Reliance
Industries Limited
Growth is Life

Future of Composite

RELX™ COMPOSITES

TECHNICAL FABRIC

Reliance
Industries Limited

RELIANCE PETROCHEMICALS
Chemistry for smiles

MANUFACTURING

Reliance Industries Limited (Vadodara Composites Division)
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ABOUT

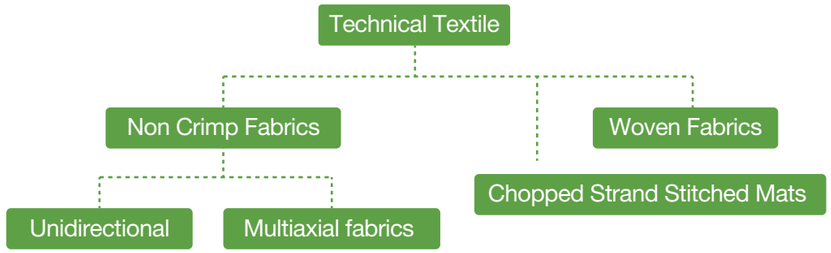
Reliance Industries Ltd (RIL), one of the most prestigious and largest organizations in India, has diversified into various businesses across the globe like energy, textiles, oil & gas, petrochemicals, telecommunication, retail, media & entertainment, advanced materials and composites etc. It is India's largest and most profitable private sector company.

The company is ranked 106th on the 'Fortune Global 500' list of the world's biggest organization as of 2019 and ranked 3rd in top Global Energy companies by 'S&P Global Platts' in 2017.

RIL has in-house Technical fabric manufacturing capability to manufacture Prepreg Glass fabric at Vadodara Manufacturing Division, Gujarat to cater to the emerging needs of various industrial segments like Power & Renewable Energy, Oil & Gas, Electrical & Electronics, Telecommunication, Defence, Aviation, Ship building, Mass Transportation, Automobile, Roads & Infrastructure, Construction & Disaster Management, Industrial & Municipal piping, etc.

The manufacturing unit is fully equipped with revolutionary world class technology, experienced teams and boasts of various Multiaxial, Biaxial and weaving machines providing backward integration to our composite business.

WIDE RANGE TO CATER EVERY NEED



MULTIAXIAL NON CRIMP FABRIC (NCF)

The NCF fabrics manufactured at Vadodara Manufacturing Division consist two or more layers. Each of the plies can be laid in different axis and this factor make the glass fabric to be known as NCF. By owing to numbers and plies - seeing positioning a unidirectional, biaxial, tri axial and quadriaxial construction can be amassed into Non crimp fabric system that has the greatest possible load-bearing capacity.

The numerous layers are allied composed with polyester yarn to prevent movement of layers which can cause the performance loss in finished laminate. The stitching also serves ease of handling in fabric during layup process.

TECH FABRICS USAGE

• Hand lay-up • Filament Winding • Pultrusion • Pre-pregging • Scrimp • Vacuum molding
• Compression molding • Centrifugal casting • RTM • Continuous laminating

RESIN COMPATIBILITY

The fibers used at our composites divisions for production of various range of fabric products are compatible with multiple resin systems such as unsaturated polyester, Vinyl ester, Epoxy, Polyurethane.

PRODUCT RANGE FOR NON-CRIMP FABRIC MULTIAXIAL REINFORCEMENTS AND ADVANTAGES:

Products	Advantages
Unidirectional (0° or 90°)	• Finished parts perform under extreme tensile and flexural stress. • Enhanced performance from lighter laminates. • Offers design flexibility for wide range of applications • Reduced resin usage and material weight. • Lower finished material cost.
Biaxial (± 45°)	• Finished parts perform under extreme shear and torsion stress. • Improved placement • Enhanced aesthetics with process cost assets. • Better quality handling. • Improved fiber alignment and mechanical properties. • Reduced resin usage. • Improved laminate surface quality. • Offers solutions for wide range of applications.
Triaxial (± 45°/0°) or (± 45°/90°)	• Improved fiber alignment and mechanical properties. • Reduced resin usage and part weight. • Reduced fabrication costs. • Enhanced aesthetics with material and labor savings. • Excellent stability of axial strength and shear resistance.
Quadraxial (0°/± 45°/90°)	• Improved fiber alignment and mechanical properties. • Reduced resin usage and part weight. • Reduced fabrication costs. • Enhanced aesthetics with material and labor savings.

PRODUCT RANGE

Quadraxial fabrics

Quadraxial fabric made of E-Glass with/without CSM* Layer structure: 0°/±45°/90° Mass per unit area fabric: 80-3400 g/m² CSM: 20-1200 g/m² Max. width: 2560 mm*) Chopped Strand Mat for this product is an option.

- veil/Surface mat up to 300 g/m² or
- continuous filament mat up to 600 g/m²

QUADRIAXIAL FABRICS
$0^0/+45^0/-45^0/90^0$

Triaxial fabric

Triaxial fabric made of E-Glass with/without CSM* Layer structure: (0°/±45°) or (90°/±45°) Mass per unit area Fabric (0°/±45°): 80-3400 g/m² Fabric (90°/±45°): 80-3400 g/m² CSM: 20-1200 g/m² Max. width: 2560 mm *) Chopped Strand Mat for this product is an option.

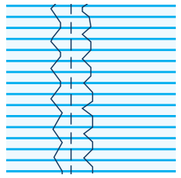
- veil/Surface mat up to 300 g/m² or
- continuous filament mat up to 600 g/m²

TRIAXIAL FABRICS
$0^0/+45^0/-45^0$ or $+45^0/90^0$

Unidirectional fabric

Unidirectional fabric made of E-Glass with/without CSM* Layer structure: (0°) and (90°) Mass per unit area Fabric 0°: 80-3400 g/m², Fabric 90°: 80-3400 g/m² CSM: 20-1200 g/m² Max. width: 3840 mm*) Chopped Strand Mat for this product is an option.

- veil/Surface mat up to 300 g/m² or
- continuous filament mat up to 600 g/m²



UNIDIRECTIONAL FABRICS
UDO^0 or $UD90^0$

Biaxial fabric

Biaxial fabric made of E-Glass with/without CSM* Layer structure: (±45°) or (0°/90°) Mass per unit area Fabric 80-3400 g/m² CSM: 20-1200 g/m² Max. width: 2560 mm*) Chopped Strand Mat for this product is an option.

- veil/Surface mat up to 300 g/m² or
- continuous filament mat up to 600 g/m²

BIAXIAL FABRICS
$+/-45^0$

Woven fabric

Woven fabric made of E-Glass with/without CSM* Layer structure: (0°/90°) Mass per unit area Fabric 80- 3400 g/m² CSM: 20-1200 g/m² Max. width: 3520 mm. Chopped Strand Mat for this product is an option.

- veil/Surface mat up to 300 g/m² or
- continuous filament mat up to 600 g/m²v

BIDIRECTIONAL FABRICS
$0^0/90^0$