NEMpreg.LT6540

LOW TEMPERATURE PREPREG BASED ON EPOXY RESIN

DESCRIPTION

NEMpreg.LT6540 is an advanced low temperature prepreg based on epoxy resin system. Suitable for the following applications: marine, industrial. Recommended for autoclave, vacuum bagging and hot press molding.

TYPICAL USE

Aesthetic elements:
marine, industrial

YACHTS INDUSTRIAL

FEATURES

- cure temperature from 70^{0}C
- medium tack (can be tailored)
- tailor made prepreg
- good mechanical properties
- high drapeability

DEDICATED TECHNOLOGY	autoclave, vacuum bagging, hot press molding
OUT LIFE (20^{0}C)	14 days
SHELF LIFE (-18^{0}C)	12 months
Tg	110^{0}C
REINFORCEMENT	glass, carbon from 25gsm to 900gsm

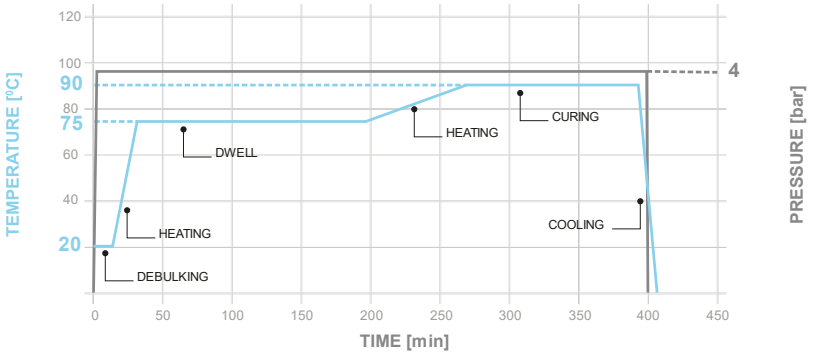
NEAT RESIN PROPERTIES

Resin system cured at 80^{0}C for 480 min.

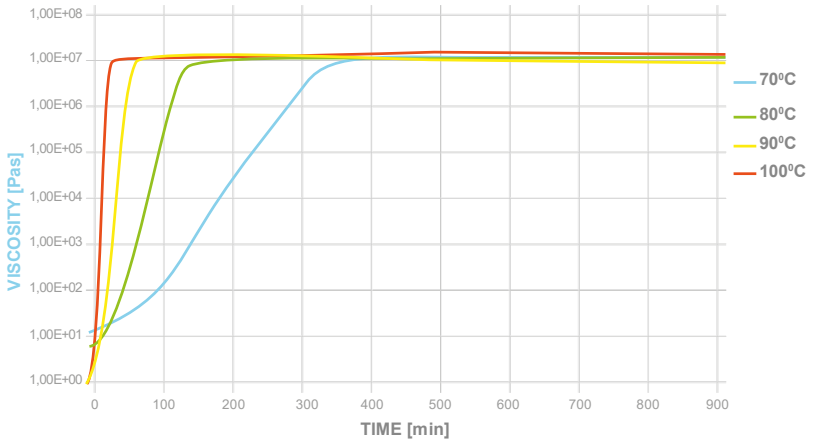
PROPERTY	UNIT	VALUE	TEST STANDARD
Tensile strength	MPa	40	ISO 527-4
Tensile modulus	GPa	3.4	ISO 527-4
Flexural strength	MPa	45	ISO 178
Flexural modulus	GPa	4	ISO 178
Tg (DMA)	^{0}C	110	ISO 6721-1

RECOMMENDED CURING CYCLE

1. Apply 0.9 bar of vacuum
2. Hold 15-30 minutes for debulking
3. Apply 2-6 bar of pressure
4. Heat at 2-3^{0}C/min up to 75^{0}C
5. Hold at 75^{0}C for 180 minutes
6. Heat at 0.2-2^{0}C/min up to 90^{0}C (the heating ramp depends on the elements thicknes)
7. Hold at 90^{0}C for 120 minutes
8. Cool down to 60^{0}C or below

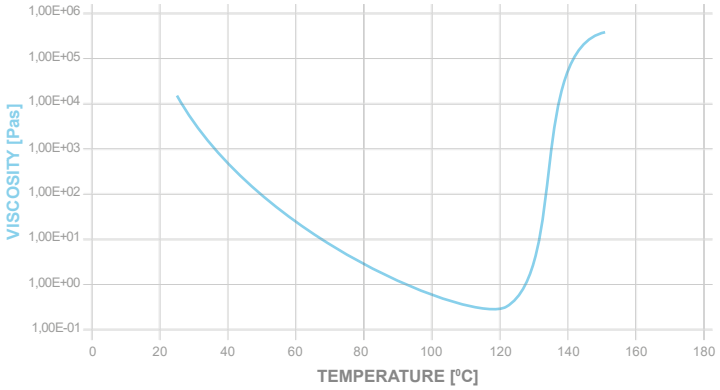


ISOTHERMAL CURING



DYNAMIC CURING

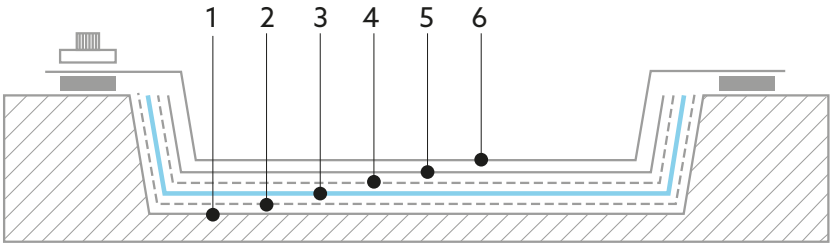
Resin viscosity profile conducted at 10^{0}C/min.



LAY-UP PROCEDURE

FOR AUTOCLAVE PROCESS

1. The mold surface must be covered with the release agent.
2. To prepare the surface for the bonding process, a layer of peel ply can be used for the lay-up (nylon peel ply is recommended).
3. Apply the MEMpregs.
4. The lay-up must be covered with release foil.
5. Put bleeders and feed strips of glass or peel ply on the top.
6. Finally, place a vacuum bag and seal it with butyl tape. Apply the vacuum to remove trapped air. Debulk the laminate for at least 15 to 30 minutes (depending on the thickness).



MECHANICAL PROPERTIES

Laminates cured using a vacuum bag in the oven according to the cycles presented above.

PROPERTY	UNIT	DESCRIPTION			TEST STANDARD
Fiber type	N/A	carbon	carbon	glass	N/A
Area weight	g/m^2	300	300	430	N/A
Weave	N/A	UD	BX±45	BX±45	N/A
Resin content	%	40	40	40	N/A
Tensile strength	MPa	1230	650	400	ISO 527-4
Tensile modulus	GPa	105	50	22	ISO 527-4
Flexural strength	MPa	1340	1000	660	ISO 14125
Flexural modulus	GPa	72	42	15	ISO 14125
Tg (DMA)	^0C	110	110	110	ISO 6721-1

STORAGE CONDITIONS

Keep the NEMpreg in the original bag at operating temperature before unpacking. NEMpreg can be stored for 14 days at 20^0C, or 12 months at -18^0C. After removal from refrigerator storage, prepreg should be allowed to reach room temperature before opening to prevent water condensation. When not in use, NEMpreg must be covered by protective foil to prevent the inner structure from humidity. If the moisture level is too high, it can result in superficial and internal defects in the finished product.

ATTENTION

The above information concerning our products is based on our present-day knowledge, research results and experiences and are presented in good faith in accordance with the company's practices. The proposed procedures are considered to be commonly applied. However, any user should verify, if the delivered material is suitable for the intended application. This should take place according to current industrial standards and norms, including examinations of the final product. Neither the company nor its representatives shall be liable for any direct, indirect, punitive, incidental, special consequential damages, to property or life, whatsoever arising out of or connected with the use or misuse of the company's products.

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