



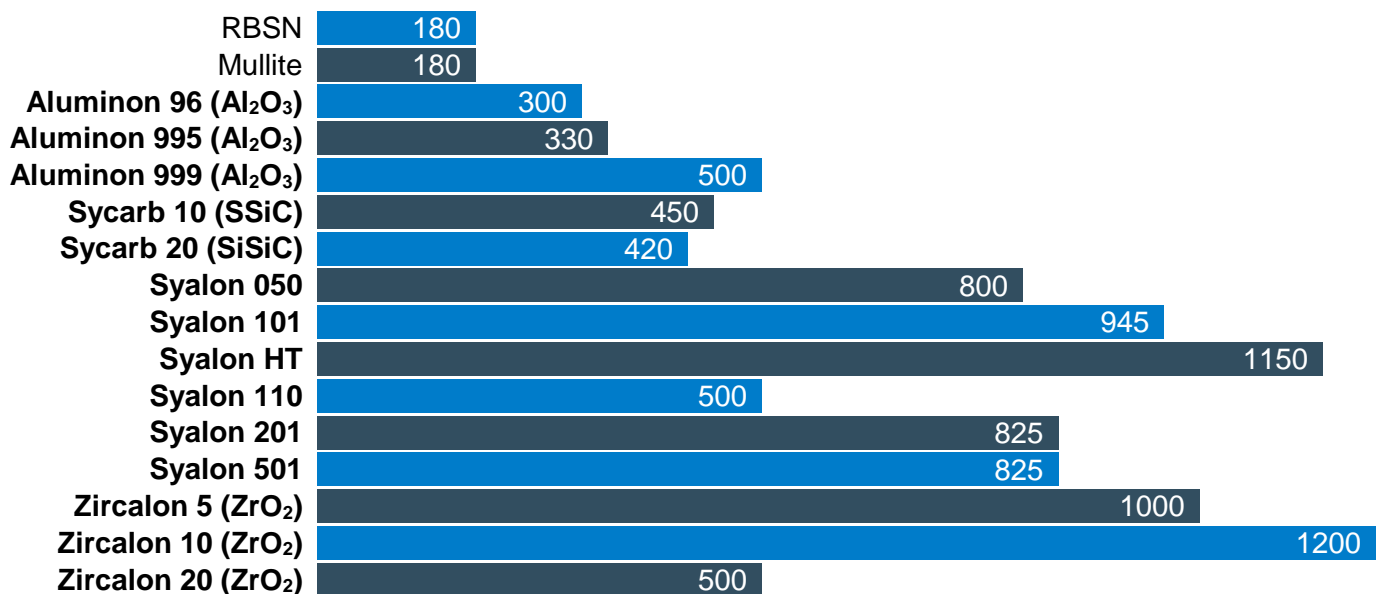
Comparison of Physical Properties of Ceramics

International Syalons offer a range of silicon nitride based sialon, alumina, zirconia and silicon carbide advanced ceramics. These materials will potentially meet your needs in many testing industrial and engineering environments.

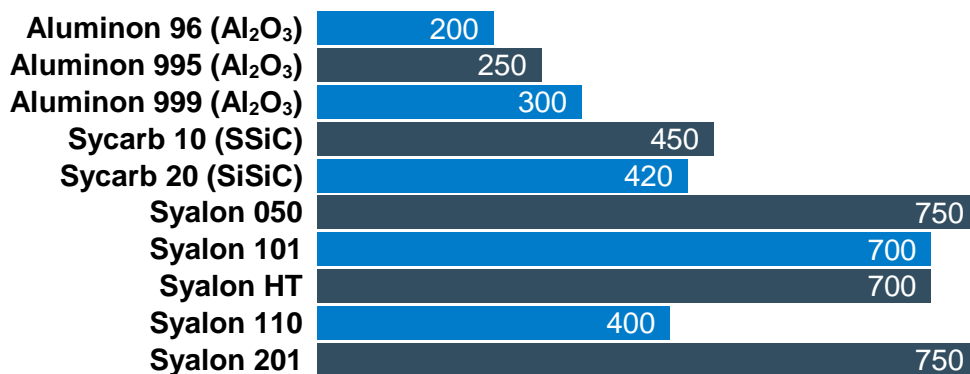
In an effort to show how our materials offer a unique set of physical properties the graphs below compare some properties of our various grades of Syalon, Aluminon, Zircalon and Sycarb with reaction bonded silicon nitride (RBSN) and mullite. (Comparative data comes from technical literature).

Modulus of Rupture

Room Temperature Modulus of Rupture (MPa)



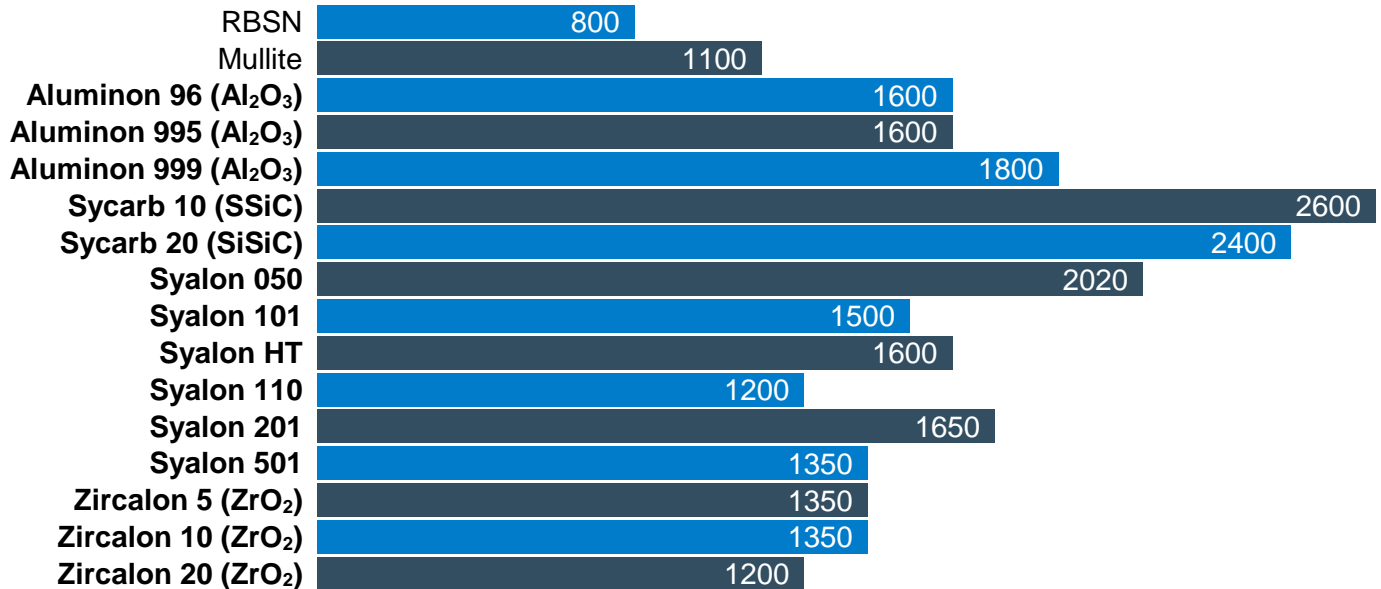
Modulus of Rupture at 1000°C (MPa)





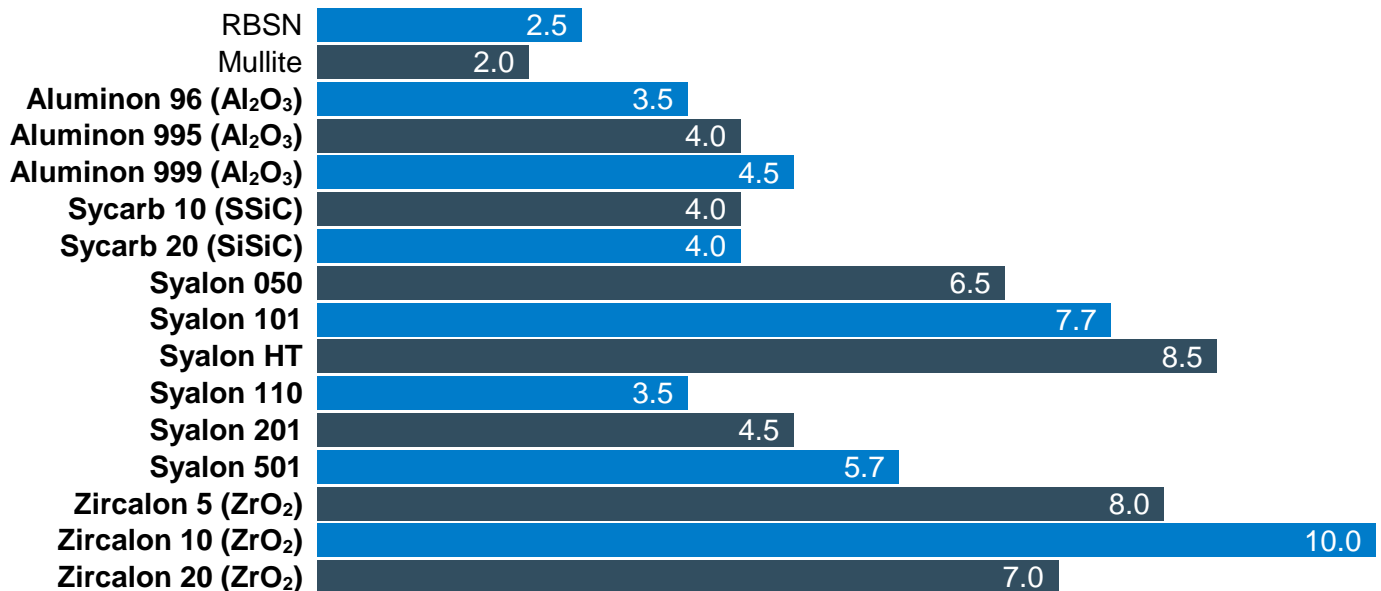
Hardness

Room Temperature Hardness (Hv_{0.3} kg/mm²)



Fracture Toughness K¹C

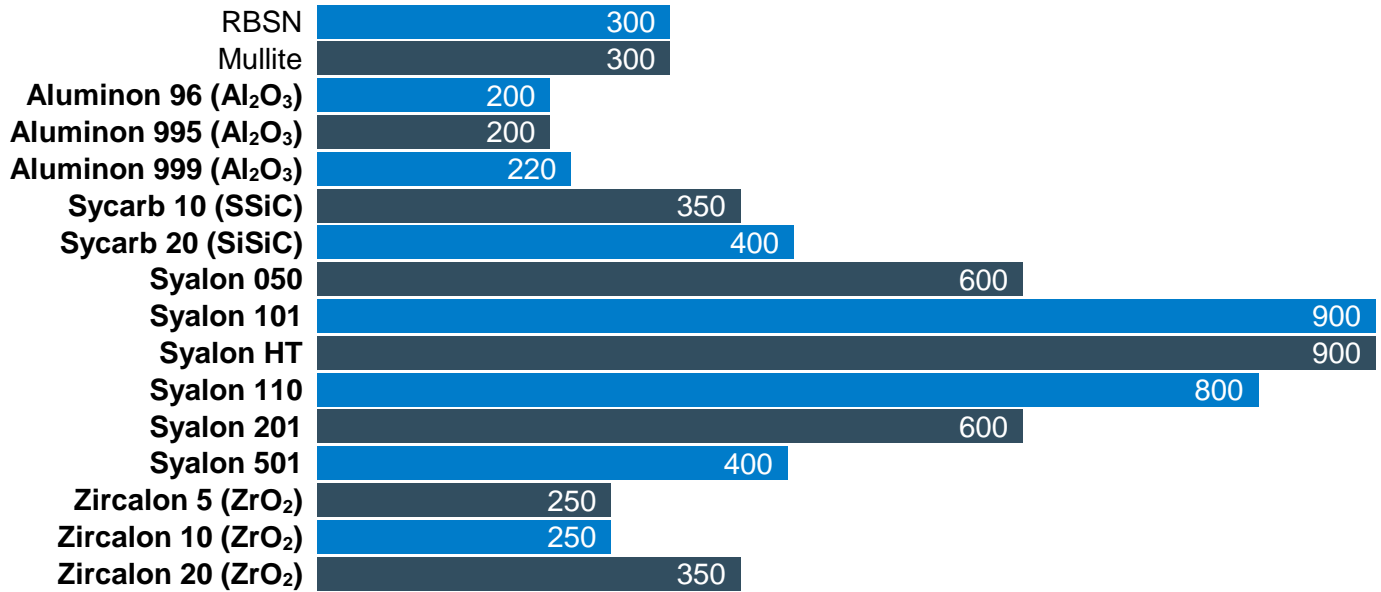
Fracture Toughness K¹C (MPam^{1/2})





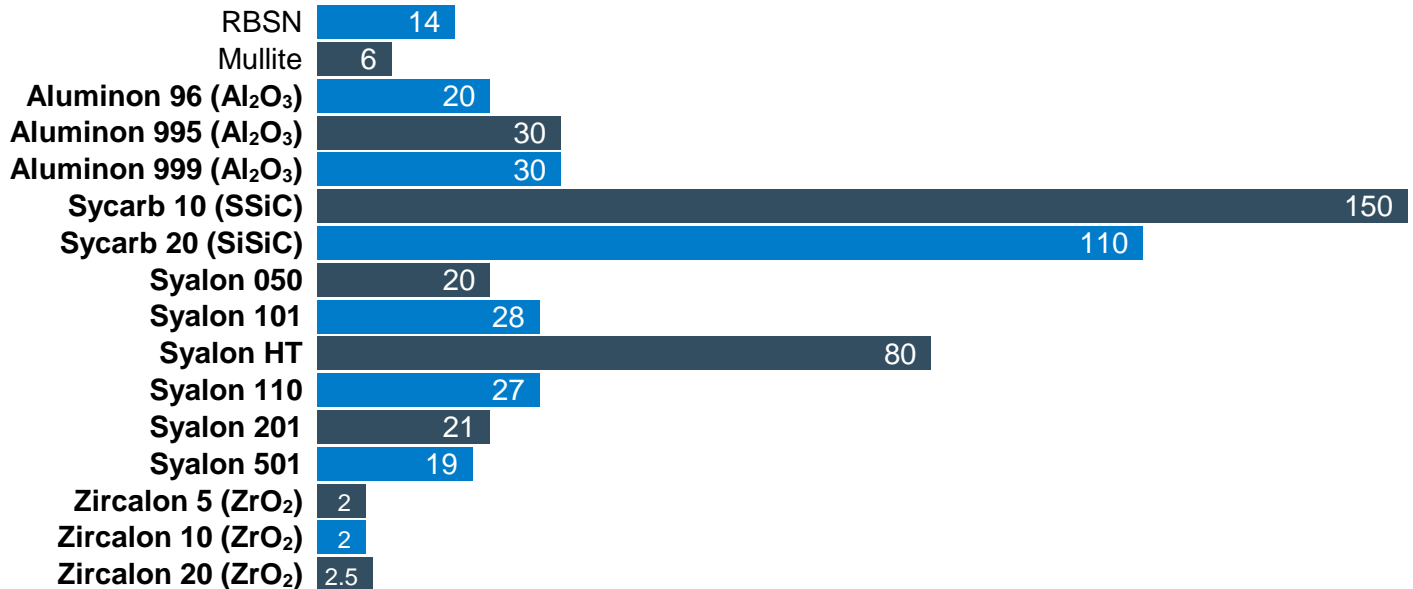
Thermal Shock Resistance

Thermal Shock Resistance ($\Delta T^{\circ}\text{C}$ quenched in cold water)



Thermal Conductivity

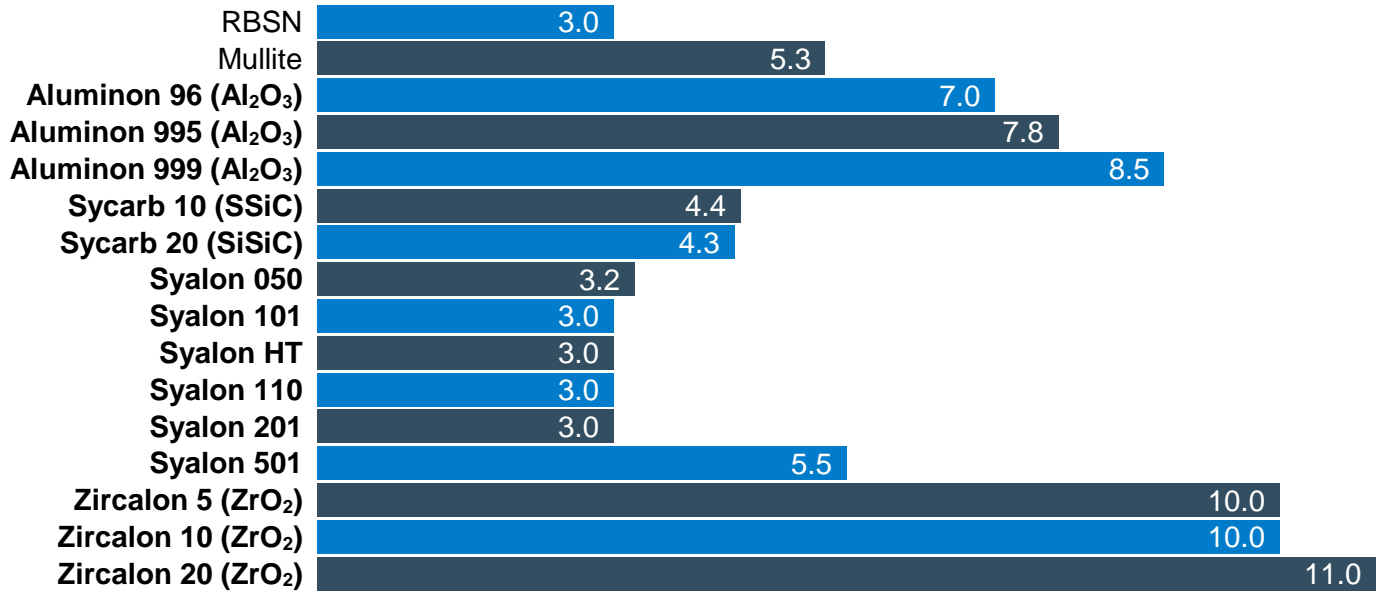
Room Temperature Thermal Conductivity (W/m/K)





Thermal Expansion Coefficient

Room Temperature Thermal Expansion Coefficient ($\times 10^{-6} \text{ K}^{-1}$)



Density

Density (g/cc)

