

DURATEC® 750 - 1000

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.



ADVANTAGES AND PROPERTIES

- Thermal properties
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.
- Handling
Large components should be supported by a light metal support system. DURATEC® boards and cut sizes can be mechanically fixed together with glue or screw fixings. DURATEC® should be transported and stored under dry conditions.
With special processing machines and correspondingly equipped tools (hard metal and diamond tips) precise free-machining, low fine-particle and dust formation. Clean processing (cutting of contours/profiles) is possible. Machine and cutting accuracy (for profiles, lathed parts etc.) is the prerequisite for using precision parts in machinery and plants.

WORKING AND PROCESSING

- Conditioning
All products should be adequately dried and conditioned prior to use at elevated temperatures. Please consult Promat for advice.
- Cutting to Size
When cutting to size, the maximum workplace concentration values for dust generation must be observed. In general dust suction is recommended.



AREAS OF APPLICATION

Machinable material for component manufacture for use as:

- Elements 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 DATA

Product Name		DURATEC® 750	DURATEC® 1000	
Colour		white	white	
Maximum Service Temperature		1000	1000	°C
Bulk Density ρ		1400	1400	kg/m ³
Cold Compressive strength		55	31	N/mm ²
Flexural strength		23	16	N/mm ²
Hardness		80	70	Shore D
Shrinkage (750°C for 12 hrs)		0,14/1,1	0,12/0,8	%
Length, width / thickness				
Thermal conductivity λ	200°C	0,56	0,51	W/mK
	400°C	0,54	0,44	W/mK
	600°C	0,52	0,39	W/mK
	750°C	0,49	0,37	W/mK
Specific heat capacity c		1,05	1,04	kJ/kg K
Loss on Ignition		7,3	5,3	%
Coefficient of thermal expansion α		$6,6 \times 10^{-6}$	$6,4 \times 10^{-6}$	m/mK
Flatwise electrical strength		7300	4700	kV/m
Resistance to electrical track		>500	>600	CTI-value
Arc resistance, stage 40 (40 mA)		>420	>420	s
Volume resistivity	25°C	$9,0 \times 10^{10}$	$7,5 \times 10^9$	Ω cm
	600°C	$1,0 \times 10^{10}$	$3,1 \times 10^9$	Ω cm
Surface resistivity	25°C	$10,0 \times 10^{11}$	$4,1 \times 10^{10}$	Ω
	600°C	$7,0 \times 10^9$	$3,9 \times 10^9$	Ω
Relative resistivity	25°C	7,6	4,7	
	600°C	21	4	
Dissipation factor	25°C	250	640	
	600°C	400	510	

Toleranties
Thickness: $\pm 0,5$ mm
Width & length: ± 3 mm

STANDARD SIZES

Promat contains the right to change without notice the properties and values of all products. The given technical values are obtained in specific conditions and are average and indicative. In case of any doubt if these properties and/or values are matching the application requirements, please contact Promat for advise.



Dimensions	boards/pallet
DURATEC® 750	
1500 x 1220 x 6 mm	60
1500 x 1220 x 10 mm	40
1500 x 1220 x 12 mm	30
1500 x 1220 x 15 mm	25
1500 x 1220 x 20 mm	20
1500 x 1220 x 25 mm	15
1500 x 1220 x 30 mm	13
1500 x 1220 x 40 mm	10
1500 x 1220 x 50 mm	7
1500 x 1220 x 75 mm	5
DURATEC® 1000	
1500 x 1220 x 6 mm	60
1500 x 1220 x 8 mm	50
1500 x 1220 x 10 mm	40
1500 x 1220 x 12 mm	30
1500 x 1220 x 15 mm	25
1500 x 1220 x 20 mm	20
1500 x 1220 x 25 mm	15
1500 x 1220 x 30 mm	13
1500 x 1220 x 40 mm	10
1500 x 1220 x 50 mm	7