We create chemistry

CONTOURA™ Series

Chemical Nature

CONTOURA™ is a thermoformable composite prepreg panel, or resonated nonwoven mat, optimized for use in automotive applications.

Typical Properties
Prepreg Processing Capability

Weight of Final Pressed Panel	500 gsm – 3000 gsm
Resin Add On*	20% - 60%
Prepreg Width	< 54 inches
Prepreg Thickness*	3-25 mm
Curing Temperature of Thermoset Prepreg	130°C to 200°C
Curing Time of Thermoset Prepreg**	30 – 150 seconds
Heating Temperature of Thermoplastic Prepreg	Contact Heat at 150°C to 175°C

*Depends on chosen nonwoven weight (gsm)
**Depends on nonwoven weight, add on level and curing temperature

Example of Pressed Panel and Physical Properties

Nonwoven Type	Glass Fiber/PET Fiber Blend
Resin Type	Thermoset
Composite Weight	1400 gsm
Molding Temperature	200°C
Molding Time	90 s
Molding Thickness	2mm
Flexural Modulus (ISO 178, Method A)	Machine Direction: 1700-2000 Mpa Cross Direction : 1900-2200 Mpa

Note: Mechanical performance of pressed panels may vary based on differences in molding temperature, time and thickness

These typical values should not be interpreted as specifications.

Application

Features

CONTOURA composite panels are made by impregnating nonwoven mats with thermoset and/or thermoplastic formaldehyde-free resin binders. The panels are optimized to fit various process and performance requirements and may be pressed into custom forms for a wide range of automotive applications. This unique manufacturing process provides improved thermo-mechanical stability and rigidity at a lighter weight compared to conventional thermoplastic nonwoven composite materials. **CONTOURA** exhibits enhanced physical properties at 20% lighter weight than natural fiber / polypropylene and up to 40% lighter weight than glass fiber / polypropylene or injection molded polypropylene / acrylonitrile butadiene styrene (ABS) products.

The **CONTOURA Series** offers a wide range of options for customizability. Based on recommendations from a team of composites experts, customers may choose the following:

- Resin type: thermoset or thermoplastic resin, depending on end user processing capabilities (i.e. hot or cold press, respectively)
- Nonwoven material: natural (bast, hemp, kenaf), synthetic (glass, PET), carbon, shoddy or hybrids
- Nonwoven weight (grams per square meter, GSM) and resin loading level (% of total prepreg weight)
- Options for additional performance: sounds absorption, flammability and others

In addition to high performance and light weighting, **CONTOURA** offers sustainability benefits as well. Not only can the nonwoven material be sourced sustainably in the case of natural fiber (i.e. fast-growing bast fibers that do not contribute to deforestation), but the composite content can be designed with up to 75% renewable materials. Additionally, the **ACRODUR** resins used in **CONTOURA** are all formaldehyde free, ensuring a low emission profile. With its inherent sound absorption characteristics, **CONTOURA** has also been used to simplify production by eliminating the need to have separate parts and production steps to satisfy structural and acoustic needs.

Once formed, **CONTOURA** boards maintain relatively equal expansion in all directions with an overall warp of less than 1% approximately. **CONTOURA** has good resistance to mold and mildew growth.

CONTOURA prepreg composite panels are available in sheets <54 inches in width (no limitation on length). **CONTOURA** is currently offered in two colors, Black and Natural.

Processing

CONTOURA composites can be coated, stained, imaged, or dyed. They can also be molded using steam or traditional wood shop tools.

Safety

General

The usual safety precautions when handling material must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet for CONTOURA C 1400.

Storage and Handling

CONTOURA composite prepregs need to be stored at cool and dry area. Care should be taken when handling pallets and opening straps.

Important

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