VitroSilK®Shield

Fabric of amorphous high-silica glass fiber (continuous filament) with stainless steel wire reinforcement, not fused quartz and not quartz

Interim version. It replaces data sheet VSS01/02FEB2026 and states the nominal values of the specification. The absence of alkali and alkaline earth oxides (Na_2O, K_2O, CaO, MgO, BaO) is confirmed for every delivery by an exclusion certificate “basic oxides”.

Description

VitroSilK®Shield is a fabric woven from continuous filaments of amorphous silicate glass with a high SiO_2 content and a nominal fiber diameter of 6 to 9 µm. The glass is amorphous; it is neither fused quartz nor quartz, and it contains no crystalline SiO_2 as delivered. A wire of heat-resistant stainless steel, material no. 1.4845 (X8CrNi25-21), is woven into every warp and weft thread and reinforces the fabric mechanically.

VitroSilK® contains no basic oxides and therefore makes no contribution to the thermochemical formation of calcium or sodium chromate on chromium-alloyed hot parts.

The temperature resistance of the fiber is approximately 1000 °C. For continuous service we recommend an application temperature of up to 750 °C. This is intended to prevent the formation of cristobalite, which has so far been neither demonstrated nor investigated for VitroSilK®, but which cannot be ruled out under prolonged exposure to higher temperatures.

Technical data

Property	Metric	US	Test method
Fiber, wire and composition			
Fiber type	amorphous continuous silicate glass fiber not fused quartz, not quartz		
Fiber diameter, nominal	6 – 9 µm	236 – 354 µin	nominal value
SiO_2	95 ± 1 %		manufacturer's in-house method
Al_2O_3	3.5 ± 0.5 %		manufacturer's in-house method
Alkali and alkaline earth oxides Na_2O, K_2O, CaO, MgO, BaO	not contained		exclusion certificate “basic oxides” for every delivery
Reinforcement	stainless steel wire, material no. 1.4845 (X8CrNi25-21), in every warp and weft thread		
Fabric			
Weave	12-harness satin (12H satin)		
Color	whitish		

Selvage	P: feathered PA: plain weave with feather		
Thickness [1) 2)]	1.25 ± 0.15 mm	0.049 ± 0.006 in	ISO 4603
Mass per unit area, with wire	748 g/m²	22.1 oz/yd²	EN 12127
Thread count, warp [1)]	19 ± 1 /cm	48.3 ± 2.5 /in	EN 1049-2
Thread count, weft [1)]	11 ± 1 /cm	27.9 ± 2.5 /in	EN 1049-2
Tensile strength, warp, min. [3)]	2500 N/2.5 cm	571.0 lb/in	ISO 13934-1
Tensile strength, weft, min. [3)]	1500 N/2.5 cm	342.6 lb/in	ISO 13934-1
Temperatures			
Temperature resistance	approx. 1000 °C	approx. 1832 °F	
Recommended application temperature, continuous service	up to 750 °C	up to 1382 °F	
Dimensions and packaging			
Width, max.	180 +2/-1 cm	70.9 +0.8/-0.4 in	EN 1773
Roll length, max.	137 m	150 yd	
Packaging	Fabric wound on a core and individually wrapped in polyethylene film, in a cardboard box if required. Rolls fastened on wooden pallets, pallets wrapped in film.		
Transport and storage	Covered means of transport. Store clean and dry.		

Notes

1. Values of the base fabric without wire reinforcement.
2. Measuring foot 5 cm² | 0.78 in², contact pressure 200 g/cm² | 46.7 oz/in².
3. Minimum values of the base fabric without wire reinforcement; the tensile strength of the wire-reinforced fabric is higher.

Revision history

Version	Date	Change
1.0	November 2026	Interim version, replaces VSS01/02FEB2026. Fiber type (amorphous continuous fiber, not fused quartz and not quartz) and nominal fiber diameter added; absence of alkali and alkaline earth oxides with certificate for every delivery added; temperature resistance (approx. 1000 °C) and recommended application temperature for continuous service (up to 750 °C) stated separately; mass per unit area of the wire-reinforced fabric (748 g/m²) added; thickness, thread count and tensile strength marked as values of the base fabric without wire reinforcement; wire material 1.4845 (X8CrNi25-21); comparison with E-glass fabrics removed; statement on chromate formation related to the contribution of the material.