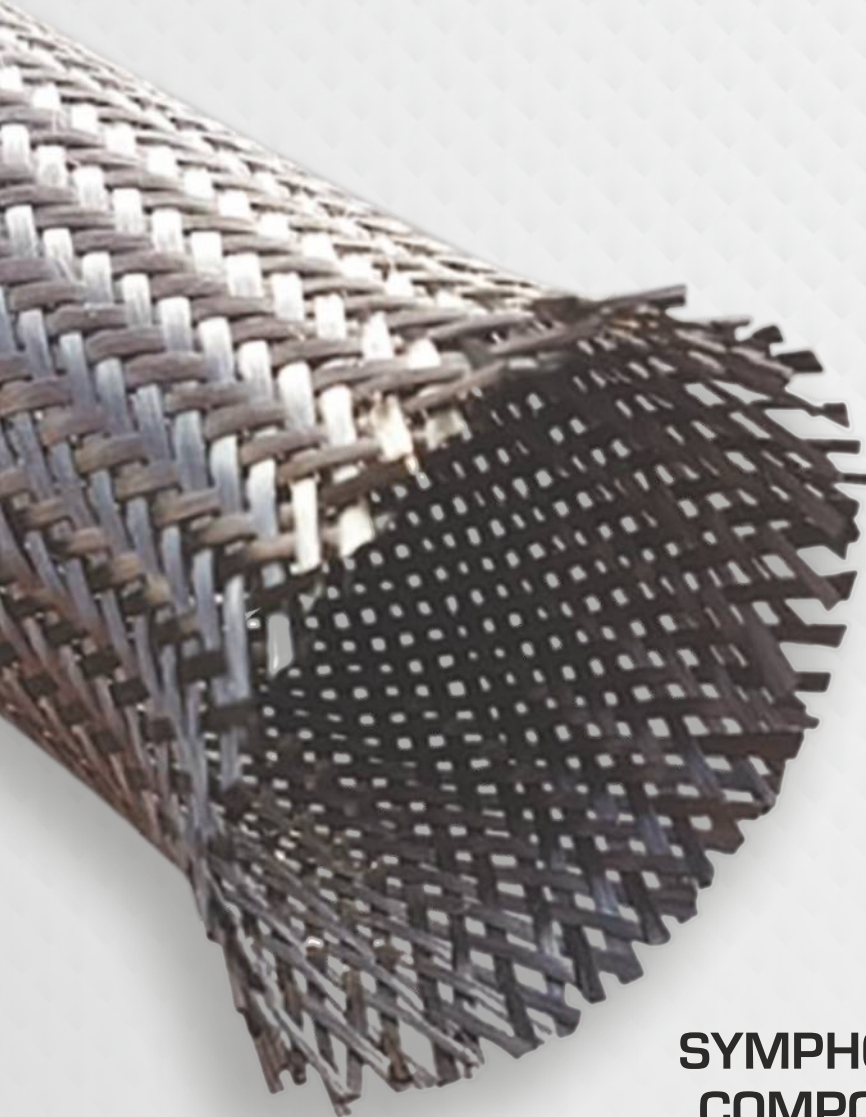


NitPro

— COMPOSITES —



**SYMPHONY IN
COMPOSITES**

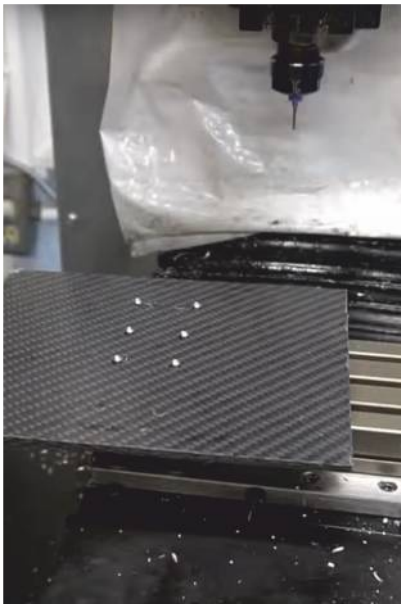


ABOUT NITPRO COMPOSITES

NitPro Composites is part of a well-diversified, 35 years old industrial group in India having business in more than 80 countries for supply of engineering goods, hobby & DIY products. The group has multiple factories where more than 4000 persons work in different roles. The group now has a prominent presence in the composites sector in India and in markets in Europe.

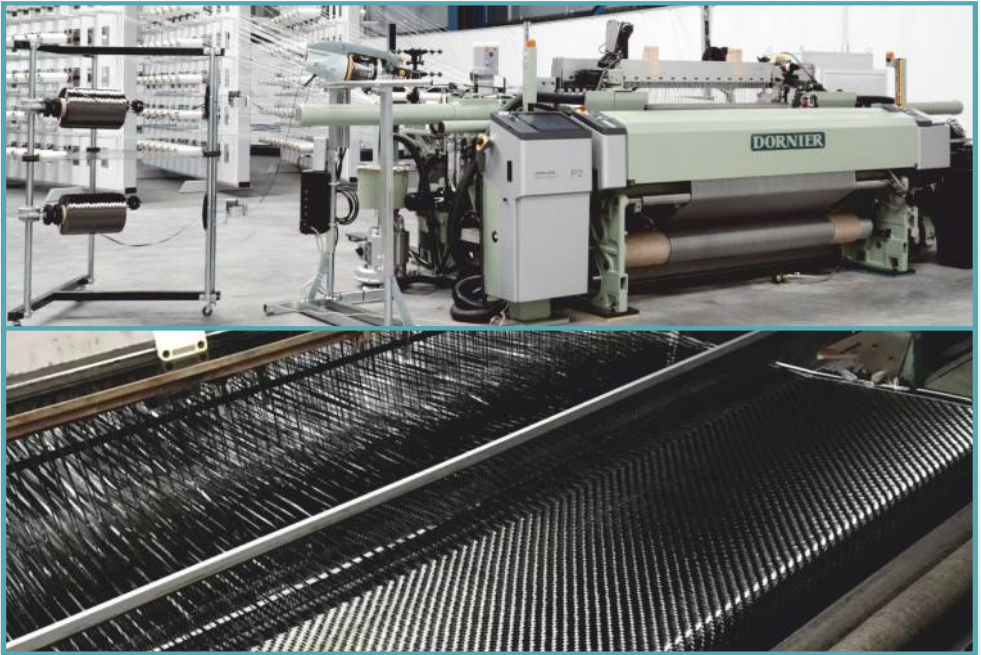
The vision of the composites division of the group is to become a reliable, world-class supplier of high quality products to users in aerospace, automotive, industrial, UAV, medical, recreation & civil engineering sectors.

DEFINING THE FUTURE WITH INNOVATION



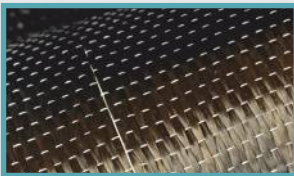


WOVEN FABRICS



We use Dornier Rapier Weaving Machine P2 which is the latest state-of-the-art machine from Lindauer Dornier GmbH, Germany to weave carbon, aramid, basalt or glass fiber fabric for multiple applications. These include reinforcement in civil engineering and construction applications, for hand lay-up for different kind of parts used in aerospace, automobiles, etc, for making BD prepreg for moulding & other applications, etc.

We have a wide range of technical fabrics in different weave and construction in all kind of technical fibers.



PROPERTIES OF CARBON FIBER FABRIC:				
Product Code	CAU 200	CAU 300	CAU 400	CAU 600
Fiber Density g/cm ³	1.8			
Fiber Area Weight (g/m ²)	200gsm	300gsm	400gsm	600gsm
Standard Roll Width mm	500mm, 1000mm			
Standard Roll Length m	100	100	50	50
Ultimate Elongation	2.1%			
Fibre Strength (MPa)	4000 - 5200			
Fibre E-modulus (GPa)	>230			

**Customised products can be supplied as per customer's request*

PREPREG ROUND & SQUARES TUBES

Key Features

- Accurate Layup for different applications
- 80/20 ratio of UD & BD carbon fibers
- Higher specific stiffness
- Easy machineability
- Accurate tolerance at ID and OD
- Dimensionally stable
- Thermally stable up to 110°C

PREPREG TUBES WITH CARBON FIBER AND EPOXY RESIN

PARAMETER	VALUE	UNIT
Diameter	OD \pm 0.1	mm
Fiber Layup	0°/90°Unidirectional with 2X2/1X1 bidirectional outer	degree
Fiber type	Standard modulus carbon fiber	
Resin type	Epoxy	
Fiber Volume	60 \pm 3	%
Tensile strength	>1500	Mpa
Tensile modulus	>105	Gpa
Flexural strength	>125	Gpa
Glass transition temperature	>110	°C
Density	1.5	gm/cc

**Customised products can be supplied as per customer's request*



PULTRUDED PROFILES

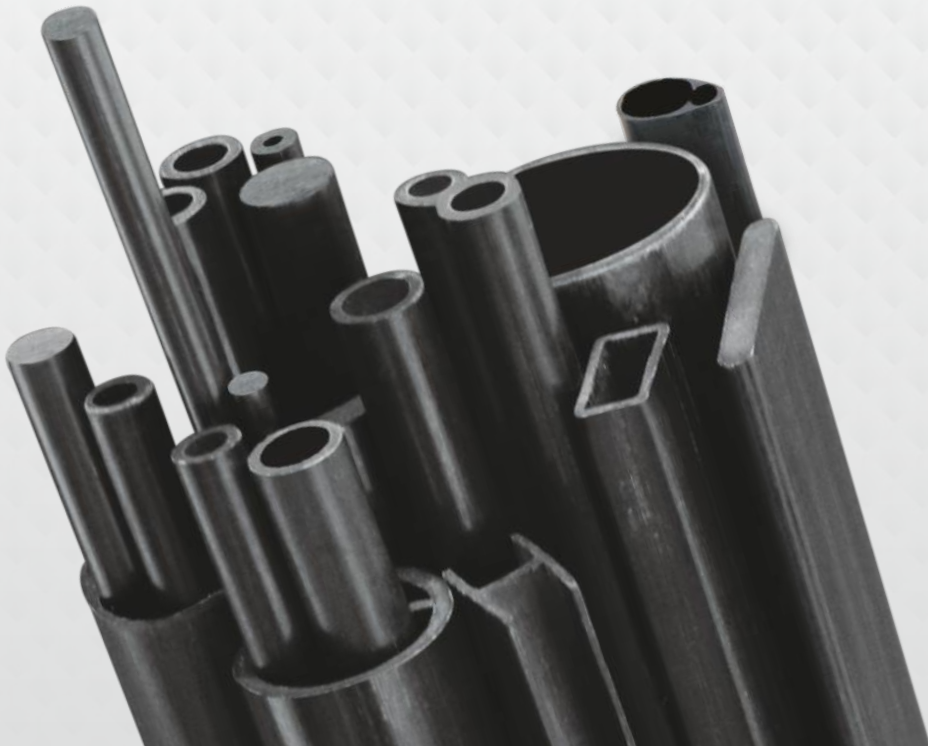
Key Features

- 100% unidirectional fibers are used
- Higher fiber volume fraction up to 70%
- High tensile properties and stiffness
- Dimensionally stable
- Thermally stable up to 115°C

PULTRUSION PROFILE WITH CARBON FIBER AND EPOXY RESIN

PARAMETER	WITH EPOXY RESIN	WITH VINYL ESTER RESIN	UNIT
	VALUE	VALUE	
Diameter	OD \pm 0.05	OD \pm 0.05	mm
Fiber orientation	Unidirectional 0	Unidirectional 0	degree
Fiber type	Standard modulus PAN based carbon fiber	Standard modulus PAN based carbon fiber	
Fiber Volume	65 \pm 3	65 \pm 3	%
Tensile strength	>2000	>1400	Mpa
Tensile modulus	>135	>130	Gpa
Flexural strength	>150	>140	Gpa
Ultimate Tensile strain	1.30%	1.30%	
Glass transition temperature	>120	115	°C
Density	1.55	1.55	gm/cc

**Customised products can be supplied as per customer's request*



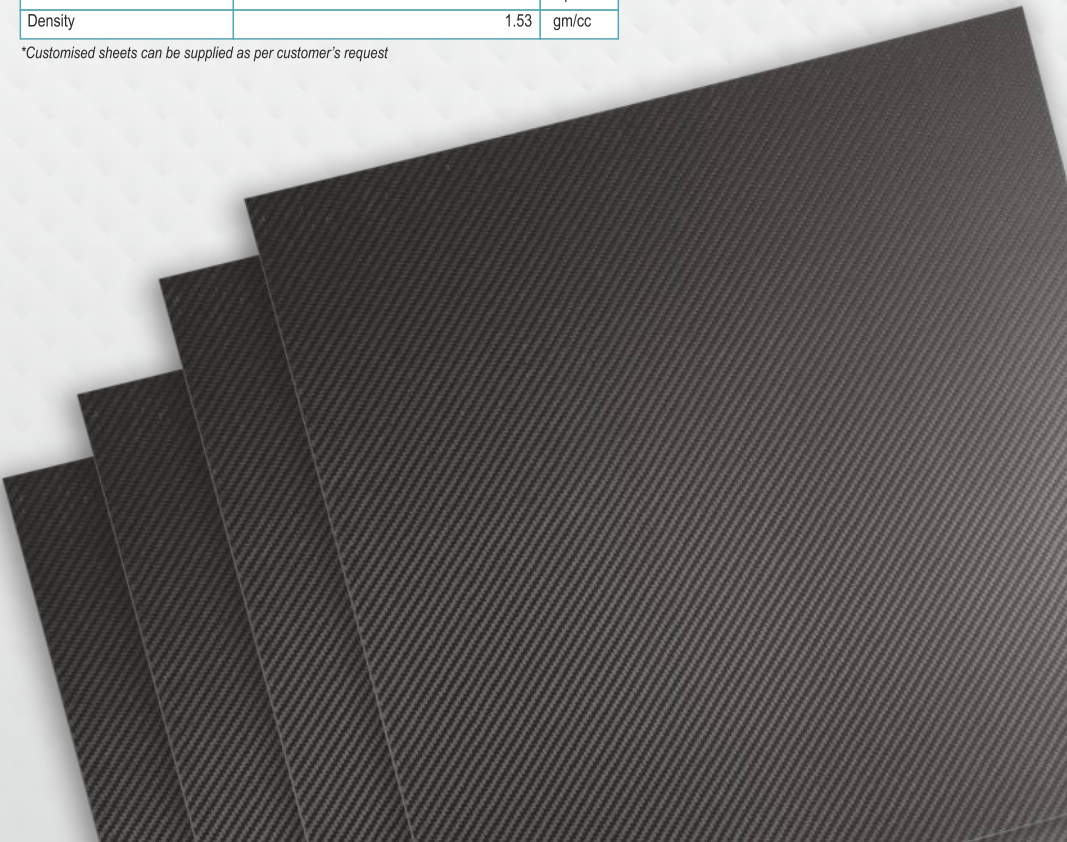
CARBON FIBER SHEETS

Key Features

- 0°/45°/90° and bi-directional layup for uniform strength
- Superior glossy/Matte surface finish
- Dimensionally stable
- Easy machinability
- Superior chemical resistance
- Thermally stable up to 110°C

CARBON FIBER SHEETS		
PARAMETER	VALUE	UNIT
Thickness	0.5, 1.0, 1.5, 2.0, 2.5,3.0 etc	mm
Skin Layup	2X2/1X1 twill weave/Plain weave bidirectional	
Core Layup	0°/90°Unidirectional	
Resin Matrix	Epoxy	
Fiber Volume	65±3	%
Finish	Gloss/Matte/Rough	
Glass transition temperature	>110	°C
Tensile Strength	>800	Mpa
Tensile Modulus	>60	Gpa
Density	1.53	gm/cc

**Customised sheets can be supplied as per customer's request*



BLADDER MOULDING



Bladder moulding is a popular manufacturing process used in the production of high-performance carbon fiber composite parts. It is an ideal process for producing parts with complex shapes and high-quality surface finishes which are not possible with conventional manufacturing method. We have in-house capability to make moulds for vacuum moulding for different shape products.

Key Features

- Complex & Trapped Geometry Composites
- Variable pressure for optimum fiber content
- Low tooling cost
- Low void content

VACUUM INFUSION / BAGGING



Vacuum Infusion Process (VIP) is a method to drive resin matrix into fiber laminate by using vacuum pressure. Dry materials are laid into the mould and the resin matrix is introduced by suction or vacuum creation under a sealed bag. We have expertise to execute complex and critical project by vacuum assisted resin transfer moulding or vacuum bagging. We have in-house capability to make moulds for vacuum moulding for different shaped products.

Key Features

- Uniform compacting pressure
- Control of resin content
- Custom shapes- complex design
- Efficient laminating
- Cost effective solution for small lot production

CNC MACHINING EXPERTISE

We offer customisation of different kind of parts and profiles through CNC machining applications through use of 3-5 axis CNC machines, water jet cutting and conventional machining methods to ensure precise results.

Key Features

- Complex 2D or 3D profile cutting
- Accurate sharp and clean edge after cutting
- Reasonable technology for machining



AREAS OF APPLICATION

INDUSTRIAL



UAV COMPONENTS



AUTOMOTIVE



RECREATIONAL

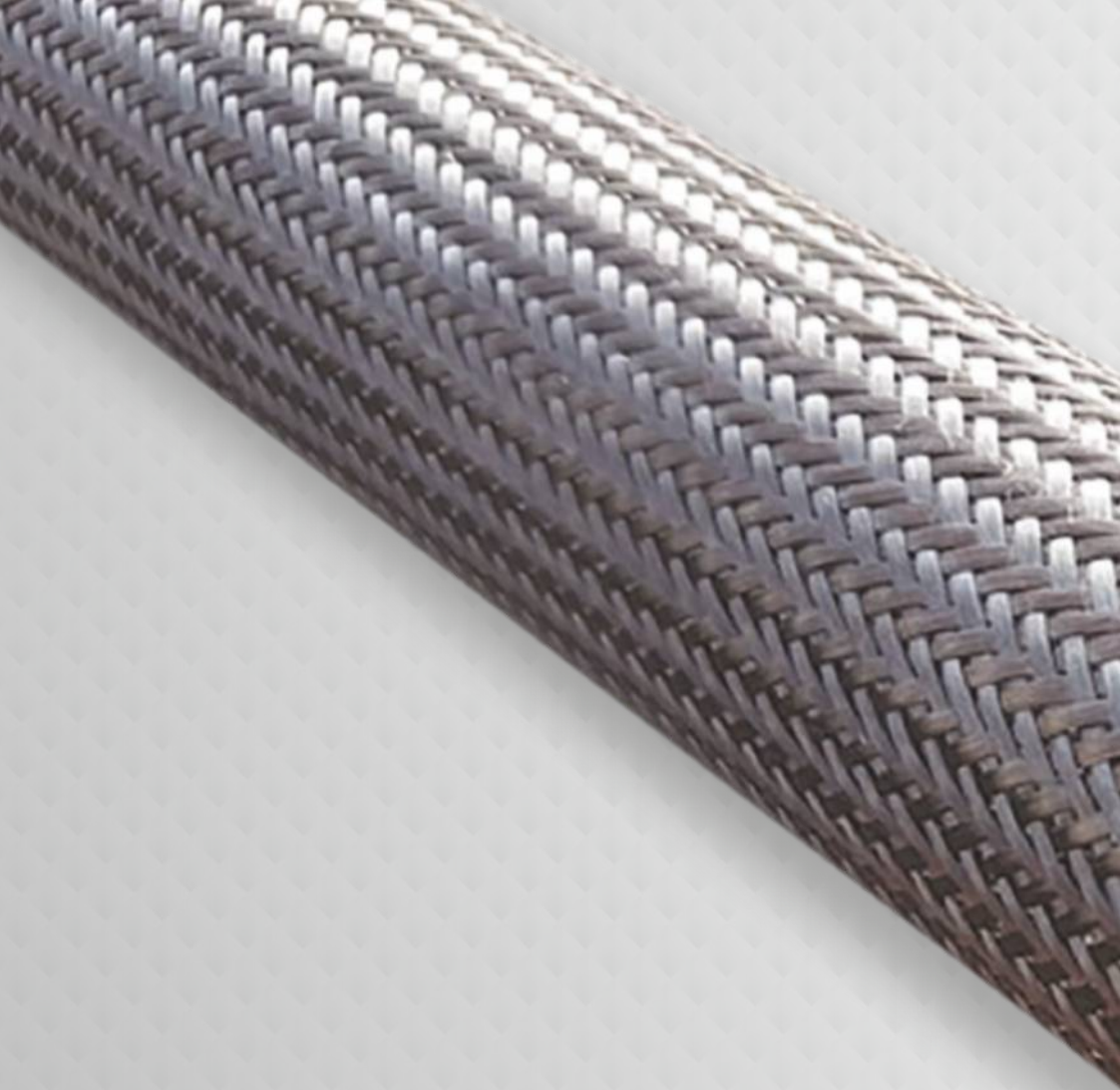


RETROFITTING SOLUTIONS



MEDICAL





To know more

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