PHENODUR® VPW 1946 46WA

Technical Datasheet

TYPE

Water dilutable, heat-crosslinking phenolic/epoxide pre-condensate

FORM OF DELIVERY (f.o.d.)

46% in water (46WA)
(containing approx. 5% butyldiglycol and approx. 2,5% n-butanol)

PRODUCT DATA

Determined per batch:

Dynamic Viscosity (Ubbelohde) DIN 53177		
dynamic viscosity (23 °C)	[mPa.s]	20 - 1500
Non-Volatile Matter DIN EN ISO 3251		
non-volatile matter (1 h; 135 °C; 2 g; n-butanol)	[%]	44 - 48

Not continually determined:

pH-Value DIN ISO 976		
pH-value approx. (10 %)		9

USES

PHENODUR® VPW 1946 is a formulated phenolic/epoxide resin, intended as a sole binder for corrosion resistant industrial stoving systems. When compared to PHENODUR® VPW 1942, PHENODUR® VPW 1946 cures at lower temperatures.

DILUTABILITY

PHENODUR® VPW 1946 is unlimited dilutable with deionized water. In order to improve flow and levelling properties, organic solvents such as glycol ethers and alcohols can be added to the formulation.

COMPATIBILITY

PHENODUR® VPW 1946 is designed as a sole binder, the compatibility with other resins is limited. Combinations with other polymer dispersions and water-dilutable melamine resins are possible, storage stability and compatibility have to be tested in advance. Such additions of other resins might influence the rheological behaviour of PHENODUR® VPW 1946 greatly.

PROPERTIES AND USES

For spray applications, PHENODUR® VPW 1946 has to be diluted with water in the usual ways. For applications on roller coaters, the viscosity should be increased by means of thickening agents and/or organic solvents. In both cases, additions of organic solvents like hexylglycol improve flow and surface wetting and reduce the tendency of a quick physical drying. The usual stoving cycle is 10-12 min at 170 - 200°C, "shock curing" is possible. The cured films at a thickness of approx. 5 µm exhibit a golden colour and very good adhesion, corrosion protection, flexibility and solvent resistance.

STORAGE

At temperatures up to 25°C storage stability packed in original containers amounts standard to 730 days. It is important to protect PHENODUR® VPW 1946/46WA from frost. Frozen product is unsuitable for further use. As a result of low organic content of this waterborne dispersion, the product may exhibit a tendency for a minor skin formation and/or particle formation on the surface of the packaging container due to rapid drying. Filtration or other means of removal of the solid/semi solid material is recommended before usage. This phenomenon has no impact on the quality of the product.
The expiration date may be extended and COA updated after QC testing of retained samples, only for material in allnex possession.

SAFETY AND HANDLING

Please consult the Safety Data Sheet (SDS) for safety, health, and environmental data available from allnex.

DISTINGUISHING FEATURES

In contrast to PHENODUR® VPW 1942, PHENODUR® VPW 1946 can be cured well below 200°C. PHENODUR® VPW 1946 is the highest reactive waterborne grade in the PHENODUR® range.