



# PROTAVIC<sup>®</sup> BNE 20220

28181-08-A

## DEFINITION

The **PROTAVIC<sup>®</sup> BNE 20220** is a die attach adhesive, electrically insulating, crystalline silica loaded, B-stageable epoxy adhesive.

## Main features :

- Designed for screen printing application (wafer backside coating).
- Very good latency of paste at room temperature.
- Very good latency of B-staged products.
- Fast final curing.

## PRODUCT DESCRIPTION

|  |                     |  |
|--|---------------------|--|
| Appearance                                     | paste               |  |
| Colour   | white / slight grey |  |
| <b>Significant value</b>                       | <b>Result</b>       | <b>Method</b>                            |
| Cone and plate viscosity (5 rpm – 25°C) (mPas) | 30000 ± 3000        | NFT 51211                                |
| <b>Other informations</b>                      |                     |  |
| Pot life at 20 ± 2°C                           | 1 month             | No increase in viscosity                 |
| Density  | 1.3                 |  |
| Thixotropic index                              | 1                   | Viscosity at 0.5 /<br>Viscosity at 5 rpm |

## INSTRUCTIONS OF USE

Before use, **PROTAVIC<sup>®</sup> BNE 20220** has to be homogenized by stirring slowly with a spatula in its original container, or by rolling the container for 2 hours at a slow speed (50 to 150 rpm).

### **Step 1 : application**

- Screen printing application.

### **Step 2 : B staging**

- B staging  
90°C 0.5h  
B staging temperature should be in the range 70°C – 110°C.  
Solvent removal : use ventilated equipment.
- B staged life : 6 months at room temperature.

### **Step 3 : die bounding**

- Die attach  
Temperature : from 100°C to 110°C.  
Time : from 1s to 10s.  
Applied strength : 100N/cm<sup>2</sup>.
- Typical B staged die shear stress 150 N/cm<sup>2</sup>.

### **Step 4 : curing**

- Curing : 180°C 30 mn.

## **APPLICATION PROPERTIES**

| <b>PROPERTIES</b>                | <b>METHODS</b>   | <b>TYPICAL VALUES</b>                   |
|----------------------------------|--|---|
| Coefficient of thermal expansion | TMA 1  | 40 ppm/K below Tg<br>230 ppm/K above Tg |
| Glass transition temperature     | TMA 1  | 63°C                                    |
| Hardness Shore D                 | NFT 51109  | 84                                      |
| Die shear stress at 25°C         | 4mm <sup>2</sup> Silicon dies on<br>Ag plated Cu frame | 300 daN/cm <sup>2</sup>                 |

Values in this table are typical and do not constitute a specification. User has to adjust process conditions for its own particular application of the **PROTAVIC® BNE 20220**.

## **STORAGE**

In its hermetically sealed container, protected at temperature below 0°C.

Its is necessary to store the product in its original sealed container in order to avoid the loss of solvent by evaporation.

## **PRECAUTION OF USE**

Refer to the attached material safety data sheet

## **PACKAGING**

The **PROTAVIC® BNE 20220** is supplied in 550 g plastic pots.

*The information contained in this data sheet corresponds to the present state of our knowledge ; it is intended for your guidance but we are not bound by it since we are not in a position to exercise control over the manner in which our products are used. Moreover, the attention of the user is drawn to the risks that could possibly occur should a product be used for an application other than that for which it is intended.*