

## **Summary on the standard for High alumina refractory cement (HARC) IS 15895:2018**

**High alumina refractory cement (HARC)** is a specialized type of cement designed to withstand high temperatures, making it ideal for use in furnaces, kilns, and other high-heat environments. It is primarily made from bauxite (a high-alumina mineral) and other alumina-rich materials.

**IS 15895:2018** for High Alumina Refractory Cement- Specification specifies the classification, evaluation procedure and properties of high alumina refractory cement.

The various grades of high alumina refractory cements depends on the presence of the **Al<sub>2</sub>O<sub>3</sub>, CaO and other chemical constituents**. High alumina content, usually over 50%, gives the cement its high resistance to heat. Silica, Iron Oxide, and other Oxides are present in small quantities, they influence characteristics like melting point and mechanical strength.

The main properties of High Alumina Refractory Cements are **High Thermal Stability, Rapid Setting and Resistance to Chemical Attack**. Its **low lime content** reduces the risk of volume expansion or cracking at high temperatures, ensuring structural integrity.

Due to its heat and chemical resistance, high alumina refractory cement is commonly used in **Furnaces and Kilns, Boilers and Incinerators Foundries and Metal Casting**.

The standard specifies the requirement of **Pyrometric Cone Equivalent (PCE), Fineness, Chemical composition, Strength and Setting time** for various grades of high alumina refractory cement.

This cement is mixed with various aggregates, depending on the application, to form castable refractories or mortars that harden into durable, heat-resistant linings.