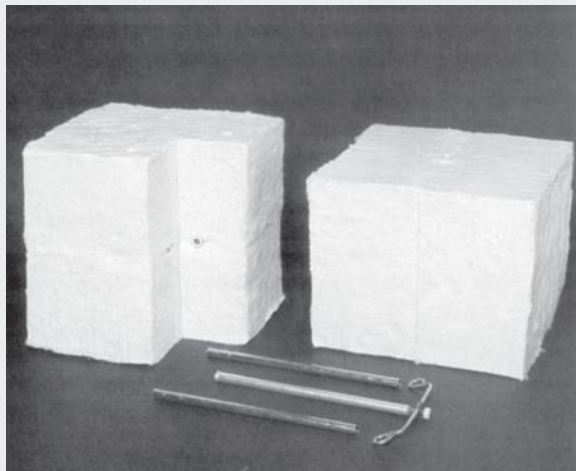


Superwool® Plus Pyro-Bloc Modules



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Type

Mechanically-fixed modules made from high temperature insulation wool.

Classification Temperature

1200 °C

With Superwool® Plus™ fibre, the consistent use of pure raw materials in all our factories globally has led to the 4% shrinkage temperature rising from >1100°C to >1200°C. For this reason, the classification temperature is now given as 1200°C in line with the EN 1094-1 norm.

Features

- High un-compressed densities give low thermal conductivity
- Lubricated fibre allows increased compression and tight joints
- Hardening effect on first firing gives a tough hot face
- Resistance to weathering permits limited outside application
- Anchorage remote from the hot face protects steel work

• Special Shapes

The Pyro-Bloc® system allows for modifications, either on site or factory pre-cut, without any directional limitation, to accommodate awkward casing configurations. L-shaped corner modules provide quick seam-free installation around both internal and external corners, with no need for extra supporting metal work. Half-round cut-away allows fitting to round sections.

Description

Superwool® Plus Pyro-Bloc® modules comprise two sections of Superwool® Plus Pyro-Log® slab edge-grain orientation. These are held in position with two stainless steel tubes mounted transversely through the modules and remote from the hot face. They are anchored to the furnace casing with the patented Pyro-Bloc® fixing in any one of four standard versions, Y, M, T and Eye-bolt.

In the Y module, the tubes are connected with a central, internal yoke which includes a stainless steel stud and Aluminium extension tube. This version is installed directly onto a metal plate casing, without pre-welding, using the special Pyro-Bloc® stud gun. It offers the fastest installation rates of any currently available modules.

The M module also includes the central yoke, but is fitted onto pre-welded studs using the special M modules stud-locating equipment.

The T module is anchored with a pre-studded, external, side-fix yoke.

M and T modules are used where the lining specification calls for either or both a backing blanket and anticorrosion treatment of the casing.

The Eye-bolt version is used for fastening the modules to expanded or perforated metal casings and can also accommodate a backing blanket.

• Y Modules

- Fast installation
- All welds automatically torque tested
- One step installation

• M and T Modules

- Allow use of backing insulation and casing treatment
- Module compression guaranteed
- Simple fixing components
- Use standard, commercially available welding equipment

• Eye-bolt Modules

- Permits fixing of module to expanded or perforated metal casings.
- Exonerated from any carcinogenic classification under nota Q of directive 97/69 EC
- Exonerated from any use restriction under annexe V number 7.1 of the German hazardous substances regulation

SUPERWOOL® is a patented technology for high temperature insulation wools which have been developed to have a low bio persistence (information upon request). This product may be covered by one or more of the following patents, or their foreign equivalents:- SUPERWOOL® PLUS™ products are covered by patent numbers:- US5714421, US5994247, US6180546, US7259118, and EP0621858. SUPERWOOL® 607HT™ products are covered by patent numbers:- US5955389, US6180546, US7259118, US7470641, US7651965, US7875566, EP0710628, EP1544177, and EP1725503. A list of foreign patent numbers is available upon request to The Morgan Crucible Company plc.

Superwool[®] Plus Pyro-Bloc Modules



Main properties

Classification temperature °C 1200

Properties Measured at Ambient Conditions (23°C/50% RH)

• Colour white
 • Density un-compressed kg/m³ 160 192

High Temperature Performance

• Loss on ignition after 2 hours at 800°C % <0.25

• Permanent linear shrinkage (EN 1094-1) after 24 hours isothermal heating at: 1000°C % <1.5

• Thermal conductivity (ASTM C-201) at mean temperature of:

Thermal conductivity (ASTM C-201)		
Mean Temperature W/m.K	160kg/m ³	192kg/m ³
400°C	0.11	0.09
600°C	0.17	0.15
800°C	0.24	0.21
1000°C	0.32	0.28

• Specific heat capacity at 1090°C kJ/kg.K 1.05

Fixing Components and Installation

The standard tubes and yokes for all Pyro-Blocs[®] are ASTM 316 stainless steel, but higher grades of steel (ASTM 310 or Inconel 601) are available for more arduous service conditions. Studs are ASTM 304 stainless steel or of such higher grade which are warranted by the service conditions.

Full details of the installation of all Morgan Thermal Ceramics modules are included in our Module Installation Manual.

Availability and Packaging

Pyro-Blocs[®] are normally supplied as 305mm square and of thicknesses ranging from 100mm to 350mm, in 25mm increments.

Other sizes, shapes and densities, including L-shaped modules can be made available on request.

Superwool[®] Plus Pyro-Blocs[®] are delivered packed either in cartons 315mm square x 930mm long or on palletted jumbo cartons, 1250mm x 1100mm x 1100mm high (including pallet).

The values given herein are typical 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. Therefore, the data contained herein should not be used for specification purposes. Check with your Thermal Ceramics office to obtain current information.