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DESCRIPTION

AES wool Riform shapes and boards are manufactured from Insulfrax or Isofrax alkaline earth silicate wools or mineral wool, which have high solubility in simulated body fluids and hence carry no hazard classification. These wools are blended with specially selected inorganic and organic binders to give rigid insulating shapes with exceptional characteristics. The vacuum forming manufacturing method permits considerable freedom to vary shape, thickness, density and hardness. Riform shapes and boards often provide the most economical answer to producing large quantities of parts in simple or complex configurations for a wide range of applications up to 1200°C.

GENERAL CHARACTERISTICS

AES wool Riform shapes and boards have the following outstanding characteristics:

- High temperature stability
- Low thermal conductivity
- Resistance to thermal shock
- Lightweight
- Complex shape capability

TYPICAL APPLICATIONS

Aluminium

Launders and header boxes, Transfer ladles, Hot tops, Tap out cones

Steel

Hot top - ingot casting, Gaskets, Nozzles, Preheating shrouds

Furnaces

Sight doors (peepholes), Roller insulations

Information on other applications available upon request. Any new and/or special use of these products, whether or not in an application listed in our literature, must be submitted to our technical department for their prior written approval.

AES WOOL RIGIFORM SHAPES AND BOARDS

Mineral wool, Insulfrax and Isofrax Rigiform shapes and boards contain a small percentage of organic binder plus inorganic hardening agents, resulting in products that display uniform hardness and density as well as exceptional handling strength. Our in-house machining facilities allow for precise finishing of shapes to customer requirements. Various formulations are available to cover a range of application temperatures and requirements. Further treatment is possible to increase hardness and remove organics prior to use. Pre-firing can be carried out between 800°C and 1200°C.

The following table summarises the special grades that are available.

Code	Special Grade
SH	Surface Hardening
DH	Deep Hardening
F	Pre-fired
CO	Coating
WR	Water Repellent
SO	Soft

TYPICAL PRODUCT PARAMETERS

Rigiform	85	Insulfrax 110	Insulfrax 110HD	Isofrax 120	Isofrax 120HD
Typical Chemical Analysis (wt. %) +/- 10%					
SiO ₂	50.0 - 60.0	65.0	40.0	75.0	37.0
CaO	14.0	27.0 - 33.0	15.0 - 17.0	-	-
MgO	6.0	2.5 - 6.5	-	18.0 - 27.0	7.0 - 12.0
Al ₂ O ₃	10.0 - 20.0	-	40.0 **	-	53.0 **
Physical Properties					
Colour	White to Tan	White to Tan	White to Tan	White to Tan	White to Tan
Product Density (kg/m ³) *	<400	<350	350-500	<350	350-500
Use Limit (°C) *	800	1100	1100	1200	1200
Loss on ignition (wt.%)	<7.0	<6.0	<6.0	<6.0	<6.0
Thermal Conductivity (W/mK)					
Mean Temp.					
200 °C	0.09	-	-	-	-
400 °C	0.12	0.07	0.08	0.08	0.09
600 °C	0.15	0.11	0.12	0.11	0.12
800 °C	0.20	0.15	0.15	0.14	0.15
1000 °C	-	-	-	0.19	0.21
Permanent Linear Shrinkage (%) 24 Hour Soak					
800 °C	3.2	1.6	-	-	-
900 °C	-	-	-	2.0	-
1000 °C	-	1.8	1.5	2.8	2.1
1100 °C	-	2.8	2.8	3.7	3.2

*Use limit refers to the maximum short term temperature limit. The maximum continuous use limit for these products depends upon application conditions. For certain applications continuous use temperature limits may be significantly reduced. For assistance or clarification please contact your nearest Unifrax Engineering office.

*Density is indicative and relates to product characteristics before any secondary treatment. Actual density is dependent on piece size and geometry.

** Please note: This Alumina content is present in the binder and fillers and not the base fibre.

Where appropriate Physical Properties data measured according to EN 1094-1.

AVAILABILITY

Rigiform shapes and boards are engineered to specific customer requirements and are therefore made to order. Please contact your local Unifrax sales office to discuss your particular requirements.

HANDLING INFORMATION

A Material Safety Data Sheet has been issued describing the health, safety and environmental properties of this product, identifying the potential hazards and giving advice on handling precautions and emergency procedures. This must be consulted and fully understood before handling, storage or use.

Supplied by: