

U SeaProtect Roll 24

Rolls unfaced – Density 24 kg/m³

ULTIMATE mineral wool provides a unique high-performance profile: It combines safety, comfort and ease of handling.



FIRE RESISTANCE

ULTIMATE provides effective fire resistance, but also very good performance in reaction to fire



THERMAL INSULATION

Excellent thermal insulation combined with unique efficiency



SOUND ABSORPTION

Improved acoustic comfort due to its excellent sound absorption and sound insulation properties



LIGHTWEIGHT

Increase insulation – reduce weight
ULTIMATE combines high fire & thermal performance with very low weight



CHARACTERISTIC	SYMBOL	UNIT	QUANTITIES AND DECLARED VALUES						STANDARD
Thermal conductivity	T	[°C]	10	50	100	150	200	300	EN 12667
	λ_{NR}	[W/(m·K)]	0.034	0.040	0.049	0.062	0.80	0.124	
Thermal behaviour	T	[°C]	Exposure to temperature until 400 °C (depends on density) is possible. From 150 °C on the binder starts to volatilise						AGI Q 132

CHARACTERISTIC	SYMBOL	UNIT	THICKNESS	VALUES	STANDARD
Sound absorption value	α_w	-	50 mm	1.00	-
			100 mm		

CHARACTERISTIC	SYMBOL	UNIT	QUANTITIES AND DECLARED VALUES	VALUES	STANDARD
Air flow resistivity	σ	[KPa·s/m ²]	Density 24 kg/m ³	15	DIN EN 29053

CHARACTERISTIC	SYMBOL	UNIT	QUANTITIES AND DECLARED VALUES	STANDARD
Specific thermal capacity	c	kJ/(kg·K)	1.03	ISO 10456
Reaction to fire	-	-	Melting point according to DIN 4102, part 17: ≥ 1000 °C Non combustible according to IMO-Resolution Hologated for shipbuilding according to EC Type Examination Certificates Nr.: MED-B+D Certificate = visit our website	DIN 4102-17 IMO-Resolution MSC.307(88)- (FTP-Code 2010)
Chemical behaviour	-	-	Sulphide free	-
Application field	-	-	Thermal insulation, acoustic insulation and fire protection constructions in shipbuilding	-
Material	-	-	Mineral wool with quality mark RAL by the Gütegemeinschaft Mineralwolle e.V., unriskey regarding health according to German decree on dangerous substances, decree on prohibition of chemicals and to Regulation (EC) N°1272/2008	-
Water vapour diffusion resistance factor	μ	-	- 1	ISO 10456
Instructions for use	-	-	suitable for thermal and acoustic insulation, fire protection A-30 Deck; A-15 Bulkhead	-
Density	-	kg/m ³	24	-
Quality management	-	-	ISOVER is certified according to DIN EN ISO 9001 and DIN EN ISO 14001	EN ISO 9001 EN ISO 14001 EN ISO 50001

DELIVERY FORM: STANDARD DIMENSIONS / PACKAGING INFORMATION*	
THICKNESS D [MM]	WIDTH B [MM]
100	1200
120	1200
30	1200
40	1200
50	1200
60	1200
80	1200

* All dimensions require minimum order quantities / other dimensions on request.

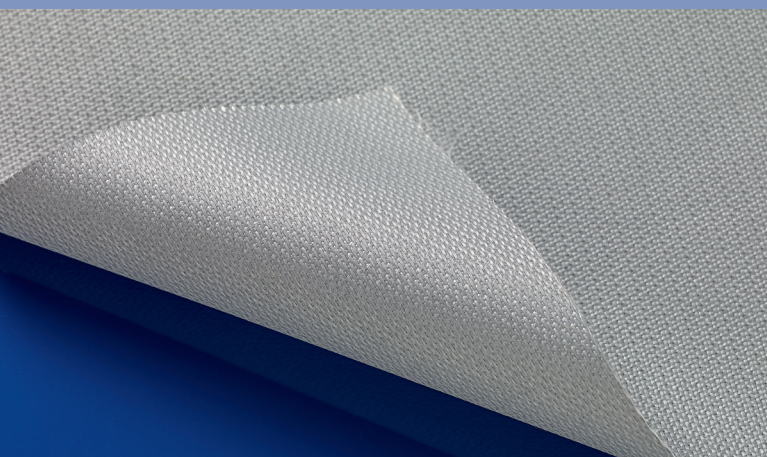


www.isover-technical-insulation.com

The technical information corresponds to our present state of knowledge and experience at the date of printing (see imprint). But no legal guarantee can be given, unless it has been explicitly agreed. The state of experience and knowledge is developing continuously. Please see to it that you always use the latest edition of this information. The described product applications do not take special circumstances in consideration. Please verify whether our products are appropriate for the concrete application. For further information please contact our Isover sales offices. We deliver only according to our terms of trade and terms of delivery.

SAINT-GOBAIN ISOVER · Tour Saint-Gobain 12 place de l'Iris 92096 La Défense cedex - France





3240VT0421/

SILG

Silicone-coated glass cloth

GLASS GLASS GLASS GLASS GLASS GLASS GLASS GLA

Description

Silicone coated glass cloths are known for their ability to lower heat. These fabrics are resistant to the majority of chemical agents. They do not develop substances containing halogen or hydrogen.

They withstand temperatures from -60°C to $+260^{\circ}\text{C}$. The product is grey silicone coated on one side.

Applications

Manufacture of insulating blankets for nuclear power plants and power plants, construction of heat compensators, petrochemical industries (covering of insulating material located externally), curtains for packaging machines.

Standard sizes

type art.	height m	weight gr/m^2	roll m
VT0421/SILG	1	480	50
VT0421/SILG130	1.3	480	50
VT0421/SILG150	1.5	480	50

Other dimensions are available on request

Characteristics cloth glass base

Yarn DIN 53830-3	
- warp	EC9 136 tex $\pm 5\%$
- weft	EC9 136 tex $\pm 5\%$
Number of threads EN 1049-2	
- yarn warp	18.0 1/cm $\pm 5\%$
- yarn weft	13.0 1/cm $\pm 5\%$
Weight DIN EN 12127	430 $\text{g}/\text{m}^2 \pm 5\%$
Weave ISO 9354	herringbone
Max. operating temperature	550 $^{\circ}\text{C}$ continuous

Characteristics of the silicone-coated cloth

Coating	coated on one side with grey/silver silicone for high temperatures
Total weight DIN EN 12127	510 $\text{g}/\text{m}^2 \pm 10\%$
Silicone-coating	1 side 80 g/m^2
Thickness DIN EN ISO 5084	0.51 mm $\pm 10\%$
Tensile strength	
- warp	7,000 N/5cm
- weft	6,000 N/5 cm
Max. operating temperature	250 $^{\circ}\text{C}$

Cotton fib packing

Supplied by James Walker Norge

Datasheet

The cotton fib packing is a braided rope, which are produced with 100 % carded cotton in a closed and strong outer braid to guarantee a very high quality, regular size and its round shape.

	Unit	Value
Composition	-	100 % carded cotton
Color	-	White
Shape		Round
Diameter	mm	5
Weight	g/m	15
Length on roll	meter	100
Max. temperature	°C	100

Information given in this publication is given in good faith. No representation or warranty is given in relation to such information. Any operating limits given in this publication are not an indication that these can be applied simultaneously. While such results may comprise useful additional information and are industry standard tests, they are no substitute for conducting (or procuring from James Walker) your own tests and engineering analysis and satisfying yourself as to the material you select. Please also note that material tested in accordance with the above methodology may not perform to such values in application and/or under different test conditions or methodology for a variety of reasons, including but not limited to the environment in which its used/tested or which passes through it or otherwise affects the material, or due to the design of the product made with the material, handling, storage or installation, or due to the effect of housing or other parts.

Bergen:
O.J Brochs gate 16A
5006 Bergen

Hovedkontor Oslo:
Østmarkveien 27
0687 Oslo

Ålesund:
Borgundfjordveien 116
6017 Ålesund

K-tech

KEVLAR® DUPONT™ PARA-ARAMIDE, SCHAPPE SPUN

- para-aramide special sewing thread for applications with high requirements on cut, flame and heat protection
- permanent temperature resistance up to approx. 170°C
- decomposition temperature at approx. 425°C
- burning behaviour tested according to DIN EN ISO 15025

Ticket no.	Tex no.	Needle size		Make-up	No. of colours
		Nm	No.		
35	80	120-140	19-22	3.000 m Co	1
50	60	110-130	18-21	3.000 m Co	1
75	40	100-120	16-19	5.000 m Co	1

Co = 

Main application:



- Protective clothing: heat-protective clothing (e.g. protective gloves), bullet-proof vests (e.g. police), cut protection (e.g. lumbermen's trousers)




Kc-tech

KEVLAR® DUPONT™ PARA-ARAMIDE CONTINUOUS FILAMENT, BONDED

- extremely high-performing para-aramide special sewing thread for technical textiles requiring cut and heat protection
- self-extinguishing and non-melting
- permanent temperature resistance up to approx. 170°C
- decomposition temperature at approx. 425°C
- burning behaviour tested according to DIN EN ISO 15025

Ticket no.	Tex no.	Needle size		Make-up	No. of colours
		Nm	No.		
22	135	130-150	21-23	ca. 500 g/ 3.000 m FS	1

FS/KS = 

Main application:



- Protective clothing: heat-protective clothing (e.g. safety shoes), bullet-proof vests (e.g. police)
- Filtration
- Composites
- Other: airbags and tyres



The tapes treated with the flame-retardant coating have good flame-retardant properties.

Internal labref.: 385064

Tapes

for info on base tapes see individual technical data sheets

hook and loop high strength : TDS 011

mushroom and velours : TDS 004

Flame retardancy

hook and loop

the quality passes the following tests:

- F.M.V.S.S. 302 / TL 10 10 / DIN 75 200 / ISO3795: Determination of flammability of materials used in the interior of motor vehicles.
- F.A.R. 25.853 (a): measurement of flammability of aircraft materials.
- airbus standard ABD0031: Measurement of flammability, smoke density and smoke toxicity according to Airbus Specifications
- directive 95/28/EG: Determination of flammability of materials used in the interior construction of certain categories of motor vehicles.

mushroom and velours

the quality passes the following tests:

- F.M.V.S.S. 302 / TL 10 10 / DIN 75 200 / ISO3795: Determination of flammability of materials used in the interior of motor vehicles.
- F.A.R. 25.853 (a): measurement of flammability of aircraft materials.

Colours

hook and loop

mushroom

velours

all colours on our shade card, other colours are possible on request

all colours on our shade card, other colours are possible on request
white and black, other colours on request

Cleaning instructions

cleaning with fastener in closed position: to protect fastener and washing

hook and loop

mushroom and velours

ATTENTION:

shrinkage

washing	bleaching	ironing	dry-cleaning	tumble dryer

Velours loses its flame retardant properties after washing.

hook and loop : max. 3,5%
mushroom : max. 3,0%
velours : max. 6,5%

IMPORTANT

- The tapes pass the above mentioned flame retardancy tests. However, the tests must be repeated testing the assembly of the tape and the substrate.
- This tape contains no bromine flammability stabilizers type penta-BDE, octa-BDE, deka-BDE or penta-PBDE and octa-PBDE.

Special versions

glues

reactivable coating

back-to-back

ATTENTION: 100 % FR certification can be submitted only in combination with FRA-glue!

Combinations with other glues can NOT be certified! Tests to be carried out by the user.

Flameretardant fasteners can be delivered with a pressure sensitive adh. backing:

- FRA - A - SA - ATA - AT (others: SA0 - SA3 - SA4)
- adhesive strip based on FRAS - AS - ATAS - ATS
- HF
- with FRA glue or with standard glue

Tests by user & guarantees

**The information above only serves as a general guideline.
We advise any user to determine the suitability
of the intended application through tests performed by himself.**

All information, technical advice, recommendations & descriptive material on this product are based upon tests which are generally reliable, although we cannot fully guarantee the accuracy of these tests. The buyer, who is a professional user, will be bound to carry out all tests himself, in order to verify whether the goods are suited and can be used safely for the intended purpose. The only obligation of the seller may consist in replacing the goods of which the imperfection has been proven, insofar as the seller can be held liable for the imperfection under the present conditions. The buyer will protect and hold harmless the seller against any claim whatsoever which could be made by the private enduser on the account of his product liability. In the same way, the buyer will safeguard the seller for each claim made by third parties, exceeding the limitation of liability as stipulated herewith. In addition, we serve ourselves the right to subject the products to technical changes without prior notice. Please make sure that you have the latest version of the technical data sheet.

