



STYCAST 2850 FT-FR

Two Component, Flame Retardant Epoxy Encapsulant With High Thermal Conductivity

Product Description :

STYCAST 2850 FT-FR has the properties of STYCAST 2850 FT plus flame retardant, when cured with either CATALYST 9 or CATALYST 11, equivalent to the requirements of Underwriter's Laboratories 94 V-0.

STYCAST 2850 FT-FR is normally dark grey. For high voltage applications, STYCAST 2850 FT-FR (blue) should be ordered.

Applications :

This highly filled epoxy formulation has very good overall general properties plus exceptionally high thermal conductivity. This combination provides the good electrical insulation, low thermal expansion and good heat transfer characteristics so well known for STYCAST 2850 FT and takes care of flammability requirements which are becoming so much in demand.

Instructions For Use :

Choice of curing agents : From the information supplied, select the catalyst which best suits your requirements :

1. CATALYST 9.
Room temperature curing - 45 minutes pot life for 0,5 kg mass - highest viscosity - tough and rigid at all temperatures to 150°C.
2. CATALYST 11.
Requires oven cure - 4 hours pot life for 4,5 kg mass - viscosity can be reduced by heating to 60°C- excellent thermal and mechanical shock - best electrical and physical properties at temperatures above 120°C - can be used up to 205°C.

General instructions :

Mix the entire content of the shipping container to a uniform consistency each time before removing material. Power mixing is preferred. MOLD RELEASE 122 S will prevent adhesion to molds. Where necessary, entrapped air can be removed by vacuum deairing.

1. If using CATALYST 9.
 - 1.1. Add and thoroughly blend 3 parts CATALYST 9 by weight for each 100 parts by weight of STYCAST 2850 FT-FR. Slight warming, 40°C, of the resin prior to adding catalyst will improve pourability.
 - 1.2. Pour into mold. Allow to cure at room temperature (25°C) overnight or oven cure for 2 hours at 65°C.
2. If using CATALYST 11.
 - 2.1. Add and thoroughly blend 4 to 5 parts by weight of CATALYST 11 for each 100 parts by weight of STYCAST 2850 FT-FR. STYCAST 2850 FT-FR may be heated at any temperature up to 75°C before catalyst addition to lower viscosity and aid pourability.
 - 2.2. Pour into mold. Cure at any of the following schedules :
 - 16 h at 75°C
 - or 2 h at 100°C
 - or 1 h at 125°C

For optimum high temperature performance and minimum coefficient of expansion, post cure for 4 hours at 150°C.

Technical Data



Properties Of Material As Supplied:

Property	Test Method	Unit	Value
Chemistry			epoxy
Appearance	Visual		dark grey
Density	ASTM-D-792	g/cm ³	2,3 - 2,5
Mixed Viscosity at 30°C With CATALYST 11 at 25°C With CATALYST 9	ASTM-D-2392 ASTM-D-2392	Pa.s Pa.s	100 - 170 70 - 90

Cure Schedule :

Please refer to the instructions for use above.

Properties Of Material After Application (With CATALYST 11) :

Property	Test Method	Unit	Value
Hardness	ASTM-D-2240	Shore D	90 minimum
Compressive Strength	ASTM-D-695	MPa	100 - 140
Elastic Modulus, Compressive	ASTM-D-695	MPa	
Flexural Strength	ASTM-D-790	MPa	85 - 105
Flexural Modulus	ASTM-D-790	MPa	
Tensile Strength	ASTM-D-638	MPa	45 - 60
Impact Strength	ASTM-D-256	J/cm	1,6
Thermal Conductivity	ASTM-D-2214	W/m.K	1,3
Coefficient Of Linear Thermal Expansion	ASTM-D-3386	10 ⁻⁶ K ⁻¹	30
Linear Shrinkage During Cure	ASTM-D-2566	%	0,1
Volume Resistivity	ASTM-D-257	Ohm.cm	10 ¹⁵ minimum
Dielectric Constant at 60 Hz at 1 kHz at 1 MHz	ASTM-D-150 ASTM-D-150 ASTM-D-150		6,6 6,3 6,0
Dissipation Factor at 60 Hz at 1 kHz at 1 MHz	ASTM-D-150 ASTM-D-150 ASTM-D-150		0,02 0,01 0,02
Dielectric Strength	ASTM-D-149	kV/mm	19,3
Moisture Absorption In 24 Hours	ASTM-D-570	%	0,1 maximum
Machinability			poor (must be ground)
Service Temperature	ASTM-D-794	°C	205 maximum
Flammability	UL 94	V-0	passes

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Storage And Handling :

Store STYCAST 2850 FT-FR in well sealed, unopened containers at temperatures between 18°C and 25°C.

Storage Temperature (°C)	Usable Shelf Life
18 to 25	1 year

Health & Safety :

It is recommended to consult the product literature, including material safety data sheets, prior to using Henkel Corporation products. These may be obtained from your local sales office.

Attention Specification Writers :

The technical information contained herein is consistent with the properties of the material and should not be used in the preparation of specifications, as it is intended for reference only. For assistance in preparing specifications, please contact your local Henkel Corporation office for details. Please contact Henkel Corporation Quality Assurance for test method details.

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Technical Data

Note

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