

ZIRCAR Refractory Composites, Inc. offers a wide range of insulating refractory felts, papers and blankets. These non-woven, asbestos free, fiber-based products are engineered as thermal barrier materials.

Commonly used in the molten metal casting and heat treating industries, ZRCI's felts and papers are also used as specialty gaskets in the fuel cell, nuclear, glass and electronic industries, as well as many other applications which require high temperature stability and low thermal conductivity. They also offer excellent corrosion resistance and unique handling strength for easy die-cutting, wrapping and forming.

ZRCI Alumina Felt Type RS-3000 is 97% high purity alumina fiber, ceramic felt with less than 1% shot. Type RS-3000 is a strong, flexible material with fibers held together with an organic binder. It is available in roll, sheet or custom die-cut parts. Type RS-3000 is ideal for application temperatures as high as **1650°C (3002°F)**.

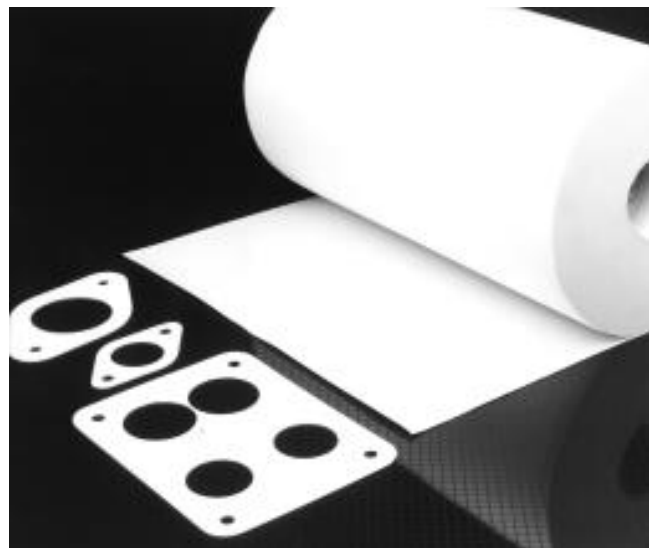
Type RS-3000 high alumina content is ideal for high vacuum, reducing atmospheres and other applications where silica cannot be tolerated, such as setters for P/M, MIM and high temperature fuelcell applications.

Advantages

- High alumina content, fiber index and purity.
- Outstanding high temperature stability.
- Thin, flexible, high temperature insulation.
- Easily die-cut to for high temperature gaskets.
- Conforms easily to complex shapes.
- Excellent high temperature parting agent.

Chemical Properties

A small amount of organic combustible binder will burn out at approximately 300F. **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.**



Uses Include:

- Annealing Cover Seals
- Flexible High Temperature Pipe Insulation
- Furnace, Kiln, Reformer and Boiler Linings
- Furnace Door Linings and Seals
- Investment Casting Mold Wrap
- Expansion Joint Seals
- High Temperature Filtration
- Glass Furnace Crown Insulation
- Thermal Reactor Insulation
- Soaking Pit Seals
- Insulation for Primary Reformer Header
- High Temperature Gaskets
- High Temperature Kiln and Furnace Insulation
- Refractory Back-up Insulation
- Appliance Insulation
- Separating Media for Heat Treating Metals
- Glassware Separating Media
- Parting Agent for Brazing Operations

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Technical Data

Bulletin No. ZRCI-428
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ALUMINA FELT TYPE RS-3000

PROPERTIES AND CHARACTERISTICS

Typical Composition, %	
Al ₂ O ₃	97
SiO ₂	3
Trace Elements	<0.5
LOI, %	5
Density, g/cc(pcf)	0.14(9)
Color,	White
Type of Binder,	Organic
Fiber Index, %	99
Maximum Use Temp.*,C(F)	1650(3002)
Melting Temp, C(F)	>2000(3632)
Mullen Burst, kPa(psi)	186(27)
Tensile Strength‡, Mpa(PSI)	
As Received	0.27(40)
Fired	0.03(5)
Thermal Conductivity**, W/m K(BTU/hr. ft °F/in)	
500°C(932°F)	0.08(0.53)
800°C(1472°F)	0.11(0.80)
1100°C(2012°F)	0.17(1.20)
1400°C(2552°F)	0.26(1.78)
1600°C(2912°F)	0.32(2.22)

* Maximum use temperature is dependent on variables such as stresses, both thermal and mechanical, that the sheet product experiences.

** Properties expressed parallel to thickness.

‡ Properties expressed perpendicular to thickness.

AVAILABILITY

Item #	Description	Item #	Description
PX56	RS-3000, 24" X 24" X 1/32"	PX63	RS-3000, 24" X 50' X 1/16"
PX57	RS-3000, 24" X 24" X 1/16"	PX64	RS-3000, 48" X 25' X 1/16"
PX58	RS-3000, 24" X 24" X 1/8"	PX66	RS-3000, 24" X 50' X 1/8"
PX59	RS-3000, 24" X 24" X 1/4"	PX67	RS-3000, 48" X 25' X 1/8"
PX60	RS-3000, 24" X 50' X 1/32"	PX69	RS-3000, 24" X 50' X 1/4"
PX61	RS-3000, 48" X 25' X 1/32"	PX70	RS-3000, 48" X 25' X 1/4"

Note: These products can be further processed to provide finished sizes.

Processes such as slitting, cutting, die punching and CNC machining are available upon request.

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