

Glass and Quartz Fiber Woven Fabric

E-glass and 99.9% SiO₂ quartz | 40 to 280 g/m² | Plain, twill and satin

01 About Shaanxi Fortex Technology

Shaanxi Fortex Technology Co., Ltd. is an industrial sourcing and supply company based in Xi'an, Shaanxi, China. Our composites division supplies glass and quartz fiber woven fabric alongside carbon reinforcement and resins. The E-glass range covers electronic-grade style 7628 for FR-4 laminates and heavier twills for composite parts. The quartz range is woven from fused silica fiber of at least 99.9% SiO₂ for radomes, antenna windows and thermal protection.

We buy directly from qualified weaving mills, with no trading layer in between, so the specification on your order is the one the loom runs. Every roll is inspected before dispatch and ships with a Certificate of Analysis, and freight is quoted door to door on FOB, CIF or DDP terms. Custom weights, weaves, finishes and widths can be quoted against your drawing or specification.

FIBER TYPES

E-glass / Quartz

AREAL WEIGHT

40 to 280 g/m²

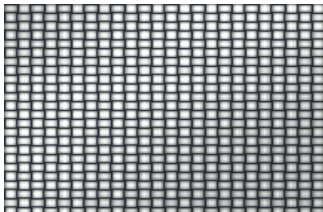
ROLL WIDTH

1000 / 1270 mm

QUARTZ PURITY

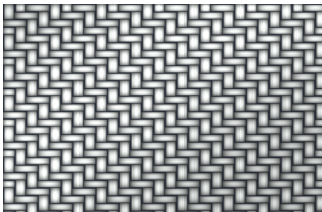
SiO₂ ≥ 99.9%

02 Fabric Range



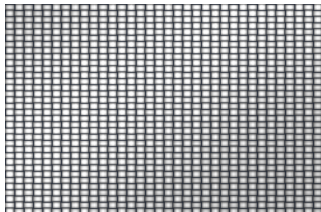
E-GLASS PLAIN

Style 7628 in EC9 68 tex yarn. The standard heavy glass style for FR-4 copper clad laminates and prepreg.



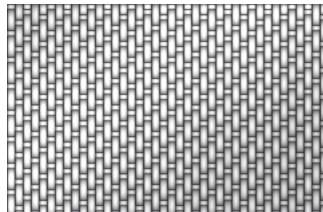
E-GLASS 2x2 TWILL

163 and 280 g/m² twills with epoxy-compatible finish. Better drape than plain weave for shaped parts and tooling.



QUARTZ PLAIN / TWILL

40 to 210 g/m², from 0.04 mm cloth for thin wave-transparent skins to 0.21 mm structural plies.



QUARTZ SATIN

240 and 280 g/m². The highest tensile strength in the range and the best drape over curved radome tooling.

03 E-glass and Quartz at a Glance

PROPERTY	E-GLASS FABRIC	QUARTZ FABRIC
Fiber composition	Alumino-borosilicate glass, about 54% SiO ₂	Fused silica, SiO ₂ ≥ 99.9%
Density (g/cm ³)	2.54 to 2.60	2.2
Filament tensile strength (MPa)	3,100 to 3,500	3,600
Tensile modulus (GPa)	72 to 73	78
Softening point (°C)	About 840	1,700
Dielectric constant	6.1 to 7.3 at 1 MHz	3.74 to 3.78 at 10 GHz
Main strengths	Low cost, good insulation, easy to process	Low dielectric loss, extreme heat resistance

E-glass figures are typical published values for the fiber. Quartz figures are mill data. Fabric and laminate properties depend on construction, finish and resin system.

04 E-glass Fabric Specifications

All three styles are woven from EC9 68 tex electrical-grade E-glass yarn: continuous filament, 9 µm filament diameter, 68 g per 1000 m (equivalent to ECG 75 in US notation). The 280 g/m² style uses a three-ply 68x3 tex warp and a 204 tex weft for a heavier, more open construction. Each fabric carries a silane finish compatible with epoxy resin. Style 7628 is the reference designation used in IPC-4412 for this construction.

PROPERTY	SFT-EG-T163-1000	SFT-EG-P200-1270 STYLE 7628	SFT-EG-T280-1000
Weave pattern	2x2 Twill	Plain	2x2 Twill
Finish	For epoxy resin	For epoxy resin	For epoxy resin
Warp yarn	EC9 68 tex	EC9 68 tex	EC9 68x3 tex
Weft yarn	EC9 68 tex	EC9 68 tex	EC9 204 tex
Warp count (ends/cm)	12.0 ± 0.6	17.6 ± 0.4	7.0 ± 0.35
Weft count (picks/cm)	11.5 ± 0.6	12.0 ± 0.4	6.5 ± 0.33
Areal weight (g/m ²)	163 ± 8	200 ± 1	280 ± 8
Thickness (mm)	0.180 ± 0.009	0.190 ± 0.010	0.350 ± 0.018
Width (mm)	1000 (-0 / +50)	1270 (-0 / +5)	1000 (-0 / +50)
Loss on ignition (%)	On request	≤ 0.15	On request
Fuzz edge length (mm)	≤ 5	≤ 5	≤ 5
Min. tensile, warp (N/inch)	540	650	On request
Min. tensile, weft (N/inch)	460	350	On request

Style 7628 counts converted from 44 ± 1 by 30 ± 1 per 25 mm. Values marked On request are confirmed per batch on the Certificate of Analysis. Custom widths and finishes are available.

05 E-glass Applications

- FR-4 copper clad laminates and prepreg
- Multilayer PCB dielectric build-up
- Epoxy composite parts and panels
- Tooling, moulds and repair laminates
- Electrical insulation boards and sheet
- Marine and general hand lay-up laminates

06 Reading a Product Code

① ② ③ ④ ⑤
SFT - QZ - S 240 - 1000

- ① Fortex product line
- ② Fiber: EG = E-glass, QZ = quartz
- ③ Weave: P plain, T twill, S satin
- ④ Areal weight in g/m²
- ⑤ Roll width in mm

07 Supply and Quality

LEAD TIME

7 to 15 days from order confirmation

MINIMUM ORDER

50 m² (538 ft²) per specification

SAMPLES

Approved sample before bulk production

DOCUMENTATION

Certificate of Analysis with every shipment

INSPECTION

Checked before dispatch, packing photos supplied

FREIGHT

Door to door on FOB, CIF or DDP terms

08 Quartz Fiber Properties

Quartz fabric is woven in plain, twill and satin patterns from high-purity fused silica filament. It keeps its strength at temperatures where E-glass softens, expands very little with heat, resists most chemicals, and its low dielectric constant and loss let radar and radio signals pass with little attenuation.

PROPERTY	VALUE	PROPERTY	VALUE
TECHNICAL			
Filament diameter (μm)	7.5 / 9	Breaking strength (N/tex)	≥ 0.65
SiO ₂ content (%)	≥ 99.90 or 99.95	Working temperature (°C)	≥ 1,100
Loss on ignition (%)	≤ 1.18	Softening temperature (°C)	1,700
PHYSICAL			
Density (g/cm ³)	2.2	Tensile strength (MPa)	3,600
Elongation (%)	4.6	Tensile modulus (GPa)	78
ELECTRICAL			
Dielectric constant (10 GHz)	3.74 to 3.78	Dielectric loss (10 GHz)	0.0002
Volume resistivity (Ω·m)	1×10 ²⁰ at 20 °C 1×10 ⁸ at 1000 °C	Dielectric strength (V/m)	3.7×10 ⁷

09 Quartz Fabric Specifications

PRODUCT CODE	WEIGHT g/m ²	THICKNESS mm	WARP ends/cm	WEFT ends/cm	TENSILE WARP N/25 mm	TENSILE WEFT N/25 mm	WIDTH mm	WEAVE
SFT-QZ-P40-1000	40	0.04	22	20	400	400	1000	Plain
SFT-QZ-P108-1000	108	0.10	20	20	550	550	1000	Plain
SFT-QZ-T108-1000	108	0.10	20	20	550	600	1000	Twill
SFT-QZ-T165-1000	165	0.14	16	16	700	700	1000	Twill
SFT-QZ-P210-1000	210	0.21	16	14	900	900	1000	Plain
SFT-QZ-T210-1000	210	0.21	16	14	900	900	1000	Twill
SFT-QZ-S240-1000	240	0.24	16	16	1,500	1,500	1000	Satin
SFT-QZ-S280-1000	280	0.28	36	20	1,800	1,700	1000	Satin

Values listed are typical. Custom weights, weaves and widths are available on request.

10 Quartz Applications

- Radomes for aircraft, missiles and satellites
- Satellite and shipborne antenna windows
- Wave-transparent and low-observable structures
- Ablative and thermal protection layers
- Engine and fuselage fire barriers
- High-temperature filtration and catalyst carriers



— Shaanxi Fortex Technology Co., Ltd. —

REQUEST A QUOTE

Send a specification and quantity.
We reply within one business day.

SALES sales@fortex-technology.com
 INFO info@fortex-technology.com
 PHONE +86 156 1922 7307
 WEB fortex-technology.com/rfq

Room 12421, Floor 24, Unit 1, Building 3, Vientiane Li, China Resources Land, Sangjiao New Street, Fengdong New Town, Xixian New Area, Xi'an, Shaanxi, China