

FUSED SILICA
HOT PRESS PLATENS
CASTABLE CERAMICS
FIRED SHAPES
AEROSPACE TOOLING

Foundry Service & Supplies, Inc.

HI-TEMP INSULATIONS
CALCIUM SILICATE BOARDS
MILLBOARD AND BLANKET
PAPERS AND CEMENTS
CUTTING AND FABRICATING

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ALUMINA

TA-530 is a nominal 90% alumina material that is excellent for molten metal contact, kiln furniture, and miscellaneous shapes. **TA-530** combines high strength and thermal shock resistance yielding a versatile alumina product that is suitable in a wide variety of applications. **TA-540** is a modified version of **TA-530** that is best suited for miscellaneous kiln furniture.

The higher content aluminas are excellent for use when silica content is critical. **TA-505** is suitable for induction melting under vacuum due to a lower silica content while retaining thermal shock resistance. **TA-507** is excellent for use in vacuum or hydrogen atmospheres due to the lowered silica content. **TA-510F** is preferred in hydrogen or vacuum atmospheres and has excellent strength at elevated temperatures.

Nominal Composition and Properties

	<i>TA-530/FMS</i>	<i>TA-540/540F</i>	<i>TA-505/505F</i>	<i>TA-507/507F</i>	<i>TA-510F</i>
Al ₂ O ₃	88.3	88.4	96.3	97.3	99.7
SiO ₂	11.2	11.2	3.2	2.3	<0.1
Fe ₂ O ₃	0.08	0.08	0.09	0.09	<0.1
Other	<0.5	<0.5	<0.5	<0.5	<0.2
Bulk Density (g/cm ³) (lbs/ft ³)	2.8 175	2.8 175	3.0 190	3.0 190	3.1 195
Apparent Porosity (%)	15.5	16.0	14.5	15	14
Maximum Operating Temperature	1760°C 3200°F	1760°C 3200°F	1870°C 3400°F	1870°C 3400°F	1980°C 3600°F
MOR (MPa) (Room Temperature) (psi)	13.8 2000	13.1 1900	31.0 4500	47.2 6850	46.9 6800
Hot MOR (MPa) (At 2700°F for 12 hrs) (psi)	8.5 1230	7.9 1150		5.4 785	9.3 1350
Thermal Shock Resistance	Good	Good	Fair	Poor	Poor

Data represents average results of standard tests conducted under controlled conditions and are subject to usual variations. They should not be used for specifying products.