



## Eildon Refractories World Minerals and Refractories: Chromite vs. Zircon

The question of Chromite vs. Zircon has always been a very difficult subject because good quality Zircon sand performs extremely well, and has been used as a benchmark in the production of quality castings over the past 20 years. However, during the past 6 to 8 years Zircon has become very variable and the so-called foundry grades are giving some foundries severe problems due to contamination.

When the cleanliness of Chromite is at turbidity levels of less than 100 ppm Chromite will perform better than Zircon in the heavy steel foundry environment. This is supported by our customer list, which includes the majority of the heavy high quality steel foundries worldwide.

It is also important to note that at today's prices (2010) Chromite sand is approximately half the price of a good quality Zircon sand that would perform similarly to Chromite.

Steel foundries have always had their favourite material to use. In many instances it was the geographical location that decided whether Chromite or Zircon was used. This is particularly true of the U.S.A. as they have deposits of very good quality Zircon in Florida. In the U.S.A. today very few foundries are using Zircon as the preferred material. Chromite costs less and the foundries which have changed over have found that casting quality has not suffered.

Historically the development of Zircon sand recovery systems was always ahead of Chromite recovery systems. Today this is not the case, Chromite recovery systems are available that will recover up to 85% Chromite with less than 1% silica contamination. These systems also clean the silica sand with a Chromite content of less than 1%. The recovered Chromite can be blended with new Chromite up to a ratio of 80% reclaim 20% new. On heavy wall castings a 50/50 blend is used.

Foundrymen have found that the new Chromite sand has eliminated the problem of double skin defect that has been associated with Chromite over the years. It is also important to note that the advance in foundry technology with regard to feeders (risers) and ingating have also been very beneficial to surface finish.

The goal is to continue with product improvement and maintain the edge over competition. This will be achieved by partnerships with customers, shipping agents and technical consultants who are the experts in advanced foundry technology.

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