

Superwool® Plus Bulk



Datasheet Code EU: 11-5-04 E

© 2009 Morgan Thermal Ceramics, a business within the Morgan Ceramics Division of The Morgan Crucible Company plc



Description

Superwool® Plus™ bulk offers the same benefits as the other members of the Superwool® fibre family but with improved handling strength and enhanced thermal properties. Superwool® Plus™ bulk is manufactured from pure raw materials using a new manufacturing technology. In addition to enhanced thermal properties, large nuisance dust particles have been effectively eliminated making the product soft to the touch and less irritating during use.

Superwool® Plus™ bulk consists of a loose mass of randomly orientated low bio persistent fibres. Superwool® Plus bulk has excellent thermal stability and retains its original soft fibrous structure up to its maximum continuous use temperature of 1000°C. Above that limit the material will start to show signs of hardening due to crystallisation and so we would recommend Superwool® HT™ bulk as an alternative with a maximum continuous use temperature of 1150°C. Superwool® Plus™ bulk contains no binder and does not emit fume or smell during the first firing.

Classification Temperature

1200°C / 2192°F EN 1094-1

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 EN1094-1 norm.

Superwool® Plus™ fibres have been proven over many years to withstand continuous use in an oxidising atmosphere at 1000°C. This temperature is quoted as the Maximum Continuous Use temperature. For applications above 1000°C Morgan Thermal Ceramics recommends Superwool® 607HT™ fibre which has a classification temperature of 1300°C.

Typical Applications

- Vacuum forming feedstock
- Textile manufacturing
- Building expansion joints
- Chimney fill
- Fire door infill

Grades Available

Lubricated Bulk: Long lubricated fibre:

For packing expansion joints and voids
For infill in the roofs and walls of certain types of kilns
For seals around penetrations in furnaces, such as burner tubes, site holes etc. areas in refractory constructions.

Un-lubricated Bulk: 3 grades:

- Un-chopped fibre,
- Coarse chopped,
- Fine chopped fibre.

Un-lubricated fibre is used in vacuum forming processes, mastics, mouldables sprays and coatings. Selection of different fibre lengths controls the properties of the final product. As standard practises vary between regions, please contact your local Morgan Thermal Ceramics office for our full Superwool® Plus™ bulk characteristics

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 Bulk



Main properties

Colour: White
 Specific gravity: 2.65g/cm³

High Temperature Performance Thermal Conductivity (ASTM C-201)

Thermal Conductivity depends on the degree of compression in the installation. The table below gives thermal conductivity for needled blanket which is compressed fibre which can be used as an indication to your requirements.

Following the decision by the European standards committee to withdraw the Thermal Conductivity test according to EN1094-1 as being inaccurate, Morgan Thermal Ceramics has decided to quote all Thermal Conductivity data according to the well established ASTM C201 method.

Thermal Conductivity (ASTM C-201):					
Mean Temperature		64 kg/m ³ 4 lbs/ft ³	96 kg/m ³ 6 lbs/ft ³	128 kg/m ³ 8 lbs/ft ³	160 kg/m ³ 10 lbs/ft ³
200°C	W/m.k	0.06	0.05	0.04	0.05
400°C	W/m.k	0.10	0.09	0.08	0.08
600°C	W/m.k	0.17	0.14	0.12	0.11
800°C	W/m.k	0.26	0.21	0.18	0.16
1000°C	W/m.k	0.38	0.29	0.25	0.22

Chemical Composition

SiO₂: 62-68%
 CaO: 26-32
 MgO: 3-7
 Other: <1

Availability & Packaging

Superwool[®] Plus[™] Bulk is available in bags and bales. Please check with your local supplier for more information.

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.