



## Product Brochures

### Ceramic Welding Powders



P.O. BOX 264334  
THREE RIVERS. RSA. 1935.  
9A TELFORD STEET  
DUNCANVILLE  
VEREENIGING. RSA. 1930

TEL: +27 (016) 422 9955  
FAX: +27 (016) 422 9991  
CELL: +27(0) 82 774 3632  
E-MAIL: [info@deltaref.com](mailto:info@deltaref.com)  
Website: [www.deltaref.com](http://www.deltaref.com)

## Delta Flame Gun® Ceramic Welding Powders

### **Background**

We at **Delta Refractories®** have developed the **Delta Flame Gun®** range of ceramic welding powders for a very specific reason: our clients needed a cost-effective ceramic welding solution that performs.

Ceramic welding is mostly applied in the Iron and Steel Industry at the Coke Ovens. This welding technique makes it possible to do hot repairs a to worn/damaged/cracked refractory lining without shutting down the production unit. The process calls for a suitable ceramic welding machine to apply the welding powder, an experienced and trained welder and machine operator, and a supply of oxygen as the carrier gas.

The powder is conveyed via a stainless-steel lance by the oxygen at high pressure and velocity. The welding powder is designed to ignite spontaneously when exposed to high temperature in the presence of the oxygen carrier gas. The resulting exothermic reaction creates immense heat and this heat melts some of the flying particles to a liquid during flight towards the target area. These liquified particles creates the bonding mechanism between particle-particle and between the particles and the hot refractory lining that needs to be repaired.

### **Product Information**

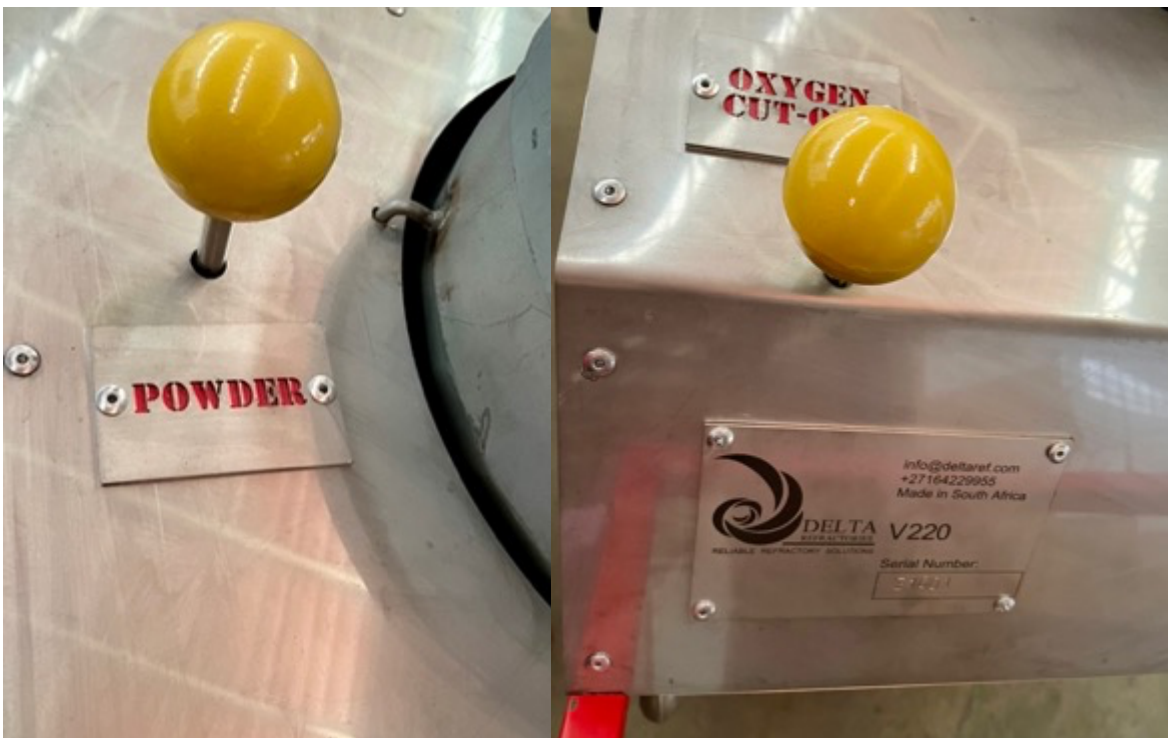
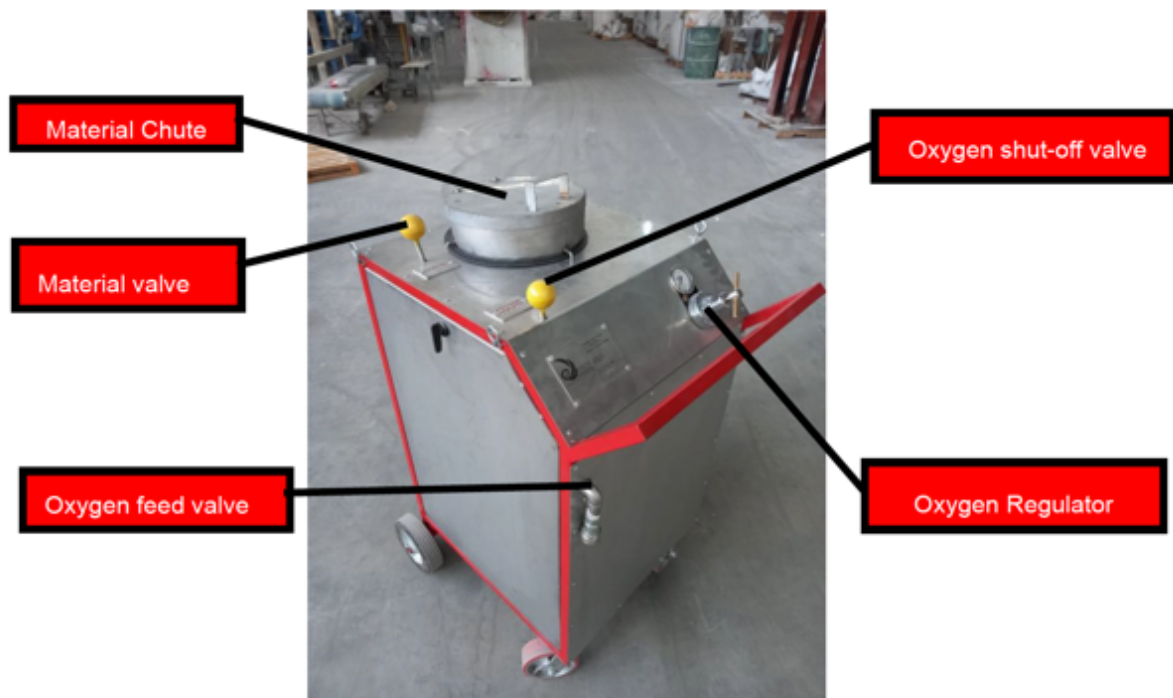
The **Delta Flame Gun®** range of products are all composites of carefully selected minerals and exothermic fuels. The powders are relatively fine grained, and the composition of the powders must be chemically and physically in harmony with the refractory lining that needs to be repaired.

When we design the ceramic welding powders, we may incorporate minerals and materials such as spinel, tabular alumina, corundum, fused alumina, andalusite, SiC, zircon, zirconia, green chrome oxide, magnesia, and others. The selection of raw materials is influenced by the chemical and physical properties we aim to engineer into the final product. The same selection criteria are applied when selecting the grade and percentage exothermic fuels.

Please contact our technical department with your requirements and for more information regarding these products and their properties as well as prices.

# Ceramic Welding

## Ceramic welding machine



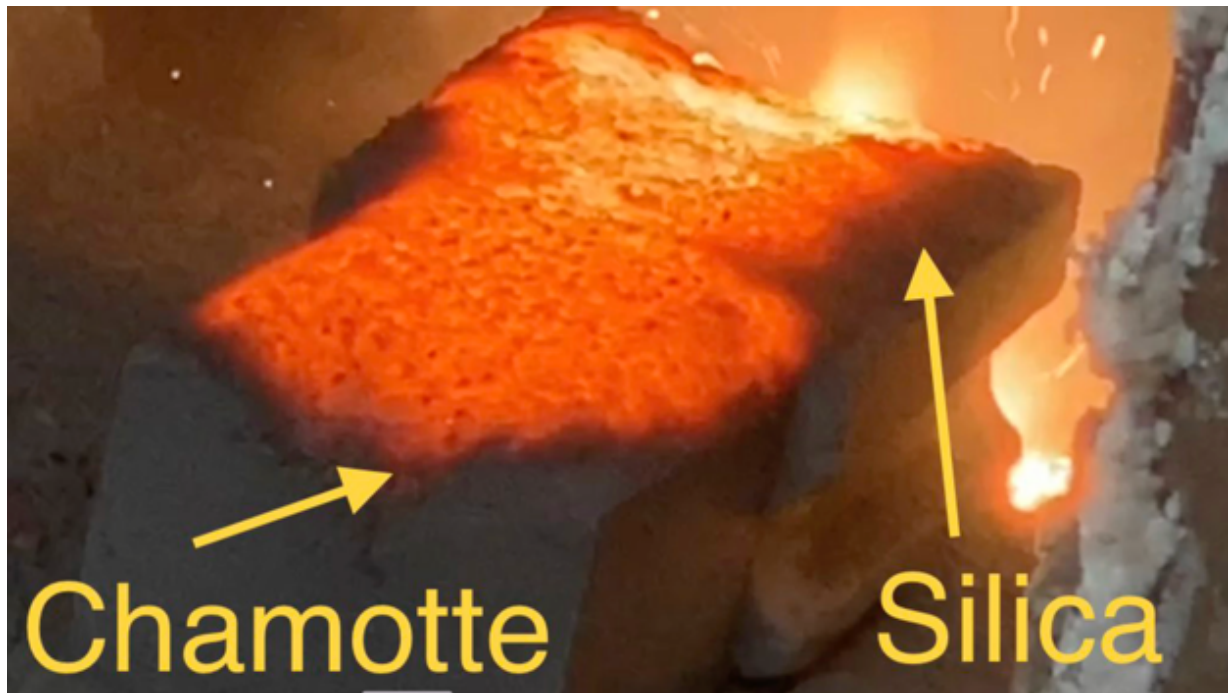
# Ceramic Welding

---



# Ceramic Welding

---



# Ceramic Welding

---

