



Product:	<b>ROCKWOOL® Stone wool</b>	<b>P.D.S 17</b>
Type:	<b>LIGHT-WEIGHT SEMI-RIGID SLAB</b>	
Name:	<b>RockTech S 400 (for use up to 650°C)</b>	Page 1 of 4

<b>Description</b>
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ROCKWOOL® RockTech S 400 is a high quality resin-bonded light-weight semi-rigid mineral wool slab with excellent thermal, acoustic and fire safety properties.

Applications for RockTech S 400 are thermal and acoustic insulation on boilers, vessels, tanks, hot ducts, where both medium temperatures and mechanical vibration are present.

Standard Sizes (mm)

Thickness	Dimensions	Slab Per Pack
25	1200 x 600	12
38	1200 x 600	8
50	1200 x 600	6
75	1200 x 600	4
100	1200 x 600	3

All these sizes are available to order. Special sizes and facings are available to order but may be subject to minimum production quantity requirements.

<b>Product Performance and Properties</b>
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**Density:** > 100 kg/m<sup>3</sup> (nominal):- being delivered density according to ASTM C612 - 93

**Service Temperature:** Maximum continuous service temperature on plain surface 650°C (1202°F) according to ASTM C411.

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

\*When tested to AS 4859.1, laboratory thermal conductivity.

Mean Temp (°C)	23*	50	100	150	200	250	300	350
K value (W/mK)	0.034	0.040	0.045	0.053	0.063	0.075	0.089	0.106

Thickness (mm)	25	38	50	75	100
R-Value* (Km <sup>2</sup> /W)	0.735	1.117	1.470	2.205	2.941

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**Corrosion Resistance:  
Chemical Neutrality:** Stone wool is chemically neutral and will neither cause nor promote corrosion.

**Corrosion Resistance:  
Water Leachable Chlorides:** Stone wool has a very low content of water leachable chloride, less than 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.

**Fire:** Non-combustible when tested according to international standards eg. ASTM E-136-82, DIN 4102, BS476 Pt4-1970, ISO R 1182, AS 1530.1.

**Moisture Resistance Water:** Stone wool is highly water repellent, non hygroscopic and non capillary. The water repellency is in accordance with BS 2972 (total immersion) is >96% (vol.). RockTech S 400 is water repellent in accordance with AGI Q 136.

**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:** 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 1104 m is  $\pm 0.02\%$  (vol).

**Moisture Resistance Capillarity:** The stone wool fibres and fibre coating repels water and prevents capillarity.

**Melting Point:** Melting point of the stone wool fibre is over 1000°C (1800°F)

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**Specific Heat:** Stone wool specific heat factor is 0.84 kJ/kg per degree centigrade.

**Calorific Value:** Stone wool has a low organic matter content giving a low caloric value of around 600 kJ/kg.

**Biological Properties:** Stone wool 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:** The stone wool base material when measured according to ISO 354 and applied directly to the wall surface at a thickness of 50 mm gives the following:

H <sub>z</sub>	125	250	400	500	800	1000	2000	4000	NRC
<b>Coeff α S</b>	0.54	0.81	1.06	1.10	1.15	1.10	1.03	1.01	1.03

**Durability:** Stone 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:** Stone wool is compatible with all materials which it is likely to come into contact in normal industrial and building applications.

**Environment:** Stone 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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<b>Health &amp; Safety</b>
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**RockTech S 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 rock(stone)wool.
- 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 ROCKWOOL products the internationally recognised Safety Data Sheet be followed. This is available from Australasian Insulation Supplies Pty Ltd.

**Technical Advice and Thermal Calculation Service:**

Heat transfer calculation for ROCKWOOL stone wool insulation system 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 ROCKWOOL.

For further information and technical advice on insulation contact:



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