POOLKEMIE

Liquid Rubbers & Resins
Chemicals for Industry & Artworks

EPOCOL 890 + EH 890
Structural thixotropic epoxy adhesive

RESIN	HARDENER	MIXING RATIO
EPOCOL 890 Component A	EH 890 Component B	100:45

INTRODUCTION: Two components modified, unfilled and thixotropic epoxy system. Easy mixing ratio 2:1 by volume. Solvent free. Sag resistance till 5 mm. High toughness. Good thermal resistance. It is advisable to use the system at a temperature not lower than 20-25°C.

APPLICATION: Structural thermal resistant bonding. Adhesive for assembly of composite materials, metals, automotive components, sport components.

PROCESSING: Brush application, by spatula or with mixing/dispensing devices. Room temperature or hot curing. The post-curing by subministration of heat is necessary to achieve the thermal resistance indicated in the data sheet. Available also in cartridges of 400 ml.

ISTRUCTIONS: The surfaces must be clean and dry. Generally a mechanical abrasion or a sanding followed by solvent degreasing with solvent (ex. acetone) is sufficient. Add the proper quantity of the hardener to the resin, mix carefully. Once applied, the system is moisture and carbonic anhydride sensitive: quickly cover the junction or cure in the oven. The final cleaning of the equipment can be carried on with normal solvent as acetone, nitro, etc.

POST-CURING: The post curing, always advisable for RT curing systems in order to stabilize the component and to reach the best properties, is necessary when the component works at high temperature.

STORAGE AND HANDLING PRECAUTIONS: Epoxy resins and their hardeners can be stored two years in the original sealed containers stored in a cool and dry place.
Refer to the safety data sheet and comply with regulations relating to industrial health and waste disposal.

SYSTEM SPECIFICATIONS:

RESIN:	Viscosity at 25°C	mPa	250.000 – 350.000
HARDENER:	Viscosity at 25°C	mPa	

TYPICAL SYSTEM CHARACTERISTICS

Resin Colour	Milky
Hardener Colour	Black Amber
Density resin at 25*C (ASTM D 1475)	1,10 - 1,12 (g/ml)
Density hardener at WC (ASTM 0 1475)	0,95 - 0,99 (g/ml)
PROCESSING DATA	**A + B**
Mixing ratio by weight	100:45 g.
Mixing ratio by volume	100:50 ml.
Pot life (100 ml, 40 mm, 25°C)	20 – 30 Min.
Exothermic peak (100 ml, 40 mm, 25°C)	160 – 140 °C
Initial mixture viscosity at: 25°C (EN13702-2)	130.000 190.000 mPas
Gelation time (15 ml, 5 mm, 25°C)	2 – 3 h
Setting time	3,5 – 4,5 h

CURED SYSTEM PROPERTIES

Properties determined on standard specimens cured 24 h at R.T. (23±2° C) + 15 h at 60° C

DATI DI LAVORAZIONE	**A + B**
Density (ASTM D 792)	1.04 - 1.08 g/ml
Shore hardness (ASTM D 2240)	81 – 85 D/15
Glass transitino (ASTM D 3418)	45 – 55 °C 55 – 65 °C 85 – 90 °C
Shear strength by tension: (ASTM D 1002) Inox steel AISI 316 cured 6h RT (tested RT) Inox steel AISI 316 cured 24hRT (tested RT) Inox steel AISI 316 cured 7days RT (tested RT) Inox steel AISI 316 cured 2h80°C (tested RT) Aluminium cured 2h80°C (tested RT) Aluminium cured 2h80°C (tested 80°C) Carbon composite cured 24hRT (tested RT) Carbon composite cured 2h80°C (tested RT)	3,5 – 4,0 MPa 11,5 – 14,0 MPa 18 – 22 MPa 27 – 33 MPa 27 – 33 MPa 13,5 – 16,5 MPa 13,5 – 16,5 MPa 32 – 39 MPa
Flexural strength (ASTM D 790)	82 – 92 MN/m²
Max. recommended operating temperature	70 °C
Maximum strain (ASTM D 790)	9 – 13%
Strain at break (ASTM D 790)	10 – 14%
Flexural elastic modulus (ASTM D 790)	1.900 – 2.400 MN/m²
Tensile strength (ASTM D 638)	45 – 55 MN/m²
Elongation at break (ASTM D 638)	6 – 9 %

nd = not determined; na = not applicable; RT = TA = laboratory room temperature (23±2°C)
Conversion units: 1 mPas = 1 cPs 1MN/m2 = 10 kg/cm2 = 1 MPa
(*) for larger quantities pot life is shorter and exothermic peak increases
(**) the brackets mean optionality
(***) The maximum operating temperature is given on the basis of laboratory information available being it function of the curing conditions used and of the type of coupled materials. For further possible information see post-curing paragraph.

The information given in this publication is based on the present state of our technical knowledge but buyers and users should make their own assessments of our products under their own application conditions.