Wired Mat Insulation

Specification code: MW – EN 14303 – T2 – ST(+)660 – WS1 – CL10

TECHNICAL SPECIFICATION

Wired mats 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 galvanized mesh (marking DP 100 X) or with stainless steel wire and stainless steel mesh (marking DP 100 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.

DP 100 has a maximum service temperature of 660 °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: 10.01.03.66.10.

PACKAGING, TRANSPORT, WAREHOUSING

Wired mats DP 100 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.

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 660 °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 CZ0002-018
Quality certificate according to VDI 2055 - audit testing by FIW Munich

DIMENSIONS AND PACKAGING

Product	Thickness (mm) [1]	Dimensions (mm)	Per package (m²)	Rolls / Package	Packages / Pallet	m² / Pallet
P 100	30*	2 x 500 x 6000	6.0	2	21	126.0
P 100	40*	2 x 500 x 5000	5.0	2	21	105.0
P 100	50	2 x 500 x 4000	4.0	2	21	84.0
P 100	60	2 x 500 x 3000	3.0	2	20	60.0
P 100	70	2 x 500 x 3000	3.0	2	18	54.0
P 100	80	2 x 500 x 2500	2.5	2	21	52.5
P 100	90	2 x 500 x 2000	2.0	2	21	42.0
P 100	100	2 x 500 x 2000	2.0	2	21	42.0
P 100	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. [1] 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
THERMAL INSULATING PROPERTIES			
Declared value of the thermal conductivity coefficient λ_D	°C	10 40 50 100 150 200 250 300 400 500 600 650	
according to EN ISO 13787	$W \cdot m^{-1} \cdot K^{-1}$	0.035 0.039 0.041 0.047 0.054 0.063 0.073 0.084 0.110 0.143 0.182 0.204	
Measured value of the thermal conductivity coefficient according to EN 12667	$W \cdot m^{-1} \cdot K^{-1}$	0.033 0.037 0.039 0.045 0.052 0.060 0.069 0.079 0.101 0.130 0.166 0.185	
Maximum service temperature / on the facing	°C	660 / max. 100	EN 14706
Specific heat capacity c_p	$J.kg^{-1}.K^{-1}$	800	-
PHYSICAL PROPERTIES			
Density	$kg \cdot m^{-3}$	100	EN 1602, EN 13470
Short term water absorption W_p	$kg \cdot m^{-2}$	<< 1	EN 1609
Flow resistance Ξ	$kPa.s.m^{-2}$	72	EN 29053
FIRE SAFETY PROPERTIES			
Reaction to fire	-	A1	EN 13501-1

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	0.65	1.00	1.00	0.95	0.95
		60	mm	0.35	0.95	1.00	1.00	0.95	0.95
		80	mm	0.45	1.00	1.00	1.00	1.00	1.00
		100	mm	0.60	1.00	1.00	1.00	1.00	1.00
Definition of single number value according to EN ISO 11654	Single number value		-	α_w		α_{str}		NRC	
	Thickness	40	mm	0.95		0.91		0.90	
		60	mm	1.00		0.99		1.00	
		80	mm	1.00		1.02		1.00	
		100	mm	1.00		1.03		1.05	
CLASSIFICATION ACCORDING TO AGI Q 132									
Insulation material designation code			-	10.01.03.66.10				AGI Q 132	

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