Data sheet

Superwool® 406-E Paper

ENGLISH

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Description

Superwool papers are uniquely designed from Superwool bulk and organic binders. Superwool papers are specially processed to offer excellent performance in high-temperature applications. Superwool papers offer an alternative to traditional solutions due to its unique properties of high refractoriness and excellent non-wetting characteristics to applications requiring direct contact with molten aluminium.

Superwool 406-E expandable paper is an intumescent material produced from a unique blend of Superwool bulk fibers, special additives, and organic binders. At maximum expansion which occurs at approximately 1200°F (649°C), the paper expands up to 125% of its thickness.

This results in the Superwool 406-E paper being an excellent candidate for high-temperature gaskets and seals, and fire protection applications. During heat up and expansion, there will be some additional out-gassing of the intumescent additives.

Chemical Properties

A small amount of organic combustible binder will burn out at approximately 149°C (300°F). Caution should be exercised during the initial heating. Adequate ventilation should be provided to avoid potential flash ignition of the binder out-gassing or avoid air entry while at elevated temperature.

Type

Paper manufactured from high temperature insulation wool.

Classification temperature

1100°C (2012°F)

The maximum continuous use temperature depends on the application. Unaffected by most chemicals except strong alkalis, phosphoric acid and molybdenum. For further advise please contact your local Morgan Advanced Materials representative.

Typical applications

- Industrial and domestic appliance gasketing
- Fire protection
- Fire doors
- Expansion joint insulation
- Fireplace catalytic converter gasketing
- Aluminum filter bowl gasketing

Benefits

- Low biopersistence
- Excellent thermal insulating performance
- Thin, flexible high temperature insulation
- Expansion up to 125%
- Low heat storage
- Excellent tensile strength
- Low thermal conductivity
- Non-wetting to molten aluminium
- Superwool fibres are exonerated and are not classified as carcinogenic by IARC or under any national regulations on a global basis. They have no requirements for warning labels under GHS (Globally Harmonised System for the classification and labelling of chemicals). In Europe, Superwool fibres meet the requirements specified under NOTA Q of European Directive 67/548. All Superwool fibre products are therefore exempt from the classification and labelling regulation in Europe.

Data sheet

Superwool® 351-E Papers

Paper Product Name	Superwool 406-E
Fiber Class	AES
Physical Properties	
Manufacturing region	NA
Color	gray
Continuous Use Temperature, °C (°F)	1000 (1832)
Classification Temperature, °C (°F)	1100 (2012)
Melting Temperature, °C (°F)	1275 (2327)
Density, kg/m^3 (pcf)	336 - 400 (21 - 25)
Tensile strength, Mpa (psi)	0.52 - 0.69 (75 - 100)
Fired Tensile strength, Mpa (psi)	0.03 - 0.07 (5 - 10)
Expansion Characteristics, % increase	
Thickness, in (mm)	0.16 (4)
1000°F (538°C)	82
1200°F (649°C)	107
1400°F (760°C)	98
Chemical Analysis, % weight basis after firing	
Alumina, Al_2O_3	3-5
Silica, SiO_2	55-65
Calcium oxide + Magnesium oxide, CaO + MgO	25-37
Organic binder	6-12
Other	trace

Availability and Packaging

North America packaging

Thickness, mm (in)	Width, mm (in)	Sq M/Roll (Sq Ft/Roll)	Mill Rolls, Linear M/Roll (Ft/Roll)
2 (1/16)	610 (24)	46 (500	229 (750)
	1220 (48)		
3 (1/8)	610 (24)	23 (250)	114 (375)
	1220 (48)		
6 (1/4)	610 (24)	12 (125)	56 (185)
	1220 (48)		

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