Superwool® 406-E Paper

Datasheet Code US: 11-14-121 SDS: 359

Product Description
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.

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 aluminum.

Superwool provides stability and resistance to chemical attack. Exceptions include hydrofluoric acid, phosphoric acid and strong alkalies (i.e. NaOH, KOH). Superwool is unaffected by incidental spills of oil or water. Thermal and physical properties are restored after drying.

Features
- Low thermal conductivity and heat storage
- Easily die cut for high temperature gasketing and seals
- Thickness expansion up to 125%

Applications
- All-purpose high temperature gasketing and sealing
- Fire protection
- Fire doors
- Expansion joint insulation
- Fireplace catalytic converter gasketing
- Aluminum filter bowl gasketing

Type
Alkaline Earth Silicate (AES) wool
CAS number: 329211-92-9

Chemical Properties
A small amount of organic combustible binder will burn out at approximately 300°F (149°C). 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.

Size and Availability

Products	Thickness, in (mm)	Width, in (mm)	Sq Ft/Roll (M)	Mill Rolls, Linear Ft/Roll (M)
Superwool 406-E	1/16 (2)	24 (610)	500 (46)	750 (229)
Superwool 406-E	1/16 (2)	48 (1220)	500 (46)	750 (229)
Superwool 406-E	1/8 (3)	24 (610)	250 (23)	375 (114)
Superwool 406-E	1/8 (3)	48 (1220)	250 (23)	375 (114)
Superwool 406-E	¼ (6)	24 (610)	125 (12)	185 (56)
Superwool 406-E	¼ (6)	48 (1220)	125 (12)	185 (56)

Superwool® 406-E Paper

Paper Product Name	Superwool 406-E
Fiber Class	AES
Fiber Grade	Expandable
Physical Properties	
Color	gray
Continuous Use Temperature, °F	1832
Continuous Use Temperature, °C	1000
Classification Temperature, °F	2012
Classification Temperature, °C	1100
Melting Temperature, °F	2327
Melting Temperature, °C	1275
Density, pcf	21-25
Denisty, kg/m^3	336-400
Tensile strength, psi	75-100
Tensile strength, Mpa	0.52-0.69
Fired Tensile strength, psi	5-10
Fired Tensile strength, Mpa	0.03-0.07
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
Carbon, C	-
Organic binder	6-12
Other	trace

The values given herein are typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. 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 Advanced Materials office to obtain current information.