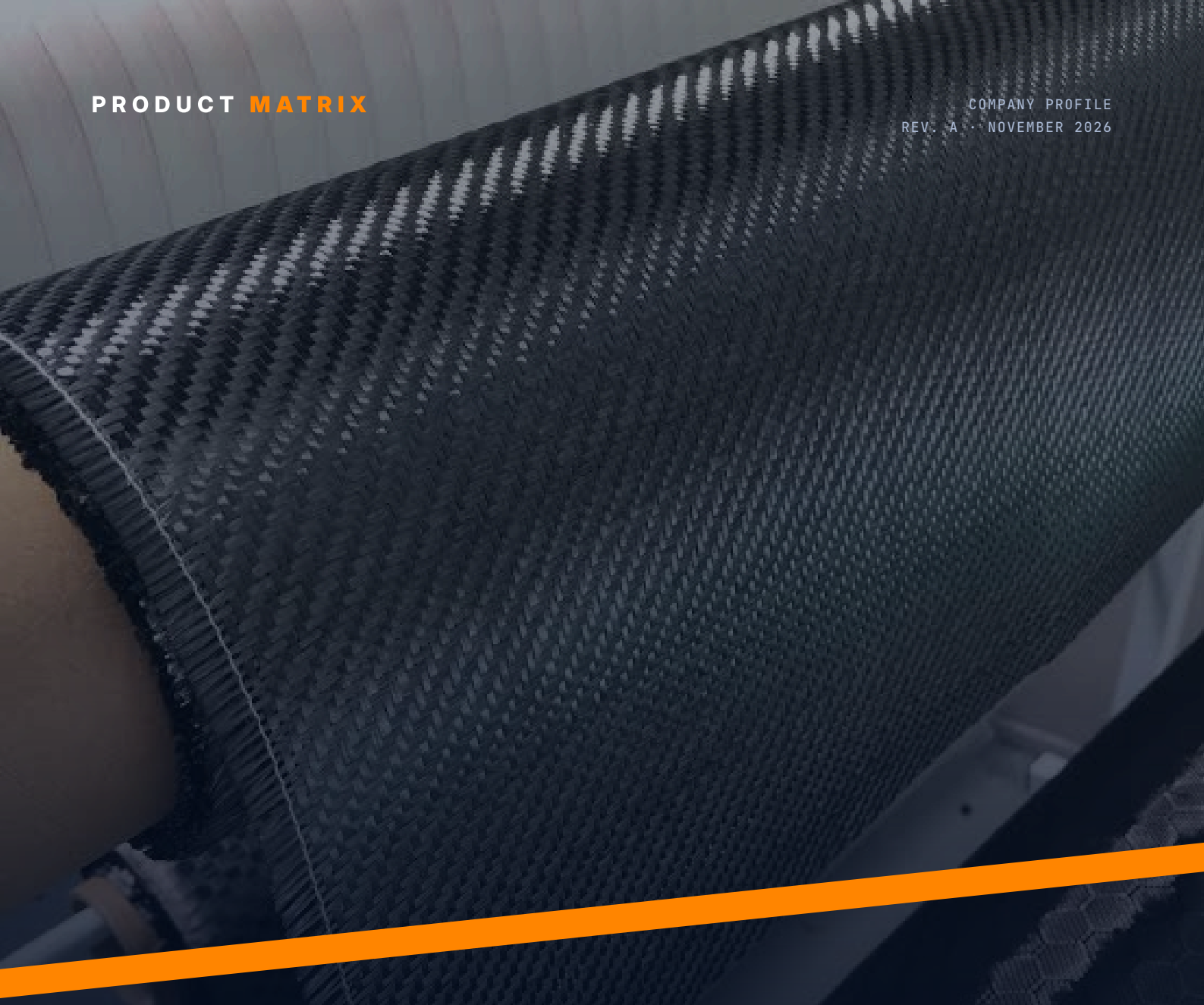
PRODUCT MATRIX

COMPANY PROFILE
REV. A · NOVEMBER 2026



SIALKOT · PAKISTAN

Carbon fibre composites

Carbon fibre materials, mould design and tooling, and custom composite parts, made to your drawing.

FACTORY
2 Km, Pasrur Road
Sialkot, Pakistan

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+92 321 5387935

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productmatrixllc@gmail.com

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www.productmatrixllc.com

01

ABOUT

DOCUMENT STATUS

Technical values are indicative and confirmed against manufacturer datasheets at the time of order.

LOCATION

2 Km, Pasrur Road, Sialkot, Pakistan

Carbon fibre, made in Sialkot

Product Matrix is a manufacturing company in Sialkot with a new carbon fibre division. We supply the material, design the tooling and make the part.

Sialkot is known worldwide for precision manufacturing and export. Building on that base, we supply carbon fibre fabrics, sheets and tubes, design the moulds needed to shape them, and produce custom composite parts to customer drawings or samples.

Carbon fibre reinforced polymer (CFRP) offers very high strength and stiffness at a fraction of the weight of metals, with excellent fatigue and corrosion resistance.

New	1 to batch	Drawing → part	2026
carbon fibre division	prototype to repeat order	design, tooling, production	profile revision A

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Why Product Matrix

- **Material and parts from one supplier.** Fabrics, sheets, tubes and consumables, plus finished custom parts.
- **Own tooling.** Plug and mould design keeps part shape, finish and repeatability under our control.
- **Built around your drawing.** Requirements, ply schedule and finish are agreed before any tooling is made.
- **Documented quality.** Dimensional, thickness, weight and visual checks, with material certificates on request.

02

SERVICES

TECHNICAL SUPPORT

Unsure which fibre, weave or thickness suits your part? Send the load case, drawing or a sample and we will recommend a ply schedule and process.

Specialized services

Six services, delivered by our in-house team from requirement to dispatch.

S-01

Carbon fibre materials supply

Material for your own lay-up or production.

- Woven fabrics: plain and twill, 3K
- Unidirectional (UD) fabrics
- Sheets, plates, tubes and rods
- Cut-to-size and roll supply

S-02

Custom composite parts

Made to your drawing or from a sample.

- Panels, covers, housings and ducts
- Tubes, booms, frames and brackets
- Gloss or matt, plain or twill look

S-03

Mould design and tooling

Tools designed for your part and volume.

- Plug and mould design
- Tooling-board, GRP and composite moulds
- Split moulds and mandrels for hollow parts

S-04

Prototyping and small batches

From first article to repeat orders.

- Fit and function prototypes
- Design iterations and revisions
- Consistent parts from the same tool

S-05

Finishing and machining

Parts delivered ready to fit.

- Demoulding and trimming
- Drilling and cut-outs
- Sanding, polishing and clear coat
- Inserts and bonded fittings

S-06

Resins and consumables

Everything for the lay-up bench.

- Epoxy laminating and infusion resins
- Release agent, peel ply, breather
- Infusion mesh, vacuum bag film, sealant tape

03

PRODUCTS

TYPICAL FORMATS

Availability, grades and exact specifications are confirmed against the manufacturer datasheet at the time of order.

UNITS

g/m² fabric areal weight
mm sheet thickness



Carbon fibre products and composites

We supply carbon fibre materials and finished composite products, and design the moulds and tooling to produce them, for customers in sport, industry, mobility and architecture.

Product range

PRODUCT	DESCRIPTION	TYPICAL FORMATS
Carbon fibre fabrics	3K plain and twill woven fabrics for hand lay-up, wet lay-up and infusion; unidirectional fabrics for directional strength	≈ 160–400 g/m² rolls or cut to size
CFRP sheets and plates	Flat laminated sheets, plain or twill finish, gloss or matt, for structural, machine and decorative use	≈ 0.5–5 mm standard or cut-to-size
CFRP tubes and rods	Round tubes and solid rods for frames, booms, shafts and structural members	custom diameters and lengths
Custom moulded parts	Panels, enclosures, housings, ducts and brackets produced in our own moulds	per drawing or sample
Resins and consumables	Epoxy laminating and infusion resins, release agents, peel ply, breather, infusion mesh, vacuum bag film, sealant tape, core materials	kits and bulk
Moulds and tooling	Plug and mould design, tooling-board machining, GRP and composite moulds, split moulds and mandrels	per project

03

MATERIALS

READING THE TABLE

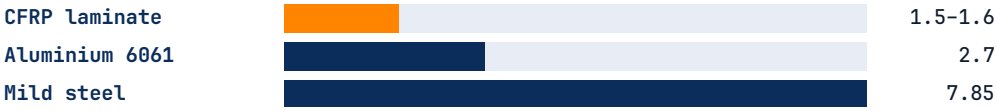
CFRP properties depend on fibre direction. Strength is highest along the fibre.

PLY SCHEDULE

[0/+45/90/-45]s eight plies, symmetric about the mid-plane

Why carbon fibre

Density, g/cm³



PROPERTY (INDICATIVE)	CFRP LAMINATE	ALUMINIUM 6061-T6	MILD STEEL
Tensile strength	≈ 500–1,500 MPa UD along fibre: 2,000+	≈ 310 MPa	≈ 400–550 MPa
Elastic modulus	≈ 70–150 GPa	≈ 69 GPa	≈ 200 GPa
Corrosion resistance	Excellent	Good	Needs protection
Fatigue performance	Excellent	Moderate	Moderate

Typical ranges for standard-modulus carbon fibre composites. Values vary with fibre grade, resin, fibre volume fraction and lay-up. Confirm against datasheets before design use.

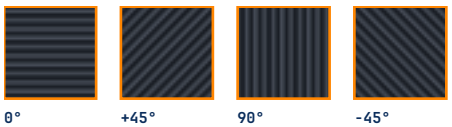
Fabrics, sheets and laminates

Our sheets are laminated from woven carbon fabrics in balanced, symmetric ply schedules, so they stay flat and perform predictably. Twill drapes over curved moulds; plain weave is stable and flat; unidirectional plies put the strength where the load path needs it.



PLAIN 3K TWILL 2×2 3K UNIDIRECTIONAL

Fig. 1 · Fabric architectures supplied (illustrative swatches)



Quasi-isotropic schedule [0/+45/90/-45]s, balanced and symmetric: stays flat after cure

Fig. 2 · Ply orientations in a balanced laminate (illustrative)

03

TOOLING

MOULD BUILD

tooling board, GRP or composite tooling resin, stiffening ribs, steel base frame

ON EVERY FLANGE

dowels, sealant groove, infusion ports

Mould design and tooling

Every composite part starts with a good mould.

We design plugs and moulds for the part geometry, production volume and cure process. Flanges carry dowels, sealant grooves and infusion ports, so parts come off consistently and with a high-quality surface.

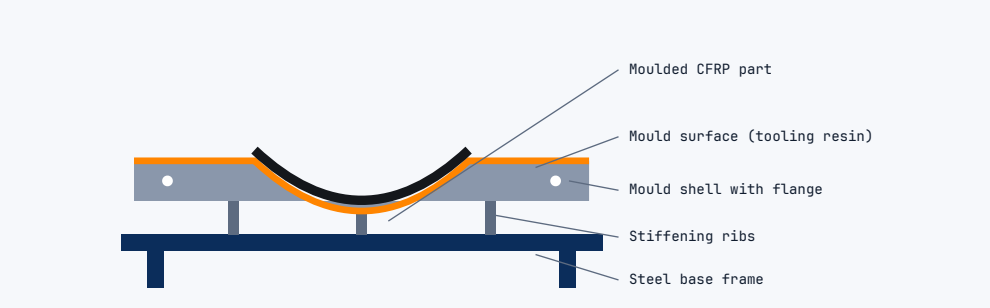


Fig. 3 · Open female mould for a panel, cross-section (concept drawing)

Hollow components such as ducts, tubes and enclosures are moulded in two-part (split) tools with a removable mandrel or inflatable bladder, tied together with bolted flanges and located by dowel pins.

MOULD TYPE	TYPICAL USE
Open female mould	Panels, covers, fairings and decorative skins with one high-quality surface
Closed / split mould	Hollow parts, ducts, housings and parts needing two finished faces
Mandrel / bladder tool	Tubes, sections and enclosures with a closed internal cavity
Flat press / vacuum table	Flat sheets and plates cured under vacuum or pressure
Master plug	CNC-machined or hand-finished pattern from which production moulds are taken

03

PROCESS

PROCESSES

hand lay-up
wet lay-up
vacuum infusion

QUALITY SYSTEM

aligned to ISO 9001:2015

Manufacturing process and quality

Parts and sheets are produced by hand lay-up, wet lay-up or vacuum infusion, depending on size, quantity and performance target. Infusion draws resin into dry fibre under a vacuum bag, giving good fibre content and a clean finish on larger parts. Hand and wet lay-up suit prototypes, short runs and simpler shapes.

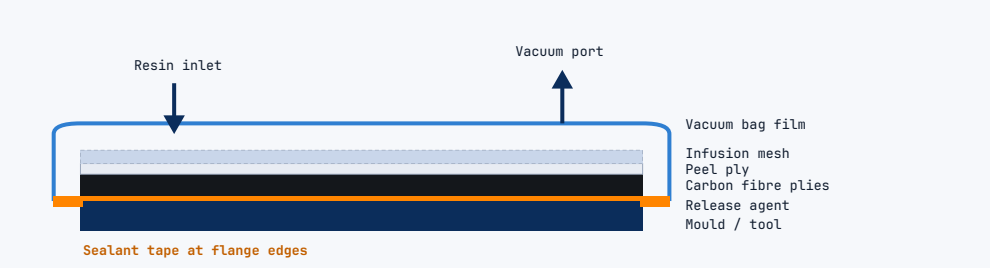


Fig. 4 · Laminate lay-up and vacuum infusion stack (concept drawing)

1	**Requirements**	Load case, geometry, finish, quantity and delivery are agreed.
2	**Design**	Ply schedule, fibre architecture and mould design are prepared and reviewed.
3	**Tooling**	Plug and mould are machined or built, sealed and polished.
4	**Lay-up / infusion**	Plies are cut, placed and consolidated under vacuum, with resin infused or applied.
5	**Cure**	Room-temperature cure, with post-cure where the resin system requires it.
6	**Finish and inspect**	Demoulding, trimming, drilling and surface finishing, then dimensional, thickness and visual checks.
7	**Delivery**	Protective packing and dispatch.

Quality checks

Dimensional inspection, thickness and weight checks, visual surface inspection, and tap-testing for delamination. Test coupons and material certificates can be provided on request.

03

APPLICATIONS

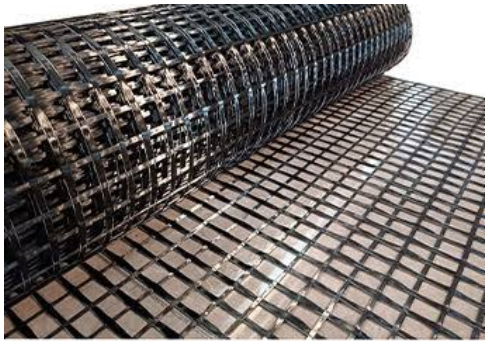
SEND US

drawings, a sample, or the load case, size and quantity

Applications

SECTOR	TYPICAL PARTS
Sports and consumer	Tubes, shafts and handles, plates and inserts, protective-gear components, grips and cosmetic panels
Mobility and UAV	Frames, arms, panels and brackets for drones, vehicles and robotics
Industrial and machinery	Lightweight booms, rollers, guards, covers, equipment housings and instrument enclosures
Architecture and tooling	Decorative panels, jigs, fixtures and lay-up tools





Left: surface finishing operation. Right: carbon fibre grid mesh.

How to work with us

1	**Send your brief**	Drawings, a sample, or a short description of the load case, size and quantity.
2	**We review**	Material, ply schedule, process and tooling are proposed, with a quotation.
3	**Prototype**	Tooling is built and sample parts are produced for approval.
4	**Production**	Approved parts are produced to the agreed specification and delivered.

Request a quotation

Send your drawing or sample and we will reply with a proposal.

productmatrixllc@gmail.com
+92 321 5387935 (WhatsApp)

04

CONTACT

Contact

We welcome enquiries for carbon fibre materials, custom parts and mould design. Share the part, quantity and delivery location and we will respond with next steps.

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Let's build your part

From first sketch to finished carbon fibre component.

Sialkot
Pakistan