

Superwool® Papers



Product 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 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.

Superwool Flex-Wrap is produced from a blend of Superwool high purity fibers and organic binders. Due to its low organic binder content, offgassing is at a minimum.

Superwool 332-E paper is totally organic free and is ideally suited for mid-range temperatures found in the appliance, non-ferrous and automotive applications.

Type

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

Features

- Low biopersistence
- Thin, flexible high temperature insulation
- Thermal stability
- Low heat storage
- Easily die-cut to form complex shapes for high temperature gasketing
- Excellent tensile strength
- Immune to thermal shock
- Excellent thermal insulating performance
- Low thermal conductivity and heat storage
- Non-wetting to molten aluminum

Applications

- Gasketing between aluminum and zinc trough sections
- Aluminum furnace tap-out plug cover and parting agent
- Aluminum distributor pan linings
- Gaskets for any high temperature application
- Back up lining for metal troughs
- Refractory back up for aluminum melting and holding furnaces
- Aluminum casting and fabrication

Superwool® Papers

Physical Properties

	Superwool 607	Superwool 607 Flex-Wrap	Superwool 607 HT	Superwool 607 332-E
Color	white	white	white	white
Continuous use limit, up to °F (°C)	1832 (1000)	1832 (1000)	2102 (1150)	1300 (704)
Maximum use limit, °F (°C)	2012 (1100)	2012 (1100)	2372 (1300)	-
Melting point, °F(°C)	2327 (1275)	2327 (1275)	2552 (1400)	1800 (980)
Density, pcf (kg/m ³)	11 - 13 (176 - 208)	10 - 13 (160 - 208)	11 - 14 (176 - 224)	11 - 14 (176 - 224)

Chemical Analysis, % Weight basis after firing

	Superwool 607	Superwool 607 Flex-Wrap	Superwool 607 HT	Superwool 607 332-E
Silica, SiO ₂	60 - 70	60 - 70	60 - 70	65
Alumina, Al ₂ O ₃	trace	trace	trace	-
Calcium Oxide, CaO	25 - 35	25 - 35	16 - 22	25
Magnesium Oxide, MgO	4 - 7	4 - 7	12 - 19	5
Carbon, C	-	-	-	-
Other	1	1	<1	5
Organic binder	-	-	-	-
Loss of ignition	5 - 10	2 - 5	5 - 10	0.5 max

Thermal Conductivity, Btu·in/hr·ft²·°F (W/m·K) ASTM 201

Mean temperature	Superwool 607	Superwool 607 Flex-Wrap	Superwool 607 HT	Superwool 607 332-E
@ 500°F (260°C)	0.39 (0.06)	0.39 (0.06)	0.39 (0.06)	0.35 (0.05)
@ 1000°F (538°C)	0.65 (0.09)	0.65 (0.09)	0.65 (0.09)	0.53 (0.08)
@ 1500°F (816°C)	1.04 (0.15)	1.04 (0.15)	1.02 (0.15)	-
@ 1800°F (982°C)	1.35 (0.19)	1.35 (0.19)	-	-
@ 2000°F (1093°C)	-	-	1.52 (0.22)	-

Standard Sizes

Thickness, in (cm)	Width, in (cm)	Sq. Ft/Roll (Sq. M)	Mill Rolls, L.Ft./Roll (L. M.)	Products
1/32 (0.08)	12, 24, 48 (30,60,120)	1000 (305)	-	Superwool 607 332-E
1/16 (0.16)	12, 24, 48 (30,60,120)	500 (152)	750 (228)	Superwool 607, Superwool 607 Flex-Wrap Superwool 607 HT, Superwool 607 332-E
1/8 (0.31)	12, 24, 48 (30,60,120)	250 (78)	375 (114)	Superwool 607, Superwool 607 Flex-Wrap Superwool 607 HT, Superwool 607 332-E
1/4 (0.63)	12, 24, 48 (30,60,120)	125 (38)	185 (56)	Superwool 607, Superwool 607 Flex-Wrap Superwool 607 HT, Superwool 607 332-E

* Non-standard roll size available upon request

Chemical Properties

A small amount of combustible organic 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 and to avoid air entry while at elevated temperature.**

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 Thermal Ceramics office to obtain current information.

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