

# Orstech 45

## Orstech 45 NT / Orstech 45 H

(TECH Slab 2.1)  
Slab of mineral wool



### 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.

### 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.

### 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.

### DIMENSIONS AND PACKAGING

Thickness [mm]	Dimensions [mm]	Per package [m <sup>2</sup> ]	Package/ Pallet [pcs]	m <sup>2</sup> / Pallet [m <sup>2</sup> ]
40	1 000 × 500	6.0	10	60
50	1 000 × 500	5.0	10	50
60	1 000 × 500	4.0	10	40
80	1 000 × 500	3.0	10	30
100	1 000 × 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			
<b>Thermal technical properties</b>									
Declared value of the thermal conductivity coefficient $\lambda_p$ according to EN ISO 13787	°C	50	100	150	200	250	300	400	
	W·m <sup>-1</sup> ·K <sup>-1</sup>	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·m <sup>-1</sup> ·K <sup>-1</sup>	0.040	0.049	0.060	0.073	0.088	0.108	0.159	
Maximum service temperature ST(+)	°C	400 / max. 100				EN 14706			
Specific heat capacity $c_p$ *	J·kg <sup>-1</sup> ·K <sup>-1</sup>	800				-			

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Parameter	Unit	Value	Standard						
<b>Physical properties</b>									
Density*	kg·m <sup>-3</sup>	45	EN 1602, EN 13470						
Short term water absorption ( $W_p$ ) WS	kg·m <sup>-2</sup>	<< 1	EN ISO 29767						
Equivalent diffusion thickness of the aluminium foil $s_d^*$	m	> 100	EN 12086						
Longitudinal air-flow resistance $\Xi^*$	kPa·s·m <sup>-2</sup>	> 15	EN ISO 9053-1						
<b>Fire safety properties</b>									
Orstech 80: Reaction to fire	-	A1	EN 13501-1						
Orstech 80H: Reaction to fire	-	A2-s1, d0	EN 13501-1						
Melting temperature $t_i^*$	°C	≥ 1 000	DIN 4102 part 17						
<b>Acoustic properties</b>									
Acoustic absorption coefficient $\alpha_p$ for perpendicular impact of acoustic waves (-) according to EN ISO 354 and EN ISO 11654*	Frequency	Hz	125	250	500	1 000	2 000	4 000	
	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	-	$a_w$			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		
<b>Classification according to AGI Q 132</b>									
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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Orstech 45 H

21/2/2023 The information provided herein is valid at the time of publication. The manufacturer reserves the right to change the data.