

## Polymer Coating

### PD 5100 NRB

#### Protective Silicone Insulator Paste – Royal Blue

##### Description

PD 5100 NRB is a royal blue, one-component screen printable paste, based on a silicone resin. It is designed for use as a coating for mechanical circuit protection.

##### Key Benefits

- This material, when properly cured, yields a chemically inert film, which will not react with circuit components.
- The cured film exhibits outstanding resistance to solvent attacks and shows a good thermal stability.
- Free of lead, cadmium and nickel
- Free of phthalate
- REACH<sup>2</sup> and RoHS<sup>3</sup> compliant

##### Processing

1. Spatulate well prior to processing. When stored in a fridge: The paste should have acquired room temperature before being opened, to avoid condensation.
2. Print through a 200 mesh stainless steel screen. Total thickness: 90 – 110 µm.
3. Level at room temperature for 5 – 10 minutes.
4. Curing: alternatively process
  - a) 200 °C for 2 hours in a conventional box oven.
  - b) IR curing 280 °C (peak) for 20 minutes.

5. Cleaning (wet paste): with Zestron ES 200

##### Important:

Check compatibility with the screen, the emulsion and with the screen frame adhesive before use.

##### Thinner

HVS 100, HVS 252

##### Typical Properties (Paste)

Form: Thixotropic paste

Viscosity: 20 – 50 Pas  
(25°C, D = 100 s<sup>-1</sup>)

Shelf Life: 6 months from date of shipment with correct storage (in a dry, cool (5 to 23 °C) and dark place with container tightly shut). Avoid exposure to sunlight and high humidity.

##### Typical Properties (Cured)<sup>1</sup>

Thickness: c. 30µm

Color: Royal (dark) blue

Other colors available as below:

PD 5100 NBU: blue  
PD 5100 NG: green  
PD 5100 NW: white

##### Note:

PD 5100 NRB is not a protection to avoid Ag migration, if applied directly on Ag conductor lines.

## Polymer Coating

### PD 5100 NRB

#### Protective Silicone Insulator Paste – Royal Blue

- 1 Typical properties based on laboratory test methods. Optimal curing conditions depend on requirements of the cured film thickness.
- 2 REACH compliant according to the Annex XIV (Feb. 17, 2011) of Commission Regulation (EU) No 143/2011 to Regulation (EC) No 1907/2006 of the European Parliament and of the council on the Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH") by European Chemicals Agency; the above mentioned product does not contain any substance listed in the Annex XIV.
- 3 RoHS compliant according to Directives (European Union) No 2011/65/EC of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions No. 7. c. 1. of the EU Directive e.g. related to Pb)

---

The descriptions and engineering data shown here have been compiled by Heraeus using commonly-accepted procedures, in conjunction with modern testing equipment, and have been compiled as according to the latest factual knowledge in our possession. The information was up-to date on the date this document was printed (latest versions can always be supplied upon request). Although the data is considered accurate, we cannot guarantee accuracy, the results obtained from its use, or any patent infringement resulting from its use (unless this is contractually and explicitly agreed in writing, in advance). The data is supplied on the condition that the user shall conduct tests to determine materials suitability for a particular application.

#### Europe [TH]

Heraeus Precious Metals GmbH & Co. KG  
Thick Film Materials Division  
Heraeusstr. 12 – 14  
63450 Hanau  
Germany  
Tel: +49 (6181) 35 - 5466  
E-Mail: [th-info@heraeus.com](mailto:th-info@heraeus.com)  
Internet: [www.heraeus-thickfilm.com](http://www.heraeus-thickfilm.com)

#### North America

Heraeus Materials Technology LLC  
Thick Film Materials Division  
24 Union Hill Road  
W. Conshohocken, PA 19428  
USA  
Tel: +1 (610) 825 - 6050  
E-Mail: [techservice.hcd@heraeus.com](mailto:techservice.hcd@heraeus.com)  
Internet: [www.heraeus-thickfilm.com](http://www.heraeus-thickfilm.com)

#### Asia [TH]

Heraeus Materials Technology Shanghai Ltd.  
No. 1 Guang Zhong Road  
Zhuanquiao Town, Minhang District  
201108 Shanghai  
People's Republic of China  
Tel: +86 (21) 3357 - 5688  
E-Mail: [th.hmts@heraeus.com](mailto:th.hmts@heraeus.com)  
Internet: [www.heraeus-thickfilm.com](http://www.heraeus-thickfilm.com)