

FR 707/HI THERMOFIGHT
ELECTRO INSULATING RESIN - FLAME RETARDANT

PRODUCT	A two component ambient temperature curing, re-enterable electro insulating resin flame retardant FVO rating in full compliance with IEC 707/UL94 Specifications	
DESCRIPTION	A two pack, Halogen free, Polyurethane Resin	
COLOUR	Resin:	Red Oxide
	Hardener:	Brown
	Mixed:	Red Oxide
VISCOSITY / 25°C	Resin:	9 500 – 10 000 mPa.s
	Hardener:	600 – 700 mPa.s
	Mixed:	5 000 – 5 500 mPa.s
MIXING RATIO	By Weight	By Volume
	100 Parts Resin	100 Parts Resin
	20 Parts Hardener	28 Parts Hardener
RECOMMENDED MIXING TIME / 25°C	3 Minutes	
POTLIFE / 25°C (200g mix)	20 – 25 Minutes	
GELTIME / 25°C (200g mix)	40 – 45 Minutes	
SETTING TIME / 25°C (200g mix)	50 – 60 Minutes	
HEAT DEVELOPMENT DURING CURE	Very low 30°C	
SPECIFIC GRAVITY / 25°C	Resin:	1.40 – 1.45 g/cm ³
	Hardener:	1.10 – 1.15 g/cm ³
	Mixed:	1.30 – 1.40 g/cm ³
FLASHPOINT	Resin:	> 200°C
	Hardener:	> 200°C
ADHESION TO CLEANED AND ROUGHENED	PVC, Aluminium, Lead:	Satisfactory
	Flame treated Polyethylene:	Satisfactory - Good
	* No precise value can be obtained because of the low tear strength of the resin	

TYPICAL PHYSICAL PROPERTIES

TENSILE STRENGTH (DIN 53455)	0.9 N/mm ²
TEAR STRENGTH (DIN 57291/2A)	Low - material yields
ELONGATION (DIN 43455)	39%
HARDNESS AFTER 24 HRS CURE / 25°C 7 DAYS CURE / 25°C	Shore A: 35 – 40 Shore A: 40 – 45
WATER ABSORPTION AFTER 24 HOURS / 25°C (immersion in distilled water)	< 0.2%
RESISTANCE TO	Water, diluted Acids, Alkaline: excellent Solvents: generally poor (individual tests are recommended)
HYDROLYTIC STABILITY	Stable

TYPICAL ELECTRICAL PROPERTIES

DIELECTRIC STRENGTH / 23°C (DIN 53481)	15.5 kV/mm
SURFACE RESISTIVITY / 23°C (50% relative humidity)	6.0 x 10 ¹² Ohm/cm
VOLUME RESISTIVITY / 23°C (50% relative humidity) (DIN 53482)	1.4 x 10 ¹² Ohm/cm
DIELECTRIC CONSTANT / 23°C (DIN 53483)	50 Hz: 5.26 1 K Hz: 4.79 1 M Hz: 4.12
DIELECTRIC LOSS FACTOR / 23°C (DIN 53483)	50 Hz: 0.058 1 K Hz: 0.028 1 M Hz: 0.041
STORAGE STABILITY	Stored in original packaging under dry and cool conditions - 12 months
TOXICITY	Very low toxicity, no dermatitis properties. However, gloves should be worn and adequate ventilation must be ensured during application.

TYPICAL APPLICATION

The Thermofight FR/707/HI resin system shows the following rather unique properties:

- * good thermocycling properties
- * excellent electrical properties
- * very low shrinkage
- * high flexibility, very low embedment stress
- * re-enterable
- * non-flammable / flame retardant

Typical applications include the encapsulation of electronic components, cables operating under adverse environmental conditions, i.e. high humidity, low temperatures, where flame retardancy and re-enterability of the resin system is required.

NOTICE

The technical specification and/or our technical advice whether verbal, in writing or by trials is given in good faith and based on our test results obtained but without warranty. It does not release the user from the obligation to test the products supplied by us or any third party as to the suitability for the intended application.

The application, use and processing of the products are beyond our control and Elite Chemical Industries (Pty) Ltd's legal obligation in respect of any sale of its products shall be determined by the terms of its conditions of sale.

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