



TECHNICAL DATASHEET

MATERIAL: **BORON NITRIDE-PAINT/TS-1**

PRODUCT DESCRIPTION

acrylic 2K corrosion-inhibiting paint based on mixed single-/few-layer hexagonal boron nitride flakes acting as physical barrier against corrosive species. The paint can be used in a variety of applications that require long-term corrosion protection in presence of moisture in the air or corrosive liquid environment. The paint can be deposited in form of coatings on metallic and printed circuit board (PCB) substrates with minimal or no surface preparation by means of different techniques, including spray coating, brush and roll painting and doctor blading. This surface-tolerant anticorrosion paint is compatible with a wide variety of primers, including ethyl-silicate based inorganic zinc primers. The paint allows drying at low temperature (20 °C for 48 h or 60 °C for 1 h). It is applicable up to more than 200 microns on a single coat with an excellent levelling and can be even overcoated with a wide variety of polymeric topcoats.

It can adhere to the following substrates: steel, stainless steel, sandblasted steel, zinc-based inorganic primer, galvanized steel, aluminium and aluminium alloys, cast iron and plastics.

ADDITIVES:

FEW LAYERS HEXAGONAL BORON NITRIDE

MATERIAL PROPERTIES:

PHYSICAL PROPERTY	METHOD	VALUE	UNITS
UNCURED			
SOLID CONTENT		60-75	%wt
DENSITY	ASTM D1475-98	1,4	g/cm ³
VISCOSITY	ASTM D2196	14900 ± 3000	mPa·s
COVERAGE	1 µm dried print thickness with solid vol% ca. 50%	280-330	m ² /Kg
DRIED			
ANTICORROSION PROPERTIES	ASTM G5-14 (thickness of 100-300 µm)	< 10 ⁻⁴	mmpy



RECOMMENDATION FOR USE

Paint preparation (for spray coating)

- Stir before use.
- Avoid contamination during transferring of the paint from its original container.
- Keep the lids of the container tightly sealed to minimise solvent evaporation.
- Add hardener (BED BORON NITRIDE-PAINT/TS-1 hardener) with a proportion 100:20 weight:weight paint:hardener.
- The paint can be diluted by proper diluent (BED BORON NITRIDE-PAINT/TS-1 diluent), according to the desired paint viscosity. It is recommended to reach a viscosity at 20 °C FORD 4 of 20 s.
- Recommended spray coating parameters are:
 - Gas carrier pressure: 2 - 3 bar;
 - Nozzle: 1.3 – 1.7 mm;
 - Number of passes: 1 for thickness $\leq 30 \mu\text{m}$, 2 for thickness $\geq 30 \mu\text{m}$

Substrate preparation

The anticorrosion paint performance depends on the preparation of the substrate surface. It is recommended to carefully clean and dry the surface to remove dust, grease or other contaminants. Corroded surfaces with corrosion spots should be cleaned with steel brush or sandpaper to remove rust. Remove residual dust without using water.

Paint deposition

The application method can be adjusted to obtain printed film with desired thickness and coverage, according to performance and application needs.

STORAGE AND SHELF-LIFE

The as-received product should be stored at room temperature (10-30°C) in containers, tightly sealing their lids. The paint shelf-life for an unopened container is more than 6 months from date of shipment. BeDimensional cannot take responsibility for a paint that has not been stored in appropriate conditions or has been contaminated during its use.

SAFETY PRECAUTIONS

Comply with all local safety, disposal and transportation regulations. Check the Material Safety Data Sheet (MSDS) and label of the individual products carefully before using the products. The MSDS are available on request.

TECHNICAL SUPPORT

Contact us regarding any questions, improvement suggestions, or problems with this product. More information can be found at www.bedimensional.com or upon request.

DISCLAIMER

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BeDimensional cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with specific requirements. BeDimensional reserves the right to change the given data without further notice.

Users should always consult BeDimensional for specific guidance on the general suitability of this product for their needs and specific application practices.

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