ISOVER SAINT-GOBAIN
Assurance in insulation

CERTIFIED
ISO 9001 · ISO 14001
OHSAS 18001 · ISO 50001

CE

Specification code: MW – EN 14303 – T4 – ST(+)400 – WS1 – CL10

Orstech 45
(TECH Slab 2.1)
Slab

PRODUCT DESCRIPTION

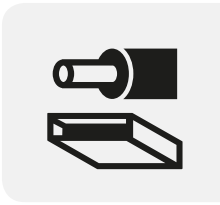
Orstech 45 is a light weight stone wool slab, which can be manufactured with the aluminium foil facing (Orstech 45 H), with the glass tissue facing (Orstech 45 NT) or with black glass woven cloth facing (Orstech 45 ST).

APPLICATION

Orstech 45 has universal usage in HVAC and industry for applications with lower service temperatures. The slab is suitable mainly for thermal and acoustic insulation of air ducts.

Despite the fact that hydrophobing additives in the insulation impede the ingress of water, it is necessary to protect the slab in the construction against moisture and possible mechanical damage by a proper manner.

Orstech 45 has a maximum service temperature of 400 °C according to EN 14706. If the slab is with a facing then the surface temperature must not exceed 100 °C on the facing; proper thickness of insulation must be designed to fulfil that. Binders and greasing agents in mineral wool products dissolve and evaporate in areas with temperatures > 150 °C. In the outer, colder areas, no dissolution and evaporation take place.



PACKAGING, TRANSPORT, WAREHOUSING

The product is supplied as free packages or palletized. Material has to be transported in covered vehicles under such conditions to avoid moistening or other degradation.

BENEFITS

- quality certificate according to VDI 2055 – annual audit testing by FIW Munich from year 2000
- insulation material designation code according to AGI Q 132: 10.07.01.10.05
- AS quality – suitable for use over stainless steel

DIMENSIONS AND PACKAGING

Product	Thickness (mm)	Dimensions (mm)	Per package (m²)	Packages / Pallet	m² / Pallet
Orstech 45	40	1000 × 500	6,0	10	60
Orstech 45	50	1000 × 500	5,0	10	50
Orstech 45	60	1000 × 500	4,0	10	40
Orstech 45	80	1000 × 500	3,0	10	30
Orstech 45	100	1000 × 500	2,5	10	25

Slab can be manufactured with the aluminium foil facing (Orstech 45 H) or with the glass tissue facing (Orstech 45 NT). Minimum order quantity (MOQ) of slabs with glass tissue facing Orstech 45 NT has to be consulted with a producer. Without MOQ only slabs Orstech 45 NT in thickness 50 mm. Other thicknesses and dimensions then stated can be produced at request when fulfilling minimum volume.

TECHNICAL PARAMETERS

Parameter			Unit	Value						Standard
THERMAL INSULATING PROPERTIES										
Declared value of the thermal conductivity coefficient λ_D according to EN ISO 13787			°C	50	100	150	200	250	300	400
			$W \cdot m^{-1} \cdot K^{-1}$	0.042	0.053	0.066	0.082	0.100	0.124	0.170
Measured value of the thermal conductivity coefficient according to EN 12667*			$W \cdot m^{-1} \cdot K^{-1}$	0.040	0.049	0.060	0.073	0.088	0.108	0.159
Maximum service temperature ST(+) / on the aluminium side			°C	400 / max. 100						EN 14706
Specific heat capacity c_p*			$J \cdot kg^{-1} \cdot K^{-1}$	800						-
PHYSICAL PROPERTIES										
Density*			$kg \cdot m^{-3}$	45						EN 1602, EN 13470
Short term water absorption (W_p) WS			$kg \cdot m^{-2}$	<< 1						EN 1609
Equivalent diffusion thickness of the aluminium foil s_d*			m	> 100						EN 12086
Longitudinal air-flow resistance Ξ*			$kPa \cdot s \cdot m^{-2}$	> 15						EN ISO 9053-1
FIRE SAFETY PROPERTIES										
Orstech 45, Orstech 45 NT a Orstech 45 ST: Reaction to fire			-	A1						EN 13501-1
Orstech 45 H: Reaction to fire			-	A2-s1, d0						EN 13501-1
Melting temperature t_t*			°C	≥ 1000						DIN 4102 part 17
ACOUSTIC PROPERTIES										
The practical sound absorption coefficient α_p according to EN ISO 354 and EN ISO 11654*	Frequency		Hz	125	250	500	1000	2000	4000	
	Thickness	40	mm	0.15	0.40	0.85	0.95	0.95	0.95	
		(45 NT) 50	mm	0.15	0.55	0.90	1.00	0.95	1.00	
		60	mm	0.20	0.75	1.00	1.00	1.00	1.00	
		80	mm	0.30	1.00	1.00	1.00	1.00	1.00	
		100	mm	0.45	1.00	1.00	1.00	1.00	1.00	
Definition of single numerical value according to EN ISO 11654*	Weighted sound absorption coefficient		-	α_w		Absorption class				
	Thickness	40	mm	0.70 (MH)		C				
		(45 NT) 50	mm	0.85 (H)		B				
		60	mm	1.00		A				
		80	mm	1.00		A				
		100	mm	1.00		A				
CLASSIFICATION ACCORDING TO AGI Q 132										
Insulation material designation code			-	10.07.01.10.05						AGI Q 132

* Informative non-declared value beyond scope of CPR, obtained by concrete tests.

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