All About Resins

TECHNICAL DATASHEET

Crosslinkers

Phenodur® VPW 1948/42WA

PRELIMINARY PRODUCT INFORMATION

TYPE

Formaldehyde-free, heat-curing, water borne "phenoxy" resin emulsion

FORM OF DELIVERY (f.o.d.)

42 % in water (52WA)
(containing also approx. 4 % organic solvents

DEVELOPMENT PRODUCT

This product is serving for trial purposes only. Deviations which might occur during transfer into manufacturing in a commercial scale are possible and do not constitute any material defect.

TENTATIVE PRODUCT DATA

Determined per batch:

Dynamic Viscosity (Ubbelohde) DIN 53177		
dynamic viscosity (23 °C)	[mPa.s]	20 - 1000
Non-Volatile Matter DIN EN ISO 3251		
non-volatile matter (1 h; 135 °C; 2 g; B)	[%]	40 - 44

USES

Phenodur VPW 1948/42WA is a high molecular weight "phenoxy" resin emulsion intended for the usage of heat curable combinations with phenolic resins, amino resins or (poly)isocyanates. End-usage is high adhesion, chemically resistant protective layers for various metal substrates.

DILUTABILITY AND COMPATIBILITY

Phenodur VPW 1948/42WA 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.

PROPERTIES AND USES

Phenodur VPW 1948/42WA is designed to be crosslinked with either phenolic resins (e.g. Phenodur PR 411), amino resins (e.g. Cymel 3745) or with blocked or un-blocked, water dispersible (poly)isocyanates for heat curing metal primers where excellent chemical-, heat- and corrosion-resistance as well as superior substrate adhesion is required. For the latter, an OH number of about 180 - 200 mg KOH/g solid resin is a reasonable starting point for calculating the amount of NCO.
Combinations with other polymer dispersions and water dilutable phenolic- and 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 1948/42WA greatly.

PROCESSING

For spray application, Phenodur VPW 1948/42WA 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 like hexyl glycol. In both cases, additions of higher boiling organic solvents improve flow and surface wetting and reduce the tendency of a quick physical drying. Our levelling additives Additol XW 390, XW 395 and Modaflow AQ 3025 help to avoid surface defects.

STORAGE

At temperatures up to 25 °C storage stability packed in original containers amounts to at least 365 days.

DISTINGUISHING FEATURES

Phenodur VPW 1948/42WA is a unique water borne product in our portfolio. It is an anionic stabilized binder similar to Phenodur VPW 1942 and VPW 1946, but is not phenolic-modified. This gives the end-user formulation freedom to select a crosslinker tailored to his needs. Phenodur VPW 1948/42WA does not contain any free epoxy groups, only secondary OH-groups by the epoxy resin backbone.

REMARK:

Data contained in this publication are based on careful investigations (and are intended for information only). Due to scale up of this product there is not yet sufficient experience concerning serial production. We can therefore not exclude, that based on future knowledge product data and other indicated properties in upcoming Technical Data Sheets will be subject to change. We reserve the right to leave the product name unchanged, even if product data or other indicated properties will vary from the present product info. Regardless of the data contained in this publication any user is obliged to carry out tests under his own responsibility as to the suitability of the product for a particular use and to investigate the possible violation of industrial property rights of third parties. Information is therefore not binding and cannot be construed as guaranteeing specific properties of products. We apply our General Sales Conditions.