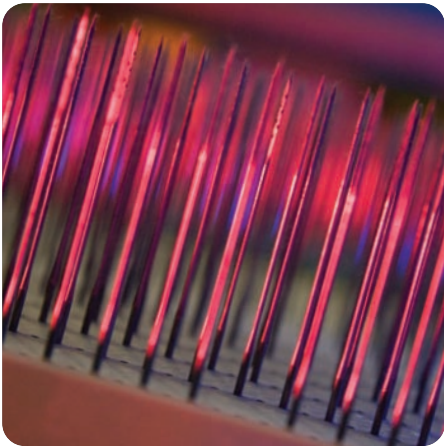


FACT SHEET

TENSILE STRENGTH



Up to 30% more fibres...

...efficient prevention
of heat transfer and greater
strength

Superwool Plus[™]
Insulating fibre

A stronger blanket is desirable for easy installation and handling. The more fibres available to link together the stronger the product.

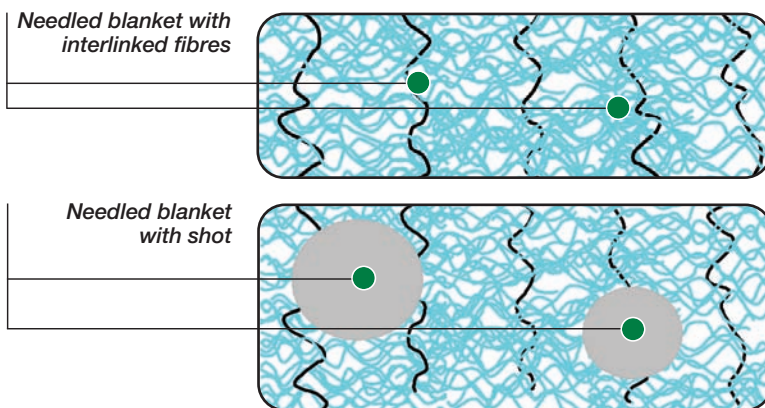
- Up to 30% more fibres give a higher potential for good tensile strength
- Maximum in-service performance
- Good handleability with no breakages
- Low installation costs
- Stronger than any other tested AES blanket and equal to RCF blanket

Tensile strength explained

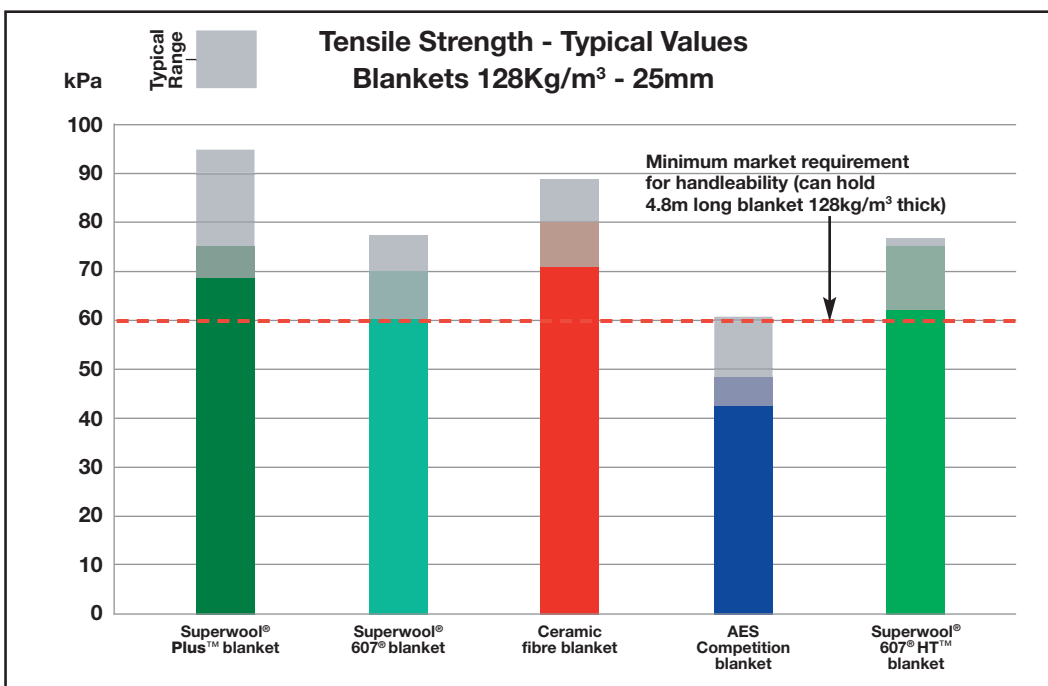
Fibre blankets derive their tensile strength (important for resistance to pulling apart during installation) from the interlinking of fibres during manufacture. The more fibres that are available to link together, the stronger the product. Superwool® Plus™ fibre has approximately **30% more fibres** per unit mass than competitor products giving a higher potential for good tensile strength.

Good tensile strength

The tensile strength of a blanket is a measure of the load that can be put onto the end of a blanket before it is pulled into pieces. In practice, a stronger blanket is desirable for easy installation and handling. Pieces should not break or crumble in the hand when a long length is gripped and suspended.



The graph shows a comparison of tensile strengths measured for a typical range of blankets over a given time.



Tensile strength test

The higher the tensile strength, the longer the section of blanket can be suspended, before its own weight causes it to rip at the hand grips.

Sufficient and consistent density of fibres throughout a full roll of blanket is important for tensile strength and to withstand tearing or breakages when fully suspended.



Test 1
Superwool Plus Tensile
Strength Test 128kg/m³ (8lbs/ft³)
25mm (1 inch) suspended 8m (26.5ft)
from ground

Blanket tears where there are not enough fibres or they are variable in areas.

Superwool® **Plus**™ blanket offers 30% more fibres in a consistent density which enables it to withstand the suspended tensile strength test for over 3 minutes.

Test 1

A full roll of a Superwool® **Plus**™ blanket was suspended 8m from the ground at full length of 7.32m.

After more than 3 minutes, Superwool® **Plus**™ blanket did not break.



Test 2
Competitor AES Tensile
Strength Test 128kg/m³ (8lbs/ft³)
25mm (1 inch) suspended 8m (26.5ft)
from ground

Test 2

A full roll of competitor AES blanket was suspended 8m from the ground at full length.

The blanket failed in under a minute.





Superwool® Plus™

Insulating fibre

Features

Benefits

An engineered solution (unique)

Takes insulation beyond normal performance

Patented technology

Proven chemical formulation

Exonerated from Carcinogen classification under
Nota Q of European Directive 67/548

Restrictions on use do not apply. No special
requirements for dust control, supply to the
general public or waste disposal

Lower thermal conductivity

Improves insulation by 20%

Up to 30% more fibres

Efficient prevention of heat transfer and
greater strength

Less shot

Cleaner workplace

High Fibre Index

Up to 20% reduction in thermal
conductivity giving energy saving

Stronger with good handleability (no tearing)

Ease of installation saving time and waste

Improved handling

Operator satisfaction

Soft & smooth feel

Less mechanical skin irritation

Consistent use of pure raw materials

Higher classification temperature,
low shrinkage and consistent quality

Lower density grade for the same result

Material weight savings up to 25%

Thinner lining for the same result

Create more working space within unit

Resistant to vibration

Allows long lifetime under vibration
conditions where other products fail

An environmental solution

Potential savings on waste disposal

Worldwide production

Availability



Copyright and disclaimer information

Morgan Thermal Ceramics has made all reasonable efforts to ensure that all information provided through the technical manual is accurate at the time of inclusion. However, it is possible that there may be occasional errors or omissions for which Morgan Thermal Ceramics apologises.

Morgan Thermal Ceramics makes no representation or warranty, express or implied, as to the accuracy or completeness of the contents of this manual, and reserves the right to make such changes as it may wish at any time without notice.

Neither Morgan Thermal Ceramics nor any of its subsidiaries, associates, directors, officers, employees or agents shall have any liability to any person for any direct, special, indirect, or consequential damages, or any other damages of whatsoever kind or for any costs or expenses resulting from their use of the contents of this manual.

Any and all decisions (including but not limited to investment decisions) which may be based on information in this technical manual are entirely the responsibility of the reader. No information contained in this technical manual constitutes or shall be deemed to constitute an invitation or advice concerning any decision to invest or otherwise deal in shares or securities of Morgan or its subsidiaries or associates.

Links to third party's containing information on Morgan Thermal Ceramics and/or its subsidiaries and associates are provided for the reader's convenience only. Thermal Ceramics is not the publisher of such information and takes no responsibility of any kind for it. Information contained in this technical manual is for illustrative purposes only. Further information and advice on specific details of the products described should be obtained in from Morgan Thermal Ceramics directly.

For more information on our products, please refer to the Technical Datasheet Section and the MSDS Information Section on our website www.morganthermalceramics.com

The values given herein are TYPICAL AVERAGE VALUES obtained in accordance with accepted test methods and are subject to normal manufacturing variations. Actual use limit depends on application, construction, fibre thermal stability, anchoring system, etc. 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 Morgan Thermal Ceramics office to obtain current information, or visit us online at www.morganthermalceramics.com

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.

For all enquiries please contact: marketing.tc@morganplc.com

www.morganthermalceramics.com

This document is an extract from Morgan Thermal Ceramics Superwool Plus Insulating Fibre Technical Manual. Copyright © 09.05.11