



قطر للألياف المعدنية

QATAR MINERAL FIBERS

صوف صخري ROCK WOOL



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Scope of Application

Construction

- Interior or exterior wall insulation applications.
- Roofing insulation.
- Sandwich lamination panel.
- Waterproof protection.

Industry

- Industrial boiler,
- Metallurgy kiln,
- Exhaust chimneys,
- Hot gas ducts,
- Boilers, heat exchangers,
- Storage tanks,
- Furnaces, ovens, Stacks,
- Air-condition duct,
- Refrigeration equipment,
- Inter layer of ship cabin.

Residential

- Suitable for walls, roofs, elevator,
- Sound insulation as home offices, studies, bedrooms and bathrooms, and TV media and gaming rooms.
- Warm flat roof constructions where thermal, acoustic and fire protection performance is required.

Introduction

Qatar rock wool products as natural non-organic product is an economical light weight thermal insulation material is manufactured from a mixture of natural rocks (gabbro, dolomite and limestone) melted at high temperature to form a molten matrix, which is then passed through an air stream that cools the material and forms long fibrous strands. These fibers are bonded together to form rock wool (boards / panels), (blanket / felt) and (mattress / wire mesh blanket).

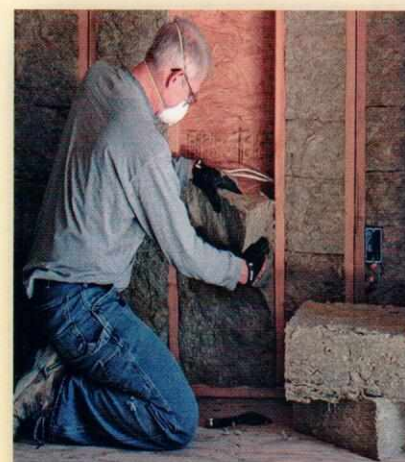


Main Technical Data

Item	Unit	Data
Fiber diameter	μ	8~6
Shot content	%	12>
Thermal load contraction temperature	$^{\circ}\text{C}$	650
Service temperature	$^{\circ}\text{C}$	850 ~ 269-
Combustibility		non-combustible
Thermal conductivity	(w/m•k)	0.042 ~ 0.038
Moisture absorption	%	0.2
Water repellency	%	98<
Chemical Properties/ Biological Properties		Rockwool is neutral (PH 7) or slightly alkaline. It will not normally support the growth of molds, fungi and bacteria

THERMAL CONDUCTIVITY

The thermal conductivity is the most important of an insulation material because it is a measure of the heat transfer. QRW Products have an extremely high thermal performance due to our technology in production process, which gives them already a low thermal conductivity at low densities.



QMF Semi Rigid & Rigid

Description QMF semi-rigid and rigid slabs are high quality resin bonded slabs that can be used for thermal and acoustic insulation in general building applications. The slabs are available in a wide range of thicknesses and densities to suit most requirements and are local marked to EN 13162*.

Advantages

- ♦ Excellent thermal, acoustic and fire insulation.
- ♦ Easy to cut and install.
- ♦ Flexible, easily fit insulated surface.
- ♦ Aluminium foil facings available.
- ♦ Chemical and biological corrosion resistance.
- ♦ Suitable for a wide range of general building applications.



Applications

Industrial

- ♦ Ducts (hot, cool) and Chimneys.
- ♦ Equipment (boilers, heat exchangers,...)
- ♦ Storage tanks.
- ♦ Furnaces, ovens, stacks.
- ♦ Refrigeration equipment.

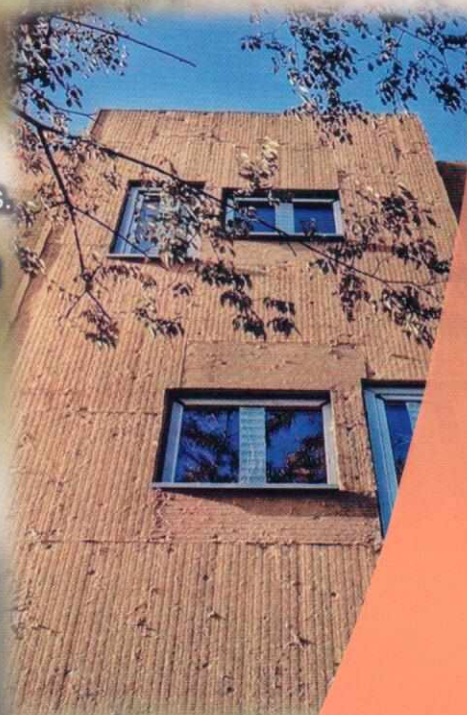
Buildings

- ♦ Framed external walls.
- ♦ Roof.
- ♦ Internal partitions and intermediate floors.
- ♦ Separating walls and floors.
- ♦ Kitchen exhaust duct

PHYSICAL PROPERTIES

Density (kg/m ³)	40	60	80	100	120	150
Thickness (mm)	30, 40, 50, 75, 100 150					25, 40, 50, 75
Width x Length (mm)	600 x 1,200					
Service Temperature (°C)	Up to 450 °C	Up to 650 °C				
Thermal Conductivity : W/m. K(kcal/m.h.°C)						
100 °C	0.048 (0.042)	0.043 (0.037)	0.042 (0.036)	0.041 (0.035)	0.041 (0.035)	0.040 (0.034)
200 °C	-	0.061 (0.052)	0.057 (0.049)	0.057 (0.049)	0.055 (0.047)	0.053 (0.046)
300 °C	-	0.087 (0.075)	0.077 (0.066)	0.073 (0.063)	0.071 (0.061)	0.069 (0.059)
400 °C	-	0.123 (0.106)	0.099 (0.085)	0.095 (0.082)	0.092 (0.079)	0.088 (0.076)
Sound Absorption Coefficient (thickness = 50 mm)						
125 Hz	-	0.28	0.26	0.37	0.35	0.39
250 Hz	-	0.55	0.73	0.62	0.67	0.61
500 Hz	-	0.95	0.90	0.91	0.89	0.81
1000 Hz	-	0.99	0.99	0.98	0.97	0.95
2000 Hz	-	0.97	0.95	0.95	0.96	0.95
4000 Hz	-	0.98	0.97	0.97	0.95	0.91

• Other densities and sizes also are available on request.



LRB Mattresses (QMF LRB-MAT)

Lightly Resin Bonded Mattresses (LRB) has excellent stability and has no dusty atmosphere which pollutes the atmosphere during application. It has controlled thickness and density resulting in predictable heat losses.

Description

Qatar rock wool blanket reinforced with a stitched hexagonal galvanized wire mesh. galvanized wire mesh (Wired mat) is an economical light weight thermal insulation

material is manufactured from a mixture of natural rocks (Gabbro and dolomite) melted at high temperature to form a molten matrix, which is then passed through an air stream that cools the material and forms long fibrous strands. These strands are bonded together to form blankets and then stitched with galvanized wire mesh on one side or both side of the blanket.

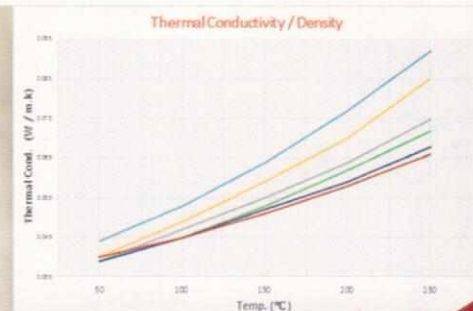
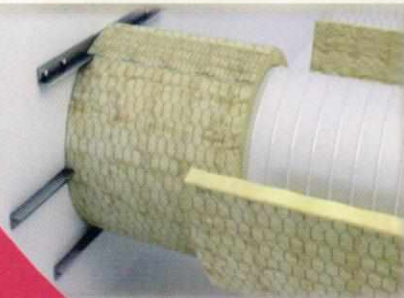
Standard size and Packing

Size of the Mattresses	2000 mm X 1200 mm
Thickness	30 mm to 150 mm
Density (Kg/ m ³)	90, 100, 120, 150
Metal Facing	G.I.Hexagonal wire netting 30 X 45 mm
Standard Packing	Polyethylene Shrinking film / PE

Others options of wire netting, density & thickness are available on request.



		Temp.	50 °C	100 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400 °C	500 °C	600 °C	650 °C	Thermal Conductivity (W / m.k)
Density	55 (Kg / m ³)		0.04	0.049	0.059	0.07	0.085	0.103	0.122					
	60 (Kg / m ³)		0.044	0.053	0.064	0.077	0.092	0.11	0.103	0.156	0.216			
	70 (Kg / m ³)		0.039	0.047	0.055	0.064	0.075	0.088	0.103	0.119	0.157	0.205	0.205	
	80 (Kg / m ³)		0.039	0.045	0.053	0.062	0.072	0.084	0.097	0.112	0.146	0.192	0.213	
	100 (Kg / m ³)		0.039	0.045	0.052	0.059	0.068	0.078	0.089	0.102	0.131	0.167	0.191	
	130 (Kg / m ³)		0.04	0.045	0.051	0.058	0.066	0.075	0.085	0.096	0.123	0.157	0.188	



QMF Felt / Blanket

QMF Blanket or felt is manufactured as both low density and high density under BS EN 13162, ASTM C-665 and ASTM C-553 standard.

QMF blanket covered with Aluminum foil or Kraft paper to act as a vapor barrier.

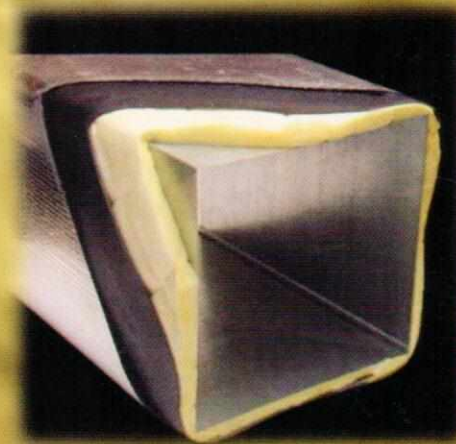
BS EN 13162:2012: Thermal insulation products for buildings. Factory made mineral wool (MW) products.

ASTM C665: Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

Applications

Industrial QMF felt is adaptable for a broad scope of applications act as acoustical and thermal insulation for air conditioning ducts, prefab houses, ovens, wall partition, etc.

- Insulation for electric heaters, refrigerated containers, etc.
- Industrial boilers, kilns, turbines, chimneys and furnaces.
- Large diameter pipes, valves and tanks.
- Thermal insulation in narrow places such as lofts, shafts and suspension ceilings.



Features and Benefits

The fine-fiber, semi-rigid composition makes QMF felt easy to handle, fabricate, and install for a broad range of applications.

- Lightweight highly durable insulation product
- Easily forms to shape of equipment to be insulated
- Cost effective thermal insulation
- Performance is not adversely effected from contact with water
- Noncombustible.

Density (Kg/m ³)	40	50	60	80	90
Thickness (mm)				30	30
	50	50	50	50	50
	75	75	75	75	75
	100	100	100	100	100
Length (mm)	1000~10000				
Width (mm)	1200				

*Other size can be made upon request.





BS EN: 13162 Thermal insulation products for buildings – Factory made mineral wool (MW) products – Specification.

Product characteristic	Symbol	Characteristic values	Tolerances	Test Method
Dimensional				
Thickness	d	30-150mm	$-1+3$ mm, T5	BS EN 823
Width	b	600-1200mm	± 1.5 %	BS EN 822
Length	l	1000–2000mm	± 2 %	BS EN 822
Deviation from Squareness (on length & width)	S_b	≤ 5 mm/m	-	BS EN 824
Flatness	S_{max}	≤ 6 mm	-	BS EN 825
Dimensional Stability	-	Dimensionally Stable	-	BS EN 826
Thermal				
Conductivity (10°C)	λ_D	0.037-0.040 W/mK	-	BS EN 12939 or BS EN 12667
Fire				
Euroclass	-	A1, Non combustible	-	BS EN 13501-1
Mechanical				
Density	-	130-200kg/m ³	± 10 %	-
Compressive Strength At 10% deformation	CS(10)	60-100 kPa*	-	BS EN 826
Point Load strength	PL(5)	≥ 500 N	-	BS EN 12430
Tensile Strength perpendicular to faces	σ_{mt}	≥ 15 kPa	-	BS EN 1607
Moisture				
Water Vapor Transmission	μ	1	-	BS EN 12086
Typical Applications				
Warm flat roof constructions where thermal, acoustic and fire protection performance is required. Products for use under mechanically fastened or fully-adhered single ply membranes. Contact the appropriate manufacturer for product specific data.				
Comments				
*This requirement applies to homogeneous materials and the top layer of multi layer or composite products.				

FIRE SAFETY

A unique feature of QMF rock wool products is their fire-resistant properties. QMF rock wool insulation is made up of at least %95 stone wool and it has a melting point above 1,000 °C. Because of its noncombustibility, there is no contribution to the fire load within buildings.

HIGH DURABILITY

QMF rock wool insulation products are highly durable because they maintain their mechanical properties, have a high dimensional stability and stiffness, which is unaffected by changes in temperature or humidity.

NOISE REDUCTION

QMF rock wool insulation can provide a very high level of sound absorption in walls, roofs and under floors which prevents noise from outside or from adjacent rooms.

WATER REPELLENCE AND FUNGAL GROWTH

QMF rock wool insulation products are both water repellent and moisture resistant.

COST REDUCTION BY SAVING ENERGY

Thermal insulation products save energy and diminish the harmful emissions associated with production of energy for heating and cooling.

ACOUSTICAL PERFORMANCE

QMF rock wool products can provide a very high level of sound absorption, QMF rock wool insulation in walls, roofs and under floors prevents noise from outside – or from adjacent rooms – penetrating the building.



SOUND INSULATION



SAVES ENERGY



WATER RESISTANT



INSULATION AGAINST POLLUTION



LOW MAINTENANCE



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