VitroSilK®Protekto M and G

Composite felts of E-glass needle mat and VitroSilK®Flex facing

Interim version, nominal values of the specification. The absence of alkali and alkaline earth oxides (Na_2O, K_2O, CaO, MgO, BaO) in the VitroSilK®Flex layers is confirmed for every delivery by an exclusion certificate "basic oxides". The E-glass layer contains alkaline earth oxides.

Description

VitroSilK®Protekto consists of a standard E-glass needle mat onto which VitroSilK®Flex layers of 5 mm each are needled. Protekto M has VitroSilK®Flex on one side, Protekto G on both sides. The VitroSilK®Flex layer consists of amorphous continuous silicate glass fibers with a nominal fiber diameter of 6 to 9 µm; it is neither fused quartz nor quartz and contains no alkali or alkaline earth oxides.

The E-glass layer contains alkaline earth oxides and must not come into contact with the hot part. Protekto M must therefore always be installed with the VitroSilK® side facing the hot part. Protekto G can be installed either way.

The temperature resistance of the VitroSilK® fiber is approximately 1000 °C. For continuous service we recommend an application temperature of up to 750 °C on the hot side. 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. The temperature at the interface with the E-glass layer must not exceed 550 °C.

Technical data

Property	Protekto M	Protekto G
Construction		
Layer sequence	VitroSilK®Flex 5 mm + E-glass needle mat	VitroSilK®Flex 5 mm + E-glass needle mat + VitroSilK®Flex 5 mm
Bonding	needled	
Installation	VitroSilK® side facing the hot part	either way
VitroSilK®Flex layer		
Fiber type	amorphous continuous silicate glass fiber, not fused quartz, not quartz	
Fiber diameter, nominal	6 – 9 µm	
SiO_2 / Al_2O_3	95.0 ± 1.0 % / 3.5 ± 0.5 %	
Alkali and alkaline earth oxides	not contained, exclusion certificate "basic oxides" for every delivery	
Thickness per layer	5 mm | 0.20 in	
Bulk density, nominal	130 kg/m³ | 8.1 lb/ft³	
Mass per unit area per layer, nominal	650 g/m² | 19.2 oz/yd²	

E-glass layer		
Material	standard E-glass needle mat (ASTM D578), contains CaO and MgO	
Thickness	10, 15, 20 or 25 mm	
Temperatures		
Temperature resistance of VitroSilK® fiber	approx. 1000 °C | 1832 °F	
Recommended application temperature on the hot side, continuous service	up to 750 °C | 1382 °F	
Interface temperature at the E-glass layer, max.	550 °C | 1022 °F	
Product range		
Total thickness	15, 20, 25 or 30 mm	20, 25, 30 or 35 mm
Width	1000 mm | 39.4 in	
Roll length	depending on thickness, on request	
Packaging, transport, storage	Rolls in film, on wooden pallets. Covered means of transport. Store clean and dry in the original packaging.	

The VitroSilK® Flex layers are produced in compliance with Directive 2011/65/EU (RoHS).

Revision history

Version	Date	Change
1.0	November 2026	First edition as interim version.