

# Orstech DP 80

## (TECH Wired Mat MT 4.1)

### Wired mat



Specification code: MW – EN 14303 – T2 – ST(+)-640 – WS1 – CL10

#### TECHNICAL SPECIFICATION

Wired mats Orstech DP 80 are bonded mineral wool webs that are quilted to a wire mesh. The production is based on the defibering of molten raw materials consisting of minerals and different amounts of artificial resins as binders, mineral oils for dust suppression and hydrophobic means dependent on the application. The wire mesh and the quilting wire are standardly made of galvanised steel, on request also possible to made of stainless steel.

Behaviour with stainless austenitic steels – product is made in AS quality according to AGI Q 132, EN 13468 and ASTM C 795. Fibres are hydrophobic according to EN 1609.

#### APPLICATION

Wired mats are suitable for piping, appliances and vessels (both ends and cylindrical parts), residential heating systems, air ducts and mattresses. On request for temperatures higher then 400 °C it is, according to AGI Q 132, possible to produce mats with stainless steel wire and galvanised mesh (marking Orstech DP 80 X) or with stainless steel wire and stainless steel mesh (marking Orstech DP 80 X-X); all combinations according to EN 10223-2. It is also possible to add aluminium foil under mesh as a protection against dust. In the construction they have to be protected against moisture and possible mechanical damage by a proper manner. For outdoor application metal steel jacketing is required.

Orstech DP 80 has a maximum service temperature of 640 °C according to EN 14706. If the wire mat is with an aluminium 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. Insulation material designation code according to AGI Q 132: 10.01.02.64.08.

#### PACKAGING, TRANSPORT, WAREHOUSING

Wired mats Orstech DP 80 are wrapped into PE foil. They must be transported in covered vehicles under such conditions to avoid moistening or other degradation. They must be stored in covered places, horizontally, piled on top of each other.

#### BENEFITS

- very good thermal insulation performance (low thermal conductivity)
- fire resistance – non-combustible material
- high temperature resistance (possibility of application up to a maximum surface temperature of 640 °C)
- very good sound attenuation (high absorption coefficient)
- environmental friendly and hygienic
- hydrophoby – Isover insulation materials are made water repellent
- long life span (material is not aging)
- resistant to wood-destroying pests, rodents, and insect
- AS quality – suitable for use over stainless steel

#### RELATED DOCUMENTS

- Certificate of Constancy of Performance 1390-CPR-0313/11/P
- Declaration of Performance CZ0002-013 ([www.isover.cz/DOP](http://www.isover.cz/DOP))
- Quality certificate according to VDI 2055 - audit testing by FIW Munich

#### DIMENSIONS AND PACKAGING

Product	Thickness (mm) <sup>1)</sup>	Dimensions (mm)	Per package (m <sup>2</sup> )	Rolls / Package	Packages / Pallet	m <sup>2</sup> / Pallet
Orstech DP 80	30	2 x 500 x 5000	5.0	2	21	105.0
Orstech DP 80	40	2 x 500 x 5000	5.0	2	21	105.0
Orstech DP 80	50	2 x 500 x 4000	4.0	2	21	84.0
Orstech DP 80	60	2 x 500 x 3000	3.0	2	21	63.0
Orstech DP 80	70	2 x 500 x 3000	3.0	2	18	54.0
Orstech DP 80	80	2 x 500 x 2500	2.5	2	21	52.5
Orstech DP 80	90	2 x 500 x 2000	2.0	2	21	42.0
Orstech DP 80	100	2 x 500 x 2000	2.0	2	21	42.0
Orstech DP 80	120*	2 x 500 x 2000	2.0	2	18	36.0

Additional marking of the facing inserted between insulation and wire mesh: ALU - aluminium foil facing reinforced with a glass fibre grid. Thickness tolerance according to EN 823: - 5 mm, + 5 mm.<sup>1)</sup> Measured under the load of 1000 Pa. Therefore for mounting it is essential to count with higher insulation thickness than presented in the table. \* Minimal volume need to be consulted with a producer.

#### TECHNICAL PARAMETERS

Parameter	Unit	Value										Standard			
<b>THERMAL INSULATING PROPERTIES</b>															
Declared value of the thermal conductivity coefficient $\lambda_D$ according to EN ISO 13787	°C	10	40	50	100	150	200	250	300	400	500	600	650		
	Wm <sup>-1</sup> .K <sup>-1</sup>	0.035	0.039	0.041	0.047	0.055	0.065	0.076	0.089	0.118	0.155	0.201	0.225		
Measured value of the thermal conductivity coefficient according to EN 12667	Wm <sup>-1</sup> .K <sup>-1</sup>	0.033	0.037	0.039	0.046	0.053	0.061	0.071	0.081	0.106	0.138	0.177	0.200		
Maximum service temperature / on the facing	°C	640 / max. 100										EN 14706			
Specific heat capacity $c_p$	J.kg <sup>-1</sup> .K <sup>-1</sup>	800										-			
<b>PHYSICAL PROPERTIES</b>															
Density	kg.m <sup>-3</sup>	80										EN 1602, EN 13470			
Short term water absorption $W_p$	kg.m <sup>-2</sup>	<< 1										EN 1609			
Flow resistance $\Xi$	kPa.s.m <sup>2</sup>	53										EN 29053			
<b>FIRE SAFETY PROPERTIES</b>															
Reaction to fire	-	A1										EN 13501-1			
Melting temperature $t_m$	°C	≥ 1000										DIN 4102 part 17			
<b>ACOUSTIC PROPERTIES</b>															
The practical sound absorption coefficient $\alpha_p$ according to EN ISO 354 and EN ISO 11654	Frequency	Hz	125	250	500	1000	2000	4000							
		Thickness	40 mm	0.15	0.60	1.00	1.00	0.95	1.00	1.00	1.00	1.00			
	Thickness	60 mm	0.35	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
	Thickness	80 mm	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
	Thickness	100 mm	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Definition of single number value according to EN ISO 11654	Single number value	-	$\alpha_w$				$\alpha_{sff}$				NCR				
		40 mm	0.90				0.89				0.90				
	60 mm	1.00				1.01				1.00					
	80 mm	1.00				1.03				1.05					
	100 mm	1.00				1.05				1.05					
<b>CLASSIFICATION ACCORDING TO AGI Q 132</b>															
Insulation material designation code	-	10.01.02.64.08										AGI Q 132			

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