

DURATEC®

Duratec is used as a high quality asbestos replacement product in a wide range of industrial sectors.

INTRODUCTION

DURATEC® materials from Promat UK Limited 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 use.

DESCRIPTION

DURATEC 1000®

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

DURATEC 750®

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

STANDARD SIZES

D750

Thicknesses (mm)	6, 10, 12, 15, 20, 25, 30, 40, 50, 75
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Width (mm)	1220
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Lengths (mm)	1500
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D1000

Thicknesses (mm)	6, 8, 10, 12, 15, 20, 25, 30, 40, 50
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Width (mm)	1220
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Lengths (mm)	1500
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* Price for special sizes available on request

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

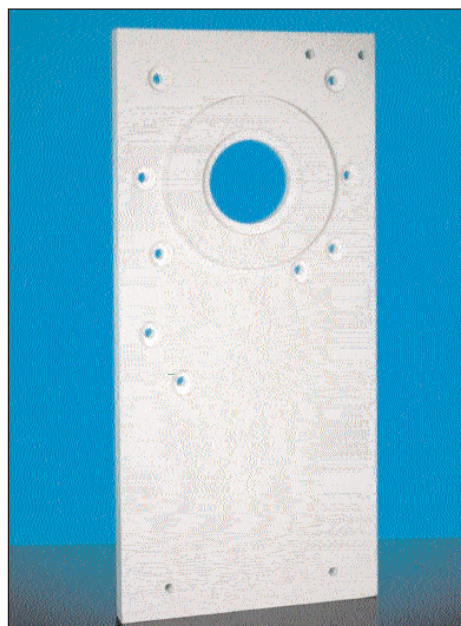
High strength over the full temperature range; machinable to close tolerances; high chemical stability in alkaline media; reactive in acid media; can be impregnated to become hydrophobic.

Conditioning

All products should be adequately dried and conditioned prior to use at elevated temperatures. Please consult Promat's Technical Services Department for advice.

Handling

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



TYPICAL APPLICATIONS

Machinable material for component manufacture for use as:

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

TECHNICAL INFORMATION

DURATEC® can be precisely machined to give high definition finishes. For application advice, contact Promat UK Limited Technical Services Department. Telephone: 01344 381400 Fax: 01344 381401.

TYPICAL PRODUCT PERFORMANCE

		750	1000
Mechanical Properties			
Bulk Density	Kg/m ³	1400	1400
Flexural Strength	MPa	23	16
Hardness	[Shore D]	80	70
Compressive Strength at 10% compaction	MPa	55	31
Thermal Properties			
Maximum Service Temperature	°C	1000	1000
Thermal Conductivity (at 750°C)	W/mK	0.49	0.37
Shrinkage (750°C for 12 hrs) Length, Width/Thickness	%	0.14/1.1	0.12/0.08
Loss of Ignition	%	7.3	5.3
Coefficient of Thermal Expansion (100–750°C)	K ⁻¹	6.6 x 10 ⁻⁶	6.4 x 10 ⁻⁶
Electrical Properties			
Flatwise Electrical Strength	kV/m	7300	4700
Arc Resistance, Stage 40 (40 mA)	s	>420	>420
Volume Resistivity	25°C Ω cm 600°C Ω cm	9.0 x 10 ¹⁰ 1.0 x 10 ¹⁰	7.5 x 10 ¹⁰ 3.1 x 10 ¹⁰
Surface Resistivity	25°C Ω 600°C Ω	10.0 x 10 ¹¹ 7.0 x 10 ⁹	4.1 x 10 ¹⁰ 3.9 x 10 ⁹
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