Data sheet

FireMaster® MP Shell

ENGLISH

Description

FireMaster MP Shell is a mechanically robust 3D non combustible and fire resistant microporous insulation formed into curved segments and shells and it is available in a wide range of diameters and thicknesses.

The engineered mineral matrix which constitutes the insulation core has been specifically designed for applications where good mechanical resistance, associated with the lowest thermal conductivity, are key selecting criteria.

Like any other microporous insulation of our industrial range produced with our exclusive WDS® Technology process, it features extremely good handling properties, extremely low thermal conductivity coefficient giving it very good insulating properties in limited thickness allowing to design equipment where high energy efficiency, space optimization and reduction of weight are other premium factors to be considered.

Environmental and Health Safety

FireMaster MP Shell does not contain any hazardous or decomposition substance according to the EU Directive 2006/1907/EEC and IARC. The fibers or filaments used as reinforcement of the mineral core are also exonerated from any classification as defined by the WHO (World Health Organization) and the EU Directive 97/69/EC.

Resistance to Moisture and Water

FireMaster MP Shell has a non-porous surface therefore it is sensitive to all liquids that can wet it; this includes substances such as water, oil and petroleum spirit, since they can destroy the pore structure. Non condensed moisture does not affect the product.

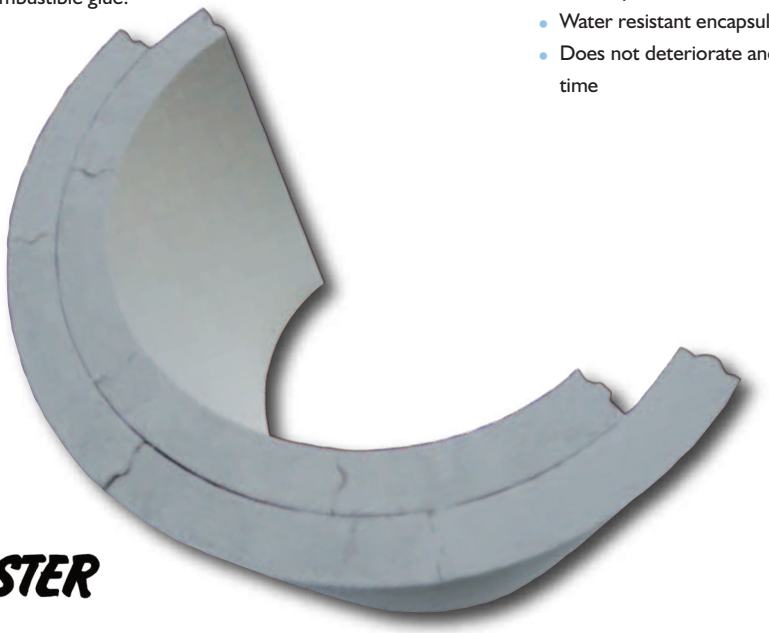
Sensitivity to liquids of FireMaster MP Shell can be eliminated by using a surface treatment such as temperature resistant aluminum foil and use of inorganic and non-combustible glue.

Features

- Best-in-class for low thermal conductivity in the widest temperature spectrum
- Not affected by thermal shock
- Non combustible and fire resistant
- Improved product mineral matrix core features minimal dust release and very good handling and machining abilities
- Good resistance to compression associated to its low density
- Homogeneity throughout the entire surface and thickness of the board leading to consistency in performances per square area of material installed
- Highly efficient insulation in limited space and weight constraints
- Inorganic and non-combustible
- Unaffected by most chemicals
- Structural integrity

Benefits

- Dimensionally stable over time up to the maximum using temperature
- Freedom in engineering at the design stage,
- Easy to cut and with proven installation techniques
- Low weight lining system can be foreseen due to the extremely favorable product density /thickness ratio
- Environmentally friendly
- Helps to control energy efficiency and heat flow very precisely
- Increases effective volume inner capacity or reduces encumbrance in equipment and apparels of any kind.
- Ultra-thin insulation allowing to save space and weight on pipe racks
- Less quantity of metal cladding required improving significantly operational costs and ROI.
- Tightest tolerances guarantee perfect fit for fast installation and effi • ciency pipe sealing
- Less pipe congestion on rack allow easier accessibility for faster maintenance and intervention
- Very good pedestrian resistance once installed.
- Wide option of thicknesses and diameters available
- Water resistant encapsulation available
- Does not deteriorate and maintain its physical and thermal performances over time



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	Test Method	FireMaster MP Shell
Classification Temperature, °C (°F)		1000 (1832)
Denisty, kg/m³ (pcf), nominal		275 (17.7)
Cold Compressive strength, MPa (psi)	ASTM C 165	0.30 (43.5)
Linear Shrinkage, %		
Full soak, 1000°C (1832°F), 24 hours	ASTM C365	<3.0
One side exposed soak, 800°C (1472°F), 12 hours		0.3
Thermal Conductivity, W/m•K (BTU•in/hr•ft²•°F), per ASTM C177		
200°C (392°F)	ASTM C177	0.022 (0.152)
400°C (752°F)		0.023 (0.159)
600°C (1112°F)		0.027 (0.187)
800°C (1472°F)		0.033 (0.228)
Chemical Analysis, % weight basis after firing		
Silica, SiO_2		55-75
Silicon Carbide, SiC		25-40
Others		3-10
Loss of Ignition, Dry condition)		<2.5

Shelf life

- FireMaster MP Shell has unlimited shelf life if it stored properly
- FireMaster MP Shell must be handled and stored in dry conditions
- FireMaster MP Shell is resistant to diffusion by atmospheric humidity (water vapor) proving condnsation is avoided

Size and Availability

DN	Length, mm (in)	Thickness, mm (in)
DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN125, DN200	500 (19.68), 1000 (39.37)	20, 25, 30, 35, 40, 45, 50 (0.8, 1, 1.2, 1.4, 1.6, 1.8, 2)

Other diameters and thicknesses are available on demand

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