



PROTAVIC[®] ACE 10135

A 27889-08

DEFINITION

A silver filled, fast curing, **solvent-free**, single component electroconductive adhesive.

It has a pot life of 2 days and its rheology is well suited to application by microdispenser and screen printing on automatic lines.

Its reactivity enables it to be cured at 150 - 200°C especially in the manufacture of tantalum capacitors. Its outstanding features are : high ionic purity, good flexibility and good adhesion.

PRODUCT DESCRIPTION

Appearance	paste	
Odor	faint	
Color	silver	
Guaranteed specifications	Standards	Methods
Cone and plate viscosity (100 rpm – 25°C)	2000 ± 500 mPa.s	NFT 51211
Resistivity (mΩ.cm)	≤ 0.3	ECA 1
Other information		
Silver ratio	About 71%	
Density	About 3.2	
Possible curing cycles	3 to 6 minutes at 150°C 1 to 2 minutes at 175°C 15 - 30 seconds at 200°C	
Storage stability	6 months at T < -20°C 12 months at T < -40°C	
Viscosity increase after 24 hours at 20±2°C	less than 25 %	
Pot life* at 20 ± 2°C	48 hours%	

* : defined as 100% viscosity increase.

APPLICATION PROPERTIES

PROTAVIC[®] ACE 10135 adhesive combines the excellent adhesive properties of epoxy resins with the good electrical and thermal conductivity of high level pure silver.

Its good latency enables it to be kept at 20 ± 2°C for 2 days, so the viscosity remains virtually unchanged throughout the working day.

It possesses excellent properties in terms of adhesion and protection against harmful environmental factors, due to its epoxy base.

It is 100% cross-linkable by heat at temperature of between 75 and 200°C.

Its fast-curing at 200°C and its low expansion lead to fast attachments with a good reliability of the parts glued together.

METHOD OF USE

- 1) Take the container out of the freezer not more than 20 to 30 minutes before use in order to prevent any reabsorption 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 with :
 - a microdispenser. Use needles with an internal diameter of between 0.3 and 1.0 mm.
 - a screen printing machine. Use polyester or stainless steel screen with a 80 to 325 mesh size (strands per inch).
- 4) Cure using one of the curing cycles which is compatible with the components, the substrate and the manufacturing conditions.

FIELDS OF USE

PROTAVIC® ACE 10135 adhesive excellent properties make it especially suitable for use in the microelectronics fields.

1- PHYSICO-CHEMICAL PROPERTIES

PROPERTIES	METHODS	UNITS	RESULTS
Colour			bright silver
Density at 20°C	NFT 51201 / ISO 1675		2.8 – 3.0
Ionic chlorine content	S 86005	mg/kg	< 5
Chlorine content	MIL STD 883	mg/kg	< 250
Sodium content	MIL STD 883	mg/kg	< 250
Potassium content	MIL STD 883	mg/kg	< 50
Shear strenght	Silicon onto L/F	kg/cm ²	> 300

2- ELECTRICAL and THERMAL PROPERTIES

PROPERTIES	METHODS	UNITS	RESULTS
Electrical resistivity	ECA 1	mΩ.cm	typically 0.1
thermal conductivity	R 0505	W/m°K	2.8 – 3.0

3- THERMAL PROPERTIES

PROPERTIES	METHODS	UNITS	RESULTS
Coefficient of thermal expansion - from -50°C to +50°C - from 100 to 250°C	TMA 1	ppm/°C ppm/°C	40 - 50 90 - 100
Glass transition temperature	TMA 1	°C	70 - 80
Decomposition temperature in air	TGA 1	°C	390 - 410
loss of weight between 25 and - 100°C - 200°C - 300°C	TGA 1	% % %	< to 0.2 ≈ 0.35 ≈ 0.90

PRECAUTION IN USE

Refer to the attached material safety data sheet

PACKAGING

PROTAVIC® ACE 10135 adhesive is supplied in 25 g syringes or in 850 cartridges.