

HEGSEL Pox 418

Electrically highly conductive 2-component epoxy resin base coat, low-emission

Description:

HEGSEL Pox 418 is a product used in combination. Suitable for electrically conductive coatings. The highly conductive base coat is used as an interlayer applied on cured base or scratch coats with affixed copper bands. The highly diagonally conductance compensates the superposed coatings.

HEGSEL Pox 418 consists of an easy to process and economical 2-component epoxy resin emulsion which may be applied with a roller. Because of its composition a good interlayer adhesion is achieved and solvents are not in use.

Characteristics:

- High electric conductivity
- Good processing conditions
- Solvent-free
- Economic consumption
- Resistant to hydrolysis and saponification
- Suitable also for ESD-coatings in combination with other products
- Free of deleterious substances against varnish

Application:

- As guiding bed in combination with the conductive coatings **HEGSEL Pox 460, HEGSEL Pox 461, HEGSEL Pox 462, HEGSEL Pox 464, HEGSEL Flex 523.**
- For conductive, industrially used areas with medium mechanical load, e.g. production areas, stacking grounds in many economic sectors.
- For areas in the electrical-/electronic-industry in combination with special sealing also for ESD-areas.
- For areas with requirements to explosion protection to prevent electrostatic charging.

Technical data:

Mixing ratio	Parts by weight Parts by volume	A : B = 1 : 4 A : B = 1 : 4.2
Processing time	Temperature Time	15 °C / 59 °F 75 minutes 20 °C / 68 °F 60 minutes 30 °C / 86 °F 35 minutes
Processing temperature		Minimum 15 °C / 59 °F (room- and floor-temperature)
Curing time (Accessibility)	Temperature Time	10 °C / 50 °F 24 - 36 hrs. 20 °C / 68 °F 18 - 24 hrs. 30 °C / 86 °F 14 - 18 hrs.
Curing		2 - 3 days at 20 °C / 68 °F for mechanical load 7 days at 20 °C / 68 °F for chemical resistance
Further coatings		After 14 - 18 hours, but not longer than 48 hours at 20 °C / 68 °F
Consumption		0.100 - 0.140 kg/m ²
Electrical Conductivity		< 10 ⁵ Ohm
Test Standard		DIN EN 61340-4-1, DIN EN 61340-5-1/2
Packaging		Combi-Unit 10 kg
Colour		Black
Shelf life		6 months (originally sealed) – Protect from frost!

1. Build-up of Coats

- Apply a base coat and scratch coat for a planar surface.
- Glue **HEGSEL Copper Strips** for discharge in an imagined grid-pattern in place into the room – every 6 - 8 m, up to 1 - 2 m. Earth connection by an electrician according to VDE-regulations.
- Apply a cross-conductible coat **HEGSEL Pox 418**, consumption approx. 0.100 - 0.140 kg/m².
- Depending on the demand to the product and substrate apply a conductive wear layer with **HEGSEL Pox 460**, **HEGSEL Pox 461**, **HEGSEL Pox 462**, **HEGSEL Pox 464**, **HEGSEL Flex 523**.

2. Substrate

The substrate to be coated has to be levelled, dry, free of dust, has to have adequate tensile and compressive strength, and be free from weakly-bonded components or surfaces. Materials impairing adhesion, such as grease, oil and paint residues must be removed using suitable methods. Please refer to the product information for the recommended base coats, like **HEGSEL Pox 410**, **HEGSEL Pox 411**, **HEGSEL Pox 412** and **HEGSEL Pox 415**. The surface to be coated should be prepared mechanically, preferably by shot-blasting. The prepared surface has to be primed accurately, saturated, and free of pores. Estimating the substrate according to the necessary sealed state may be difficult, so a scratch coat is recommended for smoothing the surface. The conductive coating must be applied in an even thickness that is why it is mandatory to prepare the substrate thoroughly. The substrate should already

be planar after the scratch coat has been applied. Apply the guiding bed after affixing the copper bands within the recommended processing time of the base coat.

3. Mixing

Combi-trading units will be supplied in the correctly measured mixing ratio. Component B has sufficient volume for the entire trading unit. Decant component A into the hardener component B. Blend with a slow speed mixer (200 - 400 r/pm) for at least 2 - 3 minutes, for a material that is homogeneous and free of streaks. To avoid mixing errors it is recommended to principally empty the mixed resin/hardener coating into a clean container and mix briefly once again. To achieve an optimum consistency water may be added, up to 10 % after mixing.

4. Processing / Handling

Apply the guiding bed on the surface immediately with a roller after mixing. Watch for an even consumption. Apply evenly thin and economical on the prepared substrate. To avoid soiling of the walls it is recommended to apply the black guiding bed in a distance of 5 - 10 cm. Before applying the conductive coating observe a sufficient curing period of 12 - 24 hours. Floor and air temperature must not fall below 15 °C / 59 °F and humidity must not exceed 75 %. The difference in floor and room temperature must be less than 3 °C / 37.4 °F so the curing will not be disturbed. If a dew-point situation occurs regular curing may be disturbed and spotting may occur. Curing time applies to 20 °C / 68 °F. Lower temperature may increase, higher temperature may decrease the curing and

processing time. If working conditions are not complied with, deviations in the described technical properties and conductance may occur in the end product.

5. Cleaning

To remove fresh contamination and to clean tools use water immediately. Clean with **Cleaner V20** if necessary. Hardened material can only be removed mechanically.

6. Storage

Store in dry and at frost-free conditions. Ideal storage temperature is between 10 °C - 20 °C / 50 °F - 68 °F. Bring to a suitable working temperature before application. Tightly re-seal opened containers and use the content as soon as possible.

7. Special Remarks

The product is subject to the hazardous material-, operational safety-, and transport-regulations for hazardous goods. Refer to the DIN-Safety Data Sheet and the information on the labelled containers!

GISCODE: RE 1

Indication of VOC-Content:

(EG Regulation 2004/42)

Maximum Permissible Value 140 g/l (2010,II,i/wb):

Ready-for-use product contains < 140 g/l VOC.

Technical Data*

Viscosity	Components A + B	1200	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solids content		> 40	%	HEGSEL-Method
Density	Components A + B	1.08	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Bleeder resistance		10 ⁵	Ohm	DIN EN 61340-4-1 / -5-1/2

(*Values achieved in sampling are average values. Variation in product specification is possible.)

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All information contained herein is based on the current state of our knowledge and practical experience at the time of release. Therefore, please make sure that this is the actual edition of the Technical Data Sheet. All data are only intended as a guideline for informational purposes and do not constitute a legally-binding warranty of the suitability for a certain purpose of use, due to its dependence on site conditions and possible processing, use and applications. All information contained in this technical datasheet is subject to change without notice.

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