



Product:	Roxul[®] Stonewool	P.D.S 11
Type:	WIRED MATTRESS	
Name:	TYPE 159 (for use up to 750^o C)	Page 1 of 4

Description

Roxul Stonewool Type 159 is a high quality flexible blanket mattress stitched to 25 mm (1 inch) galvanised hexagonal wire mesh by means of a galvanised metal wire for usage on high temperature and fire retardant insulation applications. Stainless steel grade 304 25mm hexagonal wire mesh and stitching wire is also available for applications in corrosive environments or in very high temperatures.

Applications for Roxul Stonewool Type 159 can be used for thermal and acoustic insulation on large pipes, flanges, valves, boilers, vessels, tanks, ducts or wrapping large curved surfaces. Also due to the low leachable chloride content Roxul wired mattresses are particularly suitable for the insulation of stainless steel.

Delivery Schedule – see AIS price list.

Thickness	Type 159	Rolls per Pack	M ² per Roll
25	6000 x 1000	1	6
30	6000 x 1000	1	6
40	6000 x 1000	1	6
50	5000 x 1000	1	5
60	4000 x 1000	1	4
65	4000 x 1000	1	4
70	4000 x 1000	1	4
75	4000 x 1000	1	4
80	2000 x 1000	1	2
90	2000 x 1000	1	2
100	2000 x 1000	1	2

* Not all are stock items, but are available to order. Metric thickness, special sizes are available to order but may be subject to minimum quantity requirements.

Product Performance and Properties

Density: >140 kg/m³ (nominal):- being delivered density according to ASTM C612 - 93

Service Temperature: Maximum continuous service temperature of 750^o (1380^oF).

Thermal Conductivity (typical data): Tested in accordance with DIN 52612

Mean Temp °C	50	100	150	200	250	300	350
K value W/m. K	0.040	0.044	0.051	0.059	0.069	0.082	0.097

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**Corrosion Resistance:
Chemical Neutrality:** Roxul Stonewool Type 159 base mineral wool is chemically neutral and will neither cause nor promote corrosion.

**Corrosion Resistance:
Water Leachable Chlorides:** Roxul Stonewool Type 159 base mineral wool has a very low content of water leachable chloride, approximately 6 ppm so it can be safely used on austenitic stainless steel. Meets the requirements for use over stainless steel in accordance with ASTM C795 and of "AS-Quality" of AGI Q135.

Fire: Roxul Stonewool Type 159 wired mattress is non combustible when tested according to international standards e.g. ASTM E-136-82, DIN 4102, BS476 Pt4-1970, ISO 1182 and IMO A 799 (19).

Moisture Resistance Water: Roxul Stonewool Type 159 flexible blanket base material is highly water repellent, non hygroscopic and non capillary. When tested to BS 2972 Section 12 Roxul Stonewool absorbs approximately 1.0% by volume of moisture (complete immersion test).

Moisture Resistance Vapour Diffusion: Water vapour diffusion resistance factor of $\mu = 1.3$. This low value means that water can pass through and cool without condensing.

**Moisture Resistance:
Absorption from the air:** Roxul Stonewool absorbs very little water from the air. Tests show at relative humidity of 90% for 30 days the hygroscopic water content is around .004 volume per cent. The water vapour absorption (vapor sorption) in accordance with ASTM C110 4/C 110 M is $\pm 0.02\%$ (vol).

Moisture Resistance Capillarity: Roxul Stonewool Type 159 fibres and fibre coating repels water and prevents capillarity.

Melting Point: Melting point of Roxul Stonewool fibre is over 1000°C (1800°F)

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Specific Heat: Roxul Stonewool specific heat factor is 0.84 kJ/kg per degree centigrade.

Calorific Value: Roxul Stonewool Type 159 wired mattress has a low organic matter content giving a low caloric value of around 600 kJ/kg.

Biological Properties: Roxul Stonewool Type 159 material contains no nutrients and therefore provides no basis for growth of fungi, moulds or bacteria, nor does it attract insects, rodents or vermin.

Acoustic Properties: Roxul Stonewool Type 159 mineral wool base material when measured according to ISO 354 and applied directly to the wall surface gives the following sound absorption values:-

H _z	125	250	500	1000	2000	4000
50 mm thick	0.31	0.82	1.08	1.10	1.08	1.06
100 mm thick	0.96	0.93	0.99	1.03	1.03	1.11

Biological Properties: Roxul Stonewool Type 159 material contains no nutrients and therefore provides no basis for growth of fungi, moulds or bacteria, nor does it attract insects, rodents or vermin.

Durability: Roxul Stonewool mineral wool has been proven in services for over 50 years in all types of exposure and as such will give effective protection for the lifetime of the equipment they insulate.

Compatibility: Roxul Stonewool mineral wool is compatible with all materials which it is likely to come into contact in normal industrial and building applications.

Environment: Roxul Stonewool mineral wool presents a very effective ecological profile in all elements of manufacture, recycling use, service life and energy efficiency of material. No CFC's or HCFC's are used in its manufacture.

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Health & Safety

Roxul Wired Mat is NOT CLASSIFIED as HAZARDOUS according to NOHSC criteria as a consequence of the following events and conclusions about the health effects of long term occupation exposure to mineral wool insulation products.

- Over 50 years of extensive health research on Rockwool products in Europe has resulted in the scientific conclusion that there are no long term health problems from using Rockwool.
- In March 1995 the UK Health and Safety Executive concluded that Rockwool should not be classified as a potential carcinogen.
- Under note Q of the National Occupational health and Safety Commission (NOHSC) publication "List of Designated Hazardous Substances" (NOHSC; 1005-1999) the classification of NON-CARCINOGENIC is to apply.
- Under the European Union Criteria set out in 67/548/EEC a classification of CARC, Cat O applies, ie; "Not classifiable for carcinogenicity."
- Under World Health Organisation (WHO) and its Monographs Programme of the International Agency for Research on Cancer (IARC) it has been concluded that, "Rock (stone) wool are now considered not classifiable as to carcinogenicity to humans (Group 3),

It is recommended that for the handling and installation of Roxul Rockwool the internationally recognized Material Safety Data Sheet be followed. These are readily available from Australasian Insulation Supplies Pty Ltd.

Technical Advice and Thermal Calculation Service:

Heat transfer calculation for Roxul Stonewool Type 159 insulation systems in thermal design is readily available. AIS technical advisers are ready to give help and advice on any matter connected with insulation or products manufactured by Roxul[®]

For further information and technical advice on insulation contact:



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