



MOLOCHITE™

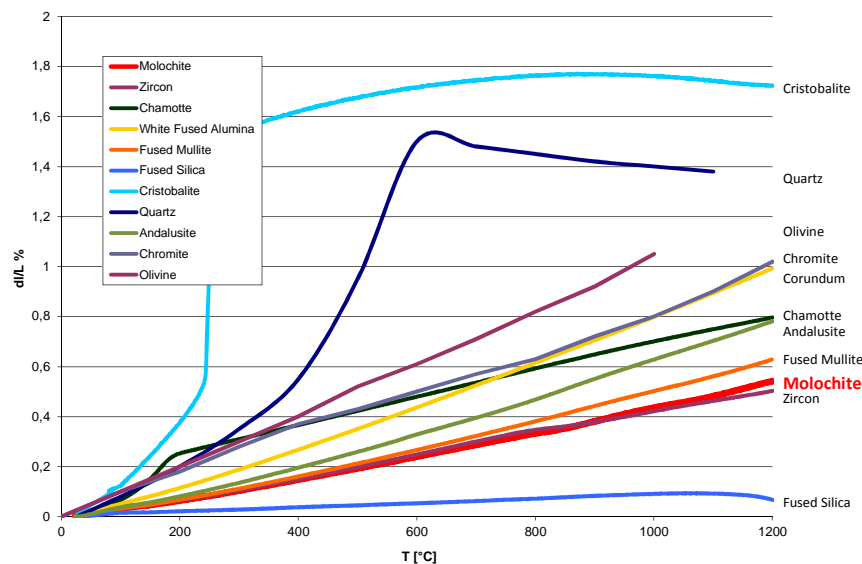
CERAMIC PRODUCT FOR OUTSTANDING THERMAL PERFORMANCES

Molochite is an Alumino-Silicate with a mineralogical composition specifically designed to minimize the **thermal expansion** and enhance the **hot creep resistance**.

Molochite is obtained from specially selected kaolins from the Cornwall area, through a tunnel calcination process taking several days at temperatures reaching 1525°C. This produces an evenly calcined, consistent refractory with low Titanium and Iron Oxide content which are uniformly distributed, without the nodular ferruginous slag particles often found in calcined secondary clays.

Its structure is based on a composite network of mullite crystals, which are responsible for the hot creep resistance of the material, surrounded by a matrix of amorphous phase that contributes to minimize the thermal expansion.

The absence of any form of crystalline silica (Quartz, Cristobalite, Tridimite) avoids the expansion peaks associated to the allotropic transformations of silica and further enhances the Thermal Shock Resistance of the material based on Molochite.



A valid alternative to Zircon for applications requiring low thermal expansion

Zircon is commonly used in the advanced ceramic industry for the production of ceramic parts with high resistance to thermal shock. Over the last two decades, Zircon has been subject to irregular supply and availability issues resulting in significant price increases. For that reason, Molochite has been successfully introduced as alternative to Zircon Silicate for the applications where low Thermal expansion and whiteness are key requirements. Indeed, among the materials typically used for heat resistant ceramics, Molochite is the material showing the thermal expansion profiles the closest to Zircon Silicate.

