

NT-250 Standard Epoxy Prepreg

Description

The NT-250 Endureedge Max represents the next generation in prepreg resin technology. This novel prepreg product offers outstanding surface finish and laminate quality using vacuum bag only processing.

As a standard prepreg it does require frozen storage but offers a 90 day out time. NT-250 allows the parts builder to efficiently build large parts with very low void without complicated debulking processes or elaborate cure cycles. While NT-250 was designed for OOA processing, it is perfectly suitable for in-autoclave processes as well. NT-250 is suitable for high performance automotive and sporting goods, general purpose structures and a variety of composite parts. Also available in customer colors.

Ideal Applications

- Automotive
- Transportation
- Sporting Goods
- General Composite Structures
- Applications that require cosmetic appearance
- Available in both Carbon Fiber and Fiberglass
- Available in clear and pigmented versions

Product Features

- Excellent Mechanical Properties – full mechanicals without post-cure
- Freezer Storage needed; 3 months out-time at ambient storage conditions (70-80°F)
- Multi-Cure capable- Autoclave, Vacuum Bag, Closed Mold, Press
- Excellent Mechanical Properties with Vacuum Bag Only processing
- Unique engineered air release channels allows excellent OOA processing
- Very thick laminates can be produced without complicated debulking
- No changes in laminate processing conditions over time
- Optimized for high quality surface finish

Neat Resin Properties

Density 1.17 g/cc

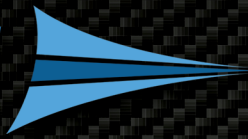
DRY Tg
(124°C) 255°F

ALL DATA VACUUM BAG ONLY

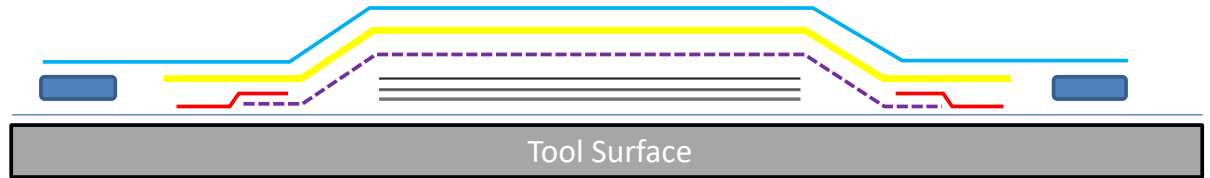
Prepreg Mechanical Properties on Carbon

PROPERTY (0°)	METHOD	CARBON FIBER
Tensile Strength	ASTM D3039	902 MPa (131 ksi)
Tensile Modules	ASTM D3039	70 GPa (10.1 Msi)
Flexural Strength	ASTM D7264	738 MPa (107 ksi)
Flexural Modulus	ASTM D7264	49.6 GPa (7.2 Msi)
Short Beam Shear	ASTM D2344	55.8 MPa (8.1 ksi)
Open Hole Compression	ASTM D6484	300 MPa (44 ksi)

Data normalized to 60% fiber volume
3K Grafil TR30S PW



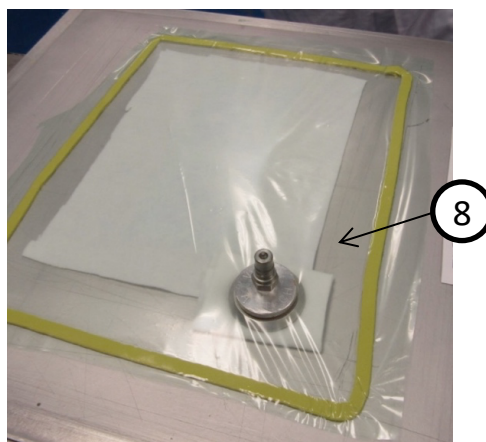
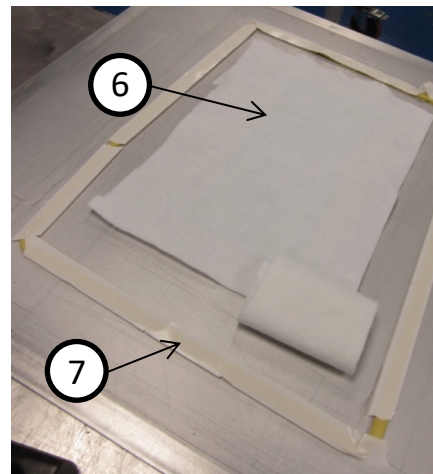
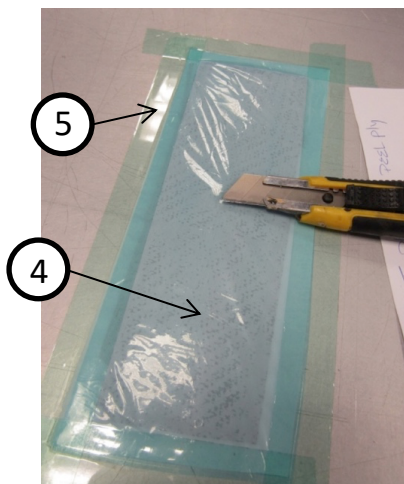
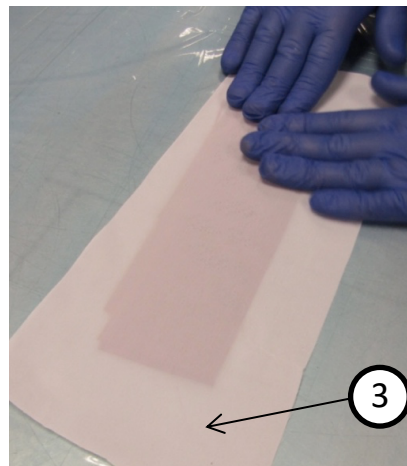
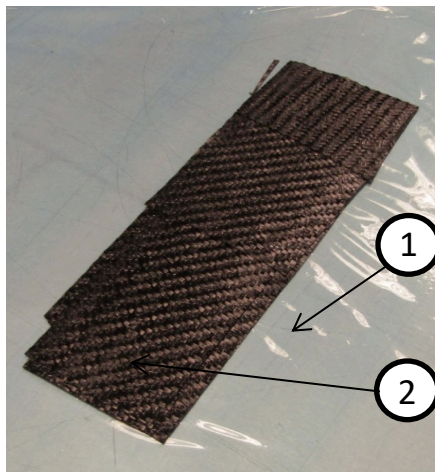
Layup option for minimal configuration

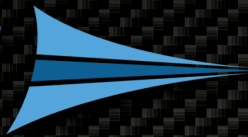


- ① ————— Release Agent (Marbocote 45Eco type)
- ② ===== NEXX Layup (up to 25 plies).
- ③ - - - - - Teflon film + small holes (pattern no less than 10x10cm)
- ④ ————— Sealant Tape (all around)
- ⑤ ————— Breather (the thinner the better)
- ⑥ [Blue Rectangle] [Blue Rectangle] Rubber sealant (all around)
- ⑦ ————— Vacuum Bag

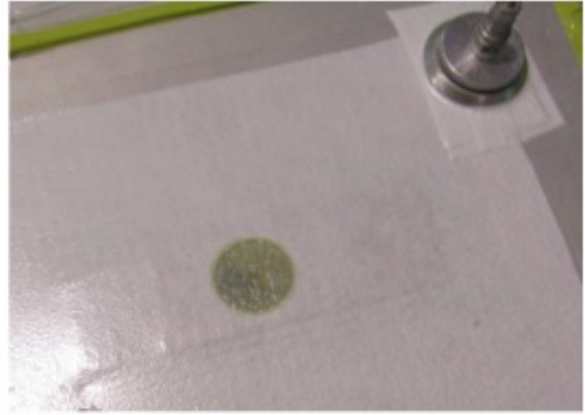
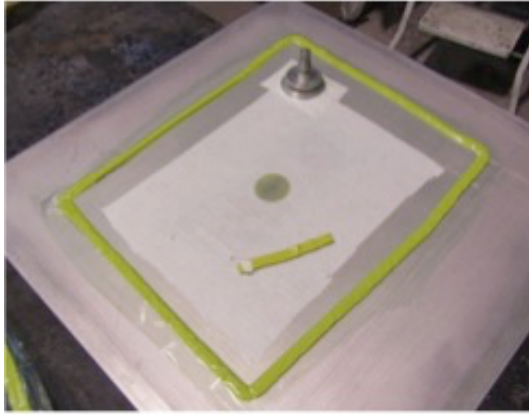
vacuum is applied throughout full cure process including while in oven.

Layup process for improved bag side

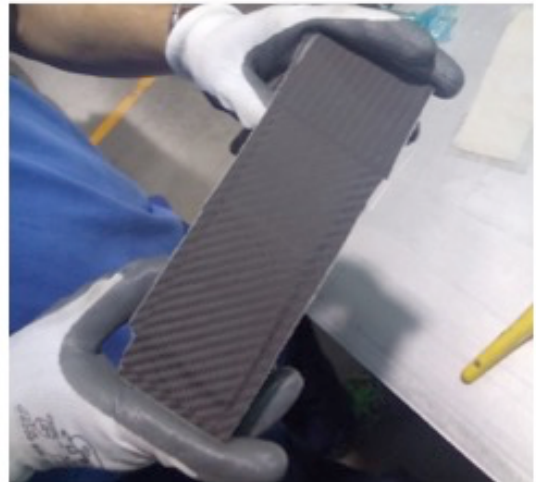




Proper cure process will show a small leak through the tack hole on the Teflon film (4) creating a drop on the breather.

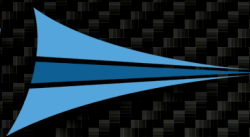


TOOL SIDE

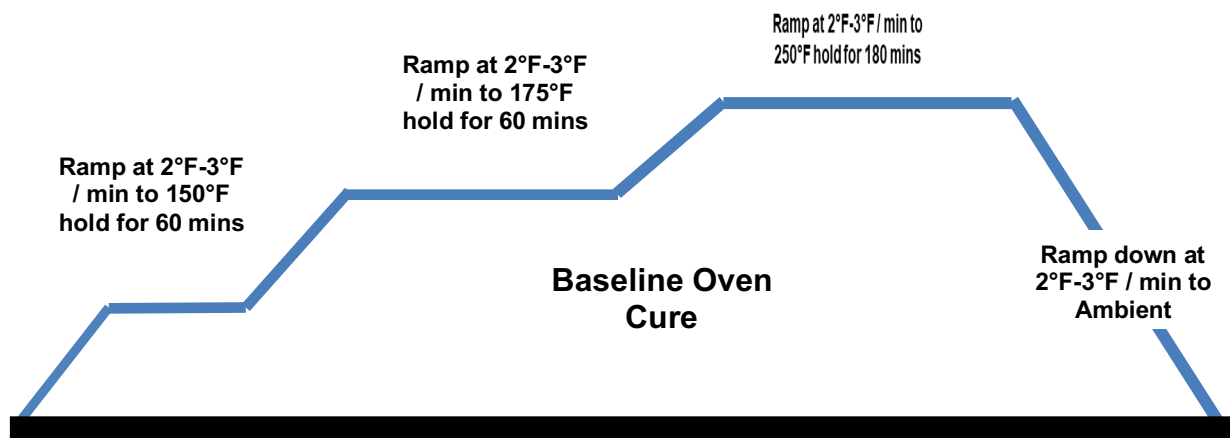


BAG SIDE

Poor results unless vacuum is applied throughout full cure process including while in oven.



Cure Process



EPOXY PREPREG, ADHESIVE, AND RESIN GUIDELINES AND HANDLING PROCEDURES

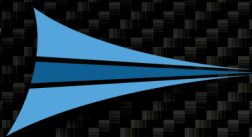
The following guidelines are provided to our customers to assure that best practices are used to attain the best results from NEXX Technology's epoxy products. Keep in mind that these procedures represent best practices for all composite prepreg and adhesive materials.

FREEZER STORAGE

Freezer storage may be required. Out time is measured at 90 days out of frozen temperatures and 1 year in freezer.

MOISTURE ABSORPTION AND SENSITIVITY

While very resistant to moisture absorption after cure, epoxies can be adversely affected by moisture uptake prior to cure. Materials may experience moisture buildup when they are removed from frozen storage. Care should be taken to avoid moisture exposure to the prepreg.



HANDLING MATERIALS

When handling any prepreg materials, always wear clean, powder-free latex gloves. This assures that no hand oils are transferred to the prepreg and/or composite during processing. The presence of oils in the part could lead to problems in both mechanical and electrical performance of the part. This also guards against dermatitis that may occur with some users.

USE OF HONEYCOMB AND FOAM CORE MATERIALS

When using nonmetallic honeycomb and foam core materials for sandwich structures, the materials should always be dried in an oven prior to lay-up to drive off any moisture that may be in the core. The core should be cooled in the presence of a desiccant to avoid moisture uptake. Following drying, it is always best to use the material as soon as possible. Recommended core dry time/temp: 121°C (250°F) for 3-4 hours.

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