

# MT-29 SERIES INSULATION

## MICROPOROUS INSTALLATION

Pyrotek offers four types of MT-29 series microporous insulation:

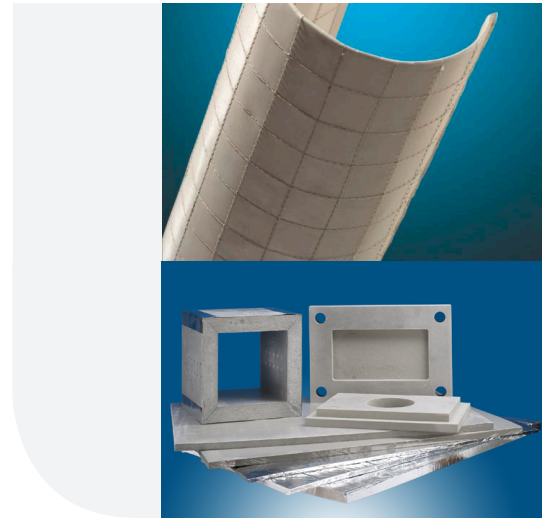
- MT-29P–Panel Insulation
- MT-29L–Stitched Lining Insulation
- MT-29B–Insulating Board
- MT-29Q–Quilted Insulation

MT-29P is panel insulation that offers exceptionally low thermal conductivity. The insulation's exterior is glass fabric which maximizes the rigid interior panel's strength. MT-29P will maintain its insulation and tensile strength capabilities at temperatures up to 650°C (1202°F). If the glass fabric is replaced with specialty fabric MT-29P will maintain its insulating properties at temperatures up to 1000°C (1832°F).

MT-29L is microporous insulation material covered with flexible glass fabric. The material is parallel-stitched for easy handling and resists operating compression to help maintain lining stability. MT-29L has low thermal conductivity which reduces energy costs without decreasing ladle capacity. MT-29L that is 6.4 millimetres (0.25 inches) thick has the same insulating value as a Class 26 insulating fire brick that is 63.5 millimetres (2.5 inches) thick.

MT-29B has the lowest thermal conductivity available from an insulating board. Its cellular structure contributes to low-weight, good compressive strength, and low shrinkage at high temperatures. MT-29B is coated with a thin shrink-wrapped covering that prevents moisture penetration during ramming mix, castable and mortar installations. The material is suited for applications where insulation space is limited and weight is a factor. It is available in standard and hydrophobic formulations.

MT-29Q is quilted to enclose a microporous core between glass cloths. This results in a flexible insulating material with exceptionally low thermal conductivity. The quilting maintains core distribution to ensure good insulation and vibration resistance. MT-29Q can be used at temperatures up to 650°C (1202°F). If the glass fabric is replaced with specialty quartz-cloth covering MT-29Q will maintain its insulating properties at temperatures up to 1000°C (1832°F).



### BENEFITS

- Low thermal conductivity
- Reduces vessel and trough warping
- Excellent temperature control
- Minimizes heat transfer
- Can be reused
- Minimizes vessel hot face temperatures

### APPLICATIONS

Backup insulation



## MT-29 SERIES INSULATION

### PHYSICAL PROPERTIES

Value	Product Name			
	MT-29P	MT-29L	MT-29B	MT-29Q
Density—kg/m <sup>3</sup> (lb/ft <sup>3</sup> )	256 (16)	256 (16)	288, 320, 352 (18, 20, 22)	256 (16)
Standard Service Temperature	650°C (1202°F)	650°C (1202°F)	1000°C (1832°F)	650°C (1202°F)
Specialty Service Temperature	1000°C (1832°F)	1000°C (1832°F)	—	1000°C (1832°F)
Compression—MPa (psi)				
10 Percent	0.2 (29)	0.2 (29)	0.3 (44)	0.2 (29)
20 Percent	0.6 (87)	0.6 (87)	0.7 (102)	0.6 (87)
30 Percent	1.1 (160)	1.1 (160)	1.1 (160)	1.1 (160)
Available Sizes—mm (in)	Panels: 610 x 915 (24 x 36)	Sheets: 915 x 915 (36 x 36) 915 x 1830 (36 x 72)	Sheets: 457 x 600 (18 x 23.6)	Square Stitched: 915 x 915 (36 x 36) Parallel Stitched: 915 x 1830 (36 x 72)
Thickness	13, 19, 25, 32, 38 mm (0.50, 0.75, 1.0, 1.25, 1.50 in)	6, 10 mm (0.25, 0.40 in)	13, 19, 25, 32, 35, 38 mm (0.50, 0.75, 1.0, 1.25, 1.40, 1.50 in)	3, 5, 6, 10, 13 mm (0.10, 0.20, 0.25, 0.40, 0.50 in)
Permanent Linear Change (Shrinkage) at 538°C (1000°F) at 815°C (1500°F) at 954°C (1750°F)	0.3% 0.6% 1.0%			
Thermal Conductivity—W/(m·K) (BTU·in/ft <sup>2</sup> ·hr·°F)	Standard		Hydrophobic	
at 260°C (°F)	0.029		0.029	
at 537°C (°F)	0.042		0.048	
at 649°C (°F)	0.049		0.056	

NOTE: The MT-29 thermal conductivity curve on the graph is based on average values obtained by sampling 288 kg/m<sup>3</sup> MT-29B board, and 256 kg/m<sup>3</sup> MT-29L ladle liner, MT-29P panel and MT-29Q quilted insulation types.

NOTE: The physical and chemical properties listed represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.

Comparison of Thermal Conductivity Values of Popular Insulation Options

