
- fast drying (dryness grade T1 in accordance with DIN 53150 after 30 to 45 minutes)
- quick further processing possible
- excellent corrosion protection (C4 high, in accordance with DIN EN ISO 12944-2 on degreased steel sheet)
- very good early water resistance
- very high yield
- excellent adhesion on steel and many NI metals
- very good mechanical values
- water-dilutable
- VOC compliant

Field of Application
For all applications requiring a high degree of corrosion protection and quick further processing. Ideal for automobile accessories, structural elements/profiles made of steel and aluminum, containers, farming and construction machinery, shop and trade fair design, utility vehicles, silos, steel tanks, steel hall construction, doors and door frames, vending machines, etc.

Technical Data

Density
1.40 to 1.51 g/cm³ [1]
(in accordance with DIN EN ISO 2811)

Theoretical coverage
approx. 338 to 370 m²/kg[1]
(at 1 µm dry film thickness)

VOC content
< 60 g/l

Solids content
64 to 71 weight-%[1]

Cosolvent content
2.5 to 3.5 weight-%[1]

Salt spray test[2]
Delamination at scribe: ≤ 2 mm
(in accordance with DIN EN ISO 4628-8)
on degreased steel[3]:
≥ 480 h
on SA 2½ sand–blasted steel:
≥ 480 h
(in accordance with DIN EN ISO 9227-NSS)

Condensation water test[4]
Degree of blistering 0 (S0)
(in accordance with DIN EN ISO 4628-2)

on degreased steel[3]:
≥ 240 h
on SA 2½ sand-blasted steel:
≥ 240 h
(in accordance with DIN EN ISO 6270-2)

Delivery viscosity at 20 °C
50 to 60 sec./DIN 4 mm

pH value
8.0 to 9.0

Cross-cut test[3]
Gt 0
(in accordance with DIN EN ISO 2409)

Erichsen cupping[3]
> 8 mm
(in accordance with DIN EN ISO 1520)

Impact test[3]
revers: ≥ 100 ip
direct: ≥ 100 ip
(in accordance with ASTM D 2794-69)

Flash point
incombustible

Labeling
See current safety data sheet.

1 depending on color
2 in combination with recommended coatings (see coating recommendation)
3 Gardobond OC
4 single–layer

Coating recommendation

Substrates[1]	Prime coat	Intermediate coat[2]	Topcoat
Steel preferably iron or zinc phosphatized **NI metals, galvanized steel**	Hydrapid 1C AC Dip Primer 5404 40 to 50 µm	normally not necessary	Hydrapid 1C AC Paint 5481, 5482 40 to 60 µm
Steel preferably blast cleaned (degree of cleanliness at least SA 2 ½ in accordance with DIN EN ISO 12944-4), iron or zinc phosphatized **cast iron**	Hydrapid 1C AC Dip Primer 5404 40 to 50 µm	Hydrapid 1C AC Dip Primer 5404 40 to 50 µm	Hydrapid 1C AC Paint 5481, 5482 40 to 60 µm

[1] The substrate must be free from grease, oil, separating and drawing agents as well as corrosion products and other impurities.

[2] 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

Material has to be stirred until homogeneous before application.

Thinning
Demi Water 5110 (conductance < 50 µS/cm). Disperse homogeneously by stirring.

Application temperature
15 to 30 °C (object temperature 3 °C above dew point)

Air humidity
< 75 % r. h.

Compatibility
Compatibility is given only in combination with thinners and topcoats mentioned in this Technical Data Sheet.

Application

Dipping

Drying

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

Stove drying
Allow for a flash-off time of approx. 15 to 20 minutes. Then, stove-dry for approx. 30 minutes at an object temperature of 60 °C or for 20 minutes at an object temperature of 80 °C.

With lower temperatures and/or higher humidity allow for longer drying times.

Thermoplastic paint system: do not expose to temperatures > 100 °C.

Technical data of solution preparation[3]

dipping viscosity (sec.)[4]	40 to 45
pH value	7.9 to 8.5
Bath temperature (°C)	18 to 23
cosolvent content (weight -%)	2.5 to 3.5
conductance (mS/cm)	4.0 to 6.5

[3] The values are based on current laboratory data that may need to be adjusted depending on substrate and plant to the bath-protocol.

[4] measured in a DIN 3 mm flow cup at 20 °C; depending on substrate and plant the dipping viscosity may differ

Packaging
30 kg, 200 kg, 1.000 kg

Storage
6 months after receipt.
Store in original closed container, dry and at room temperature (≥ 5 °C bis ≤ 30 °C). Protect against heat and direct sunlight.
Keep container closed at all times. Protect contents for surface drying/desiccation. Dried paint residues and skin are not soluble and can only be removed by sieving.

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.

Remarks
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 7

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