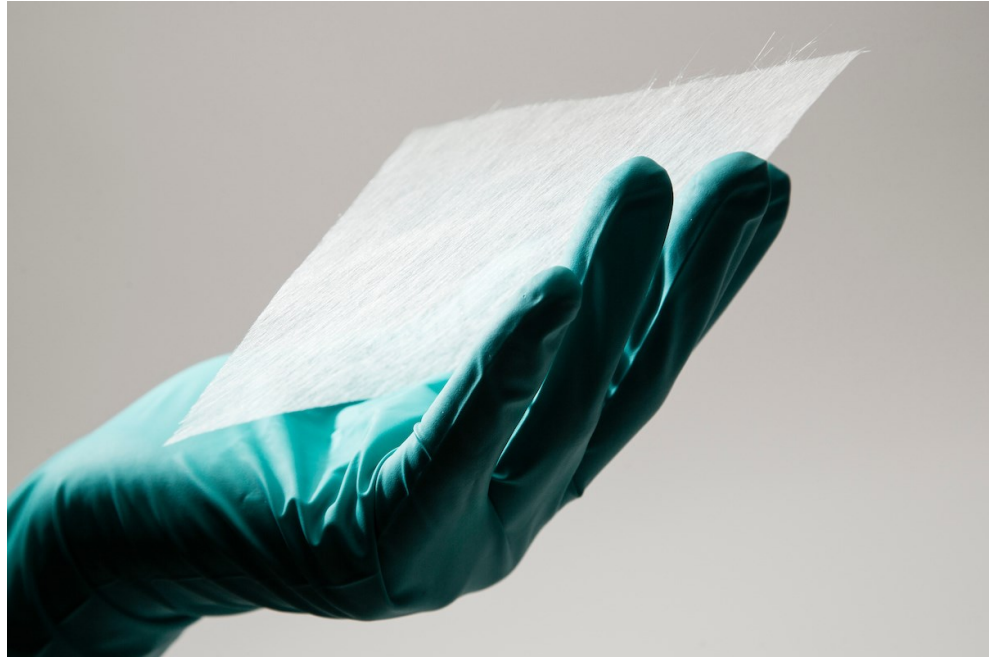


Quartzel[®] Veil

Since 1922, Saint-Gobain Advanced Ceramic Composites formerly known as Saint-Gobain Quartz or Quartz & Silice has been a solution provider to Aeronautic, Defense and Railway industries. Based in Nemours (France) and also in Louisville, KY (US), Saint-Gobain Advanced Ceramic Composites is recognized as the world-wide leader in the production of fused quartz fibers commercialized under the brand name Quartzel[®].



Quartzel[®] fiber is a homogeneous, non-porous, continuous, amorphous, ultra-pure silica glass with a SiO₂ content ≥ 99.95%. Quartzel[®] veils are made from Quartzel[®] yarns which are chopped and then processed into veils through wet-laid process.

Applications

Heat insulation at elevated temperature

- Thermal protection systems (TPS) of space launchers
- Satellite thermal protection
- Fireproof composite layer for aerospace

Reinforcement for composites

- Stealth material for airborne, ground & marine military programs
- Very thin composites with low area density for electronic & multi-purpose substrates or luxury goods

Main properties

- Outstanding electromagnetic properties thanks to the lowest dielectric constant and dielectric loss among mineral materials (resp. 3.74 and 0.0002 at 10 GHz)
- Non pollutant material with SiO₂ content above 99,95%
- Low CTE ($0.54 \times 10^{-6} \text{ K}^{-1}$) & good resistance to thermal shock
- Integrity as insulating material up to 1050°C

TECHNICAL DATA & VEIL NOMENCLATURE

SiO₂ content ≥ 99.95%

Fiber technical data

- Fiber diameter: 9µm
- Fiber length: 12mm

Veil technical data

- Surface density: 8-25g/m²
- Standard binder: PI
- Thickness: 0.1-0.25mm

Product width: 1270 mm / 600 mm / 330 mm / 254 mm

Thermal vacuum outgassing test for the screening of space materials - ECSS-Q-70-02

Material tested	TML (%)	RML (%)	WVR (%)	CVCM (%)	Acceptance limit achieved*
Veil 25gsm Polyimide	0.10	0.04	0.06	0.00	YES

Thermal vacuum outgassing test for the screening of space materials - ASTM E595

Material tested	TML (%)	RML (%)	WVR (%)	CVCM (%)	Acceptance limit achieved*
Veil 10gsm Polyimide	0.31	N/A	0.06	0.02	YES
Veil 25gsm Polyimide	0.31	N/A	0.02	0.01	YES

TML: Total Mass Loss, including water vapor

RML: Recovered Mass Loss, mass loss without water vapor

WVR: Water Vapor Regained

CVCM: Collected Volatile Condensable Material, i.e. mass condensed on a cold-collector plate

*defined according to ECSS-Q-70-02 and ASTM E595 standards

STORAGE

Quartzel[®] veil properties are guaranteed for 24 months when properly stored indoors, protected from direct sunlight exposure and in its original packaging. Store preferably at less than 35°C, avoiding humidity consistently higher than 80%.

Dual-use disclaimer: Quartzel[®] products are all classified as a dual-use commodity by the European and US authorities. Therefore, an export license is required to export these goods to some countries. Our team will support you in this process.

The information given in this data sheet is believed to be accurate and reliable. However it is the users responsibility to determine whether the material is suitable for their particular application, process and/or environment. This data sheet may be modified without prior notice. Quartzel[®] is a registered trademark of Saint-Gobain Quartz S.A.S. Version VE-A4-EN-02/25 - All rights reserved

<https://www.quartz.saint-gobain.com/>

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