

### APPLICATIONS

Machinable material for component manufacture for use as:

- Element supports for the furnace industry
- Structural insulation within metal forming applications
- Electrical insulation
- Arc shields in switchgear
- High strength thermal and electrical separators



### INTRODUCTION

Promat DURATEC® materials are “technical ceramics” made from calcium silicate. They are formulated without the use of asbestos fibres, and are thermally and electrically insulating materials for high temperature insulation use.

### TECHNICAL PROPERTIES

Mechanical properties	Promat DURATEC® 750	Promat DURATEC® 1000
Nominal density	1400kg/m <sup>3</sup>	1400kg/m <sup>3</sup>
Flexural strength	23MPa	16MPa
Hardness	80 [Shore D]	70 [Shore D]
Compressive strength at 10% compaction	55MPa	31MPa

Thermal properties	Promat DURATEC® 750	Promat DURATEC® 1000
Maximum service temperature	1000°C	1000°C
Thermal conductivity at 750°C	0.49W/mK	0.37W/mK
Shrinkage at 750°C for 12 hours (Length, width/thickness)	0.14/1.1%	0.12/0.8%
Loss of ignition	7.3%	5.3%
Coefficient of thermal expansion at 100-750°C	6.6 x 10 <sup>-6</sup>	6.4 x 10 <sup>-6</sup>

Electrical properties	Promat DURATEC® 750	Promat DURATEC® 1000	
Flatwise electrical strength	7300kV/m	4700kV/m	
Arc resistance, Stage 40 (40 mA)	> 420 seconds	> 420 seconds	
Volume resistivity	25°C 600°C	9.0 x 10 <sup>10</sup> Ω cm 1.0 x 10 <sup>10</sup> Ω cm	7.5 x 10 <sup>10</sup> Ω cm 3.1 x 10 <sup>10</sup> Ω cm
Surface resistivity	25°C 600°C	10.0 x 10 <sup>10</sup> Ω 7.0 x 10 <sup>9</sup> Ω	4.1 x 10 <sup>10</sup> Ω 3.9 x 10 <sup>9</sup> Ω
Relative permittivity	25°C 600°C	7.6 21.0	4.7 4.0
Dissipation factor	25°C 600°C	250 400	640 510
Comparative tracking index	> 500	600	

NOTE: All physical property values are averages based on standard production. The figures can change dependent on the test methods used. If a particular value is of prime importance for a specification, please contact Promat Technical Services Department



# Promat DURATEC®

## High Quality Asbestos Replacement Board

### GRADES

#### Promat DURATEC® 750

Improved product with higher strength, improved electrical performance and arc resistance.

Standard sizes	
Thicknesses (mm)	6, 10, 12, 15, 20, 25, 30, 40, 50 and 75
Width (mm)	1220
Length (mm)	1500

#### Promat DURATEC® 1000

Machinable engineering material with good thermal stability and electrical insulation properties.

Standard sizes	
Thicknesses (mm)	6, 8, 10, 12, 15, 20, 25, 30, 40 and 50
Width (mm)	1220
Length (mm)	1500

### PERFORMANCE

#### Thermal Properties

Non-combustible and free of organic constituents; service temperature 1000°C; thermal conductivity decreases with increasing temperature.

#### Electrical Properties

High arc resistance; high surface and volume resistivity; high tracking resistance.

#### Mechanical/Chemical Properties

High strength over the full temperature range; machinable to close tolerances; high chemical stability in alkaline media; reactive in acid media; can be impregnated to become hydrophobic.

#### Conditioning

All products should be adequately dried and conditioned prior to use at elevated temperatures. Please consult Promat technical services department for advice.

#### Handling

Large components should be supported by a light metal support systems; Promat DURATEC® boards and cut sizes can be mechanically fixed together with glue or screw fixings. Promat DURATEC® boards should be transported and stored under dry conditions.

### HEALTH AND SAFETY

A safety data sheet is available from the Promat Technical Services Department and, as with any other materials, should be read before working with the board. The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. They can be placed in an on-site skip with other general building waste which should be disposed of by a registered contractor.

# Promat

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