



# ELPOX ER 55MN

EPOXY-PHENOLIC HYBRIDE TYPE RESIN

- \* **ELECTRICALLY CONDUCTIVE**
- \* **HIGH TEMPERATURE RESISTANT**
- \* **VERY GOOD ADHESION FOR COPPER**
- \* **SCREEN PRINTING OR TRANSFERING APPLICATION**
- \* **100% SOLID FORMULATION.**

## GENERAL DESCRIPTIONS:

**ELPOX ER 55MN** is single component, electrically conductive, silver filled, epoxy-phenolic base resin adhesive. This adhesive is especially prepared for making connections to copper material and for high temperature resistant application. As 100% solid formulation, this will help to do "sandwich" type connections (surface to surface) between Si, glass, ceramics and metals.

**ELPOX ER 55MN** has very stable electrical conductivity. This type is mostly for high-speed technological process. It doesn't dry out even on open screen during one shift working time.

## SPECIFICATIONS:

Number of components	One
Consistency	Floable paste
Color	Silver
Percentage of silver (inside ready paste)	70 ± 1%
Specific gravity	3.2 – 3.5 g/cm <sup>3</sup>
Viscosity	24 500 – 48 000 cps (*)
Recommended curing schedule with air-circulated oven	150°C - (15 - 20) min. 180°C - (7 - 8) min. 200°C - (3 - 4) min.
Recommended curing schedule with heating tunnel	180°C in peak – 5 min. total time inside tunnel
Shelf life	Min. 6 months (when storage at 5°C – unopened)

(\*) - Brookfield DVII; SSA#14; 10 rpm; 25°C.

## TECHNICAL PROPERTIES (\*):

Electrical sheet resistivity (curing inside oven)	0.02 $\Omega$ /sq @ 1 mil.
Electrical sheet resistivity (curing inside tunnel)	0.001 $\Omega$ /sq @ 1 mil.
Electrical resistivity	(4.0 – 7.5) x E(-5) $\Omega$ cm
Pencil hardness	9H pencil hardness (one day after curing)
Range of service for continuous temperature	(-55) $^{\circ}$ C - (+180) $^{\circ}$ C
Max. operating temperature	Over 280 $^{\circ}$ C for a couple of hours.

(\*) - Typical value for number of tests.

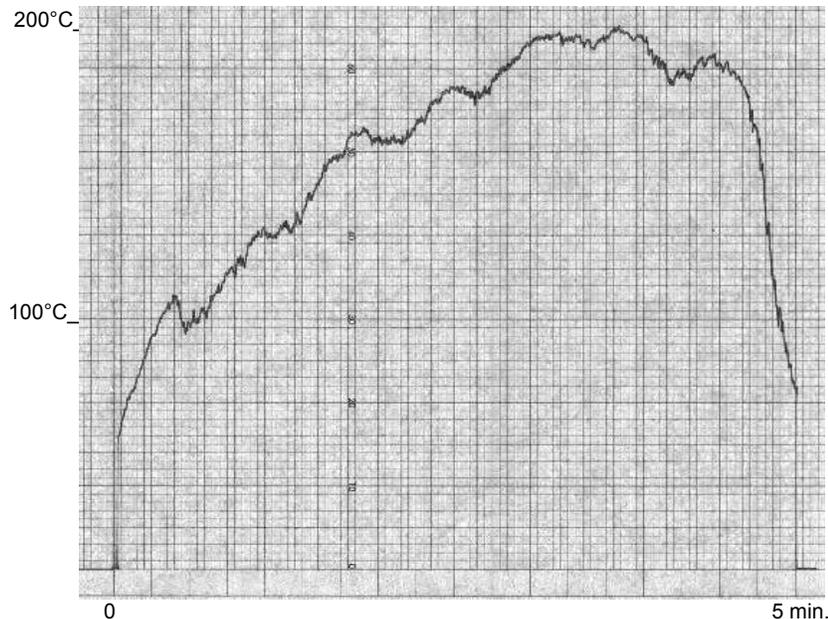


Fig.1. Example of heating tunnel profile for curing ER 55MN

## ATTENTION:

1. Product is ready for use, but should be mixed very thoroughly before use using wood or plastic spatula. Mix smoothly from the bottom of the container. Mix carefully - not to whip air into the product. **INSURE ELPOX ER 55MN IS AT ROOM TEMPERATURE WHEN YOU WILL START WORKING WITH.**
2. Prepare consistency before use according your SPECIFICATION.
3. Low conductivity and poor adhesion performance are symptomatic that paste is under curing conditions.
4. Refrigeration during long shelf time is necessary. Keep container with paste in temp. no less 5 $^{\circ}$  C. Before use, increase temperature of paste very slowly.
5. Use paste with adequate ventilation.
6. Avoid skin and eye contact. If ingested, consult a physician immediately.
7. Clean by MEK or other suitable solvents. Allow screen to completely dry before using again.
8. Temperature during printing process must be kept between 20 $^{\circ}$ C and 25 $^{\circ}$ C, with relative humidity (RH) between 40% and 65%. This condition reduces static charges on the substrate.
9. When stored – keep container closed.

This information is based on data and tests believed to be accurate. **AMEPOX MC** makes no warranties ( expressed or implied ) as to its accuracy and assumes no liability in connection with the use or inability to use this product.

( ex-er55mn )