REFRACTORY APPLICATIONS
FOR FUSED MINERALS

WASHINGTON MILLS

One of the world's largest producers of fused refractory raw materials, Washington Mills is known across the globe for its reliability, quality and expertise. The Washington Mills refractory line of products — which includes product offerings in brown and while fused alumina, silicon carbide, mullite, spinel, zirconia mullite, mag-chrome, boron carbide, fused silica, high-purity zirconia and custom fused materials — offers solutions specifically selected and suited to handle your critical needs.

OPTIMAL SOLUTIONS FOR EVERY APPLICATION

Washington Mills offers its customers the optimal solution for any refractory application or challenge, providing fused materials engineered with precision to ensure the ideal chemistry and structure for the wear-resistant protection required to manufacture your end product. Our customizable offerings feature a wide range of particle sizes in precise, uniform compositions with the mechanical strength, chemical stability, thermal conductivity, abrasion and corrosion resistance you need to meet your application challenges.

Choosing the proper refractory material for your application is critical in avoiding the excessive maintenance, equipment failure and lost production that can result in significant cost and erosion of profits. At Washington Mills, our refractory materials are designed to extend equipment life and ensure reliable control or containment of high-temperature processes.

TOTAL CONTROL: CRUDE TO GRIT

Washington Mills is the only North American manufacturer of refractory raw materials that controls the entire manufacturing process of crude and finished grits from start to finish. Our total process control ensures that our refractory products are consistent in quality and performance every time.

Experience the expertise of Washington Mills. Contact us today for exceptional service and solutions for all your refractory raw material needs.

DURALUM® RF: Brown Fused Alumina

Brown fused aluminum oxide grain is widely used in dense, high temperature, unshaped refractory products (ramming mixes, castables and loose grain) for the iron, steel, and foundry industries.

DURALUM® Special White RF: White Fused Alumina

White fused aluminum oxide grain made from Bayer-process alumina is used in dense refractory products that require high purity at elevated temperatures. It is crushed to produce blocky grain distributions with higher bulk density.

DURALUM® AB: White Fused Alumina Bubble

A low bulk density white fused aluminum oxide — made from high-purity Bayer-process alumina and presented as hollow spheres or bubbles — is effectively used in loose-fill refractories and lightweight insulating refractories that require low thermal conductivity and high temperature properties.

CARBOREX®: Silicon Carbide

High-purity silicon carbide grain (fused quartz and coke) is used in bonded refractory products requiring exceptionally high thermal conductivity, chemical stability, hot strength, and resistance to thermal shock and corrosion from gases, acids, slags and melted metals – such as blast furnace linings and stacks, kiln furniture, incinerators and heating elements.

DURAMUL® & DURAMUL® ZR: Fused Mullite and Zirconia Mullite

Fused mullite (Bayer-process alumina and high-purity silica) and zirconia mullite (fused calcined alumina and zircon sand) are used in applications demanding low thermal expansion, excellent thermal shock resistance, excellent hot strength under load, and high resistance to spalling or corrosion, such as kilns, slide gates, nozzles and lances, glass industry furnace bricks, burner pots and flue gas heat extractors, setters/saggers for firing electronic substrates, spark plug bodies, laboratory ware, and ceramic pressure casting tubes.

Bauxite Spinel & SP-27: Fused Spinel

Fused spinel grain (magnesia and Bayer-process alumina or bauxite) improves slag resistance in castables and shaped refractories for aluminum and magnesium metal contact. It is also used in brick for cement and lime rotary kiln linings and glass furnace regenerators, as well as protective coatings on zirconia oxygen sensors in automobile fuel tanks.

MGC-18: Fused Mag-Chrome

Fused Mag-Chrome (fused magnesia-chrome grain) has good mechanical strength and volume stability at high temperatures with exceptional resistance to corrosion by chemically basic slags, making it especially suited to refractories (brick, castables, plastics, ramming mixes) for the steel and copper industries.

Boron Carbide

Boron Carbide is one of the hardest man-made materials and boasts a finite melting point low enough to permit relatively easy fabrication into shapes. It also offers chemical inertness and high neutron absorption cross section, properties useful in wear parts, nuclear reactor control rods, neutron absorbing shielding, and antioxidants for carbon-bonded refractory mixes.

DURAZON: Fused Zirconia

Fused zirconia (monoclinic, calcia-stabilized grain/bubbles and zirconia-alumina-silica grain) offers low thermal conductivity, a high melting point and chemical inertness (in oxidizing and reducing atmospheres).

Fused Silica

Fused silica is over 99% amorphous, and has an extremely low coefficient of thermal expansion and a high resistance to thermal shock. It is an excellent material for applications that require a consistent, high-purity product with low thermal expansion.

Contact us today to learn more about Washington Mills' refractory materials and solutions.

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