Superwool® Plus Bulk

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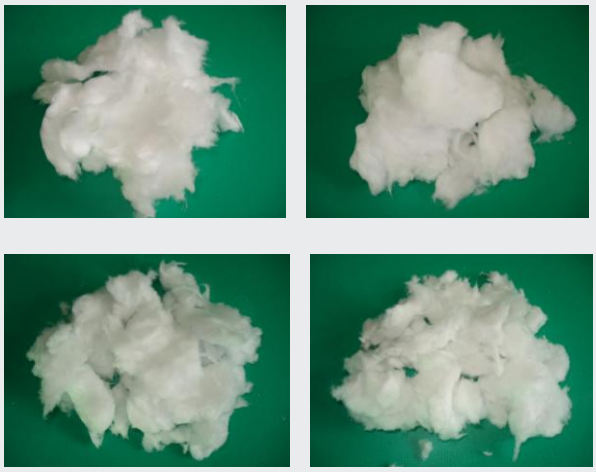

Description

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 lead 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® HTfibre which has a classification temperature of 1300°C.

Benefits

- Superwool® Plus Bulk is virtually immune to thermal shock
- The fibres are opaque to infra-red and so maintain their low thermal conductivity to high temperature
- The fibres absorb very little energy on heating
- The fibres are high purity and non-corrosive
- The fibres are resilient and also resistant to mechanical damage
- Exonerated from any carcinogenic classification under nota Q of directive 97/69 EC

Grades Available

Lubricated Bulk:
Two grades available:
- Extra Long and 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: 4 grades available:
- Extra Long fibre,
- Long fibre
- Medium fibre
- Short 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. Standard practice vary between regions, please contact your local Morgan Thermal Ceramics office for our full Superwool® Plus bulk characteristics

Typical Applications

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

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 W/mK (BTU.in/hr/ft²/°F)		**64 kg/m³ 4 lbs/ft³**	**80 kg/m³ 5 lbs/ft³**	**96 kg/m³ 6 lbs/ft³**	**128 kg/m³ 8 lbs/ft³**
200°C	392 °F	0.06 (0.42)	0,06 (0,42)	0,05 (0,35)	0,05 (0,33)
400°C	752 °F	0.11 (0.76)	0,09 (0,62)	0,09 (0,62)	0,08 (0,55)
600°C	1112 °F	0.18 (1.24)	0,15 (1,04)	0,14 (0,97)	0,12 (0,83)
800°C	1472 °F	0.29 (2.00)	0,24 (1,66)	0,21 (1,46)	0,18 (1,25)
1000°C	1832 °F	0.42 (2.9)	0,36 (2,49)	0,29 (2,01)	0,25 (1,73)

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

Availability & Packaging
Bales: Superwool® Plus Bulk is available in 70kg bales (only non-lubricated available)

Bags: The following grades of Superwool® Plus Bulk are available in polyethylene bag with the following weight.

Type	Grade	Bag weight
Superwool® Plus Lubricated Fibre	Extra Long	10 kg
	Long	15 kg
Superwool® Plus Unlubricate Fibre	Extra Long	10 kg
	Long	15 kg
	Medium	17 kg
	Short	20 kg

Superwool® Plus Bulk in bags are packed in 1200 x1100mm pallet (30 bags per pallet).
Please check with your local supplier for more information.