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MTC275 Out of Autoclave Component prepreg

MTC275 Prepreg is designed to give excellent clarity and surface finish out of autoclave. MTC275 can be supplied on a variety of fabrics and in UD format.

Key Features

MTC275 has the following features;

- Cure temperature from 85°C
- Service temperatures up to 100°C after postcure
- Low CTE and shrinkage
- Work life at 20°C: 28 days
- Storage life at -18°C: 12 months
- Very low VOC content – no added solvents during manufacture

Cure Cycles & Performance

Recommended Cure cycle

- Dwell at 85°C for 2 hours ±0.5 (ramp rate of 1°C) followed by 130°C for 1 hour (ramp rate 2°C per minute). The use of solid release film is recommended.

Alternative final cure temperatures

Final Cure Temperature (°C)	Final Cure Duration (hours)	Tg Onset (°C)
85°C	16	85°C
90°C	8	90°C
100°C	4	100°C
110°C	2	110°C
Post Cured at 120°C	1	120°C

Curing Schedule is meant to be a guide only and is subject to local conditions.

- To avoid exotherm particular care must be taken with thick laminates, ramp rates must not exceed 3°C per minute and 20°C per hour for post-cure.

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Note: The information and assistance provided herein is for your consideration without legal responsibility. Users are required to perform verification and testing to confirm that the product meets with their requirements.

Mechanical Properties

MTC275-42%-2X2T-3K-T300-1250				
Compression Test - BS EN ISO 14126 : 1999				
	Sample	Dimensions (mm)	Comp Strength (MPa)	Comp Modulus (GPa)
001: 0 Direction	1	10.04 x 1.90	509.42	53.70
002: 0 Direction	2	10.04 x 1.92	500.36	53.06
003: 0 Direction	3	10.04 x 1.87	438.49	51.56
Mean			482.59	52.77
Standard Deviation			32.82	1.10
% Co-Efficient of Variance			6.80	2.08

MTC275-42%-2X2T-3K-T300-1250					
Tension - ISO 527-4: 9					
	Sample	Dimensions (mm)	Tensile Strength (MPa)	Tensile Modulus (GPa)	Poisson's ratio
004: Tension 0	1	2.00 x 24.90	477.92	53.84	0.04
005: Tension 0	2	1.99 x 24.93	540.03	56.70	0.07
006: Tension 0	3	2.00 x 24.93	546.28	54.79	0.05
Mean			521.41	55.11	0.05
Standard Deviation			37.79	1.46	0.02
% Co-Efficient of Variance			7.25	2.64	28.64

MTC275-42%-2X2T-3K-T300-1250				
DMA - AITM 1-0003 Issue 3				
	Sample	Tg (°C)		
		Onset	Peak Loss	Peak tan δ
007: DMA	1	120.4	129.7	135.2
008: DMA	2	123.2	130.0	135.1
009: DMA	3	120.4	129.3	134.5
Mean		121.3	129.7	134.9

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MTC275-42%-2X2T-3K-T300-1250				
Flexure - ISO 14125 : 1998				
	Sample	Dimensions (mm)	Flexural Strength (MPa)	Flexural Modulus (GPa)
010: Flexure 0°	1	14.95 x 2.00	768.63	46.25
011: Flexure 0°	2	14.89 x 2.00	774.63	46.91
012: Flexure 0°	3	14.97 x 1.99	787.25	46.91
Mean			776.84	46.69
Standard Deviation			9.50	0.38
% Co-Efficient of Variance			1.22	0.82

MTC275-42%-2X2T-3K-T300-1250			
Inter Laminar SB - BS EN 2563 : 1997			
	Sample	Dimensions (mm)	Shear Strength (MPa)
013: Inter Laminar SB	1	9.85 x 1.99	64.39
014: Inter Laminar SB	2	9.89 x 2.01	66.02
015: Inter Laminar SB	3	9.98 x 2.01	63.56
Mean			64.66
Standard Deviation			1.25
% Co-Efficient of Variance			1.94

DMA Specimens were conditioned at 105°C for a week prior to testing.

The test results are reported as measured and are not normalised. All mechanical tests were completed independently by CTE Ltd, a UKAS accredited organisation. The test laminates were produced by SHD using an oven cure under vacuum. All tests results reported above can be supplied independently upon request.

Storage

The material should be kept frozen at -18°C. It must be kept in sealed plastic bags which must not be opened until fully thawed to room temperature.

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Health and Safety

Refer to the product Safety Data Sheet before using this material.

The following precautions must be taken when using epoxy resin prepregs:

Impervious gloves must be worn

Overalls must be worn

Resinas Castro S. L. cannot accept any liability for injury or damage where the above precautions have not been taken or where the material is used for any purpose other than its intended use.

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