Promat

MONOLUX® 500-800

MONOLUX® 500 and 800 are low thermal conductivity rigid insulation materials. MONOLUX® 800 has higher strength for more arduous conditions. Both materials are formulated without asbestos or other inorganic fibres, and are easily machined to close tolerances. With low shrinkage and high strength, the materials provide effective and stable insulation solutions for industrial problems.

- MONOLUX® 500
  Rigid machinable insulation for thermal break use in a process plant and as single skin insulation for ovens and driers.
- MONOLUX® 800
  Strong rigid thermal insulation for use in platen presses and driers.

ADVANTAGES AND PROPERTIES

- Thermal properties
  MONOLUX® 500 and 800 have low thermal conductivity values for thermal insulation purposes and are capable of withstanding up to 900°C for MONOLUX® 500 and 1000°C for MONOLUX® 800. MONOLUX® 800 has extremely low shrinkage at 1000°C. The 500 grade exhibits slightly higher shrinkage.
- Mechanical properties
  With a typical flexural strength of 10MPa, MONOLUX® 800 is a versatile engineering material for arduous use. MONOLUX® 500 has excellent rigidity for single skin over applications. Considerable strength is maintained at elevated temperatures.
- Chemical properties
  MONOLUX® 500 and 800 resist common alkalis and solvents. In highly aggresive environments the surface can be treated to give increased durability

WORKING AND PROCESSING

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

- Machining
  MONOLUX® 500 and 800 have been designed to be easily machined with appropriate tooling to give high definition edges. They can be milled, turned, routed, etc., using traditional techniques. MONOLUX® 500 and 800 may be machined using HSS or carbide tipped tools. Straight cutting is best undertaken by use of tungsten carbide tipped blades. It is recommended that an adequate extraction system is installed adjacent to the cutting tool to remove nuisance dust.

- Fixing
  Screw and bolt holes should allow sufficient clearance for thermal movement. Norma PK screws may be used, but additional screwholding strength can be achieved by the use of suitable metallic inserts.

- Gluing
  Thicknesses in exess of 50 mm may be achieved by gluing together lesser thicknesses using good quality industrial adhesives compatible with the working temperature.

- Storage
  MONOLUX® 500 and 800 should be stored horizontally in a dry building. They may, however, be stored vertically provided the edges are protected.

- Decoration
  MONOLUX® 500 and 800 may be painted with a range of decorative or protective finishes. Before decoration, a suitable alkali-resistant primer should be applied, in accordance with the paint manufacturer's recommendations.

- Handling
  Large components should be supported by a light metal support system. MONOLUX® 500 and 800 boards and cut sizes can be mechanically fixed together with glue or screw fixings. MONOLUX® 500 and 800 should be transported and stored under dry conditions.

AREAS OF APPLICATION

- Press plates insulation
- Ovens and dryers
- Load bearing pipe supports
- Heat shielding
- Structural thermal breaks
- Boiler baffles
- Flue gas baffles

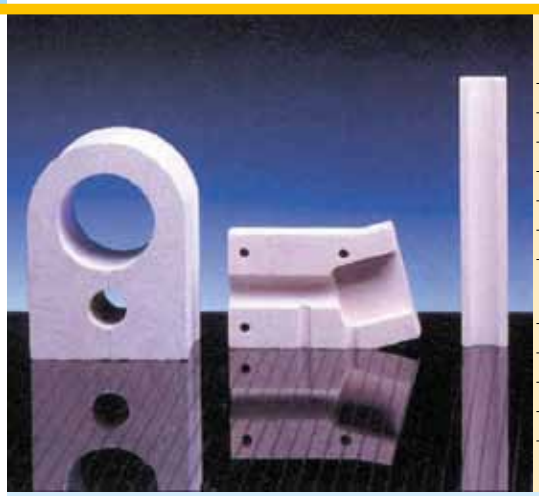
MONOLUX® TO 900°C

TECHNICAL DATA

Product name		MONOLUX® 500	MONOLUX® 800	
Colour		white/beige	white/beige	
Maximum service temperature		900	1000	°C
Bulk density ρ		770	950	kg/m³
Bending strength δ		7	10	N/mm²
Compressive strength at 5% compaction		11	23	N/mm²
Compressive strength at 10% compaction		13	27	N/mm²
Thermal conductivity λ	at 25°C	0,18	0,35	W/mK
	at 200°C	0,19	0,30	W/mK
	at 400°C	0,20	0,31	W/mK
	at 600°C	0,22	0,32	W/mK
	at 800°C	0,24	0,33	W/mK
Specific heat capacity c		0,96	1,03	kJ/kgK
Thermal expansion α		2,2 x 10^{-6}	2,2 x 10^{-6}	m/mK
Shrinkage (900°C for 4 hrs)				
Linear		0,29	-	%
Thickness		0,68	-	%
Shrinkage (1000°C for 4 hrs)				
Linear		-	0,40	%
Thickness		-	2,00	%

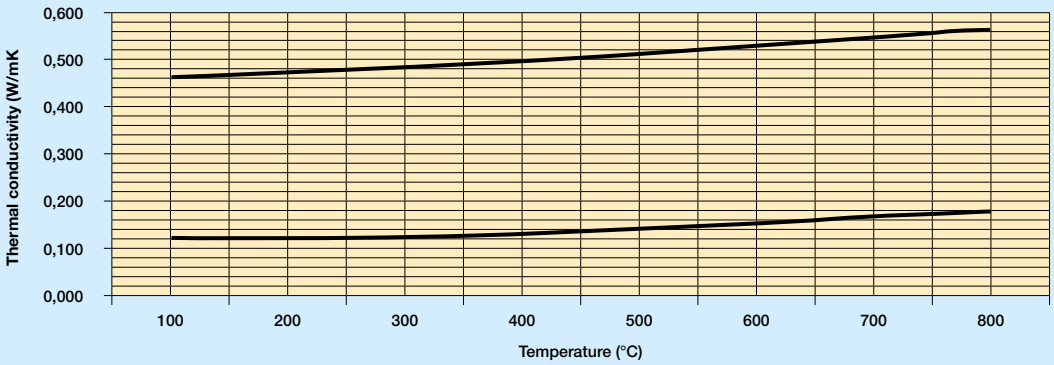
Tolerances:
Length and width: ± 4,8 mm
Thicknesses: ± 0,8 mm

STANDARD SIZES



Dimensions	boards/pallet
MONOLUX® 500	
2440 x 1220 x 12,7 mm	60
2440 x 1220 x 19,1 mm	40
2440 x 1220 x 25,4 mm	30
2440 x 1220 x 31,8 mm	24
2440 x 1220 x 38,1 mm	20
2440 x 1220 x 50,8 mm	15
MONOLUX® 800	
2440 x 1220 x 12,7 mm	60
2440 x 1220 x 20 mm	40
2440 x 1220 x 25 mm	30
2440 x 1220 x 30 mm	26
2440 x 1220 x 50 mm	15

THERMAL CONDUCTIVITY CURVE OF MONOLUX® 500 and MONOLUX® 800



Promat
High Temperature Insulation

Promat NV ■ Kuiermansstraat 1 ■ B 1880 Kapelle-op-den-Bos
Tel. +32 15 71 21 86 ■ Fax +32 15 71 26 90 ■ info-hti@promat.be ■ www.promat-hti.be ■ an Etex GROUP company