



# PROTAVIC INTERNATIONAL WORLDWIDE

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# PROTAVIC<sup>®</sup> ANH 20111

A 28050-08

## DEFINITION

The electrically non-conductive **PROTAVIC<sup>®</sup> ANH 20111** die attach adhesive is designed for BGA packages. **PROTAVIC<sup>®</sup> ANH 20111** presents excellent properties of flexibility, good adhesion and moisture resistance which allow package to withstand 260°C Pb-free reflow temperature. Its specific reactivity combines both latency at room temperature and fast curing cycle.

## PRODUCT DESCRIPTION

Appearance	Viscous liquid	
Odor	Slight	
Color	Grey to black	
<b>Guaranteed specifications</b>	<b>Standards</b>	<b>Method</b>
Cone and plate viscosity (5 rpm - 25°C)	11 000 ± 1 500 mPa.s	NFT 51211
<b>Other information</b>		
Pot life* at 20 ± 2°C	>3 days	
Viscosity increase after 1 day	Less than 25%	
Thixotropy index	4.5	
Density	1.3 approx.	
Possible curing cycles	15-30 minutes @150-175°C	
Storage stability	1 year at T<-20°C	

\* : defined as 100% viscosity increase.

## APPLICATION PROPERTIES

**PROTAVIC<sup>®</sup> ANH 20111** adhesive features excellent hot/wet adhesive properties.

Its good latency enables it to be kept at 20±2°C for 1 day with a little increase of viscosity, so the viscosity remains virtually unchanged throughout the working day. The long pot life and the absence of solvent ensure that the product remains at a reasonably constant viscosity and facilitate application.

**PROTAVIC<sup>®</sup> ANH 20111** may be oven cure at moderate temperature (150-175°C).

## METHOD OF USE

- 1) Take the package out of the freezer not more than 1 hour before use in order to prevent any re-absorption of moisture.
- 2) Work on clean surfaces or clean all surfaces in order to remove any dirt or grease. Do not deposit the adhesive on a substrate which has just been cleaned with chlorinated solvents.
- 3) Apply the adhesive (by dispensing)
- 4) Cure using one of the curing cycles compatible with the components, the substrate and the manufacturing conditions.

## **FIELDS OF USE**

The excellent properties of **PROTAVIC® ANH 20111** adhesive make it especially suitable for use in structural sticking where softness, moisture resistance and thermal resistance are required.

### **1- PHYSICO-CHEMICAL PROPERTIES**

<b>PROPERTIES</b>	<b>METHODS</b>	<b>RESULTS</b>
SHORE D hardness	NFT 51109	50 - 60
Weight loss on cure 30min ramp up (25°C to 175°C) + 15min @175°C	TGA 1	2.2 %
Moisture absorption (168 hours at 85°C, 85% Hr)	R 0802	< 1 %
Tg by TMA Coefficient of thermal expansion $\alpha_1$ $\alpha_2$	TMA 1	- 25 °C 70 ppm/°C 135 ppm/°C
Modulus at 25 °C at 100 °C at 250 °C	DMA 1	430 MPa 100 MPa 75 MPa

Die shear strength at 25°C oven cure (30 minutes at 175°C)	5.6 kg/die	2x2 mm <sup>2</sup> (80x80mil <sup>2</sup> ) Si die on Ag plated Cu frame
Die shear strength at 250°C	2.3 kg/die 7,5 kg/die	3.5x3.5 mm <sup>2</sup> (140x140mil <sup>2</sup> ) Si die on Ag plated Cu frame 6.35x6.35 mm <sup>2</sup> (250x250mil <sup>2</sup> ) Si die on Ag plated Cu frame
Die shear strength at 250°C after 85°C moisture saturation exposure for 1 day.	2.7 kg/die 6.8 kg/die	3.5x3.5 mm <sup>2</sup> (140x140mil <sup>2</sup> ) Si die on Ag plated Cu frame 6.35x6.35 mm <sup>2</sup> (250x250mil <sup>2</sup> ) Si die on Ag plated Cu frame

## **PRECAUTION IN USE**

Refer to the attached material safety data sheet.

## **PACKAGING**

**PROTAVIC® ANH 20111** adhesive is supplied in 10 g and 30 g syringes.

*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.*