

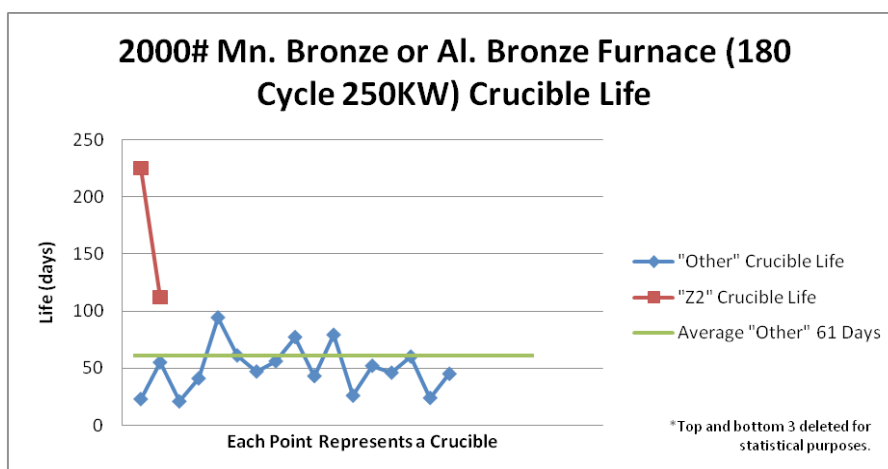
Z2 Syncarb Crucible Demonstrates Unmatched Reliability for MetalTek Division

By Brandon Kruse, Sales Manager, North America. Morgan Molten Metal Systems.

Southern Centrifugal, a division of MetalTek International in Chattanooga, TN, was experiencing serious and costly problems directly related to poor crucible performance and abbreviated operational life. With a family of companies that combine the industry's leading centrifugal, investment, sand, and continuous casting operations, MetalTek is unique in the diversity of casting and metalworking processes. The company operates eight international facilities serving customers in more than 25 countries, and could not afford the continued operational down time and lack of quality it was getting from its existing crucibles.

MetalTek was melting 30 different alloys - red brass, manganese bronze, monels, as well as high leaded, proprietary alloys - in their manufacturing process. However, erosion of crucible side walls was often taking the crucibles out of service, sometimes after as few as 25 days. In fact, the average service life overall was only 61 days. Applications like "melt and hold" or "melt and tap" were eroding the walls even faster. This led to excessive down time for crucible replacement, as well as a lack of consistent quality regarding melting and casting operations.

The solution came from MorganMMS, specifically from its improved Z2 Syncarb crucible. The Z2 Syncarb offers significant advantages in energy efficiency, higher thermal conductivity and other performance advantages critical to the melting process. It is a high pressure, isostatically pressed clay-graphite crucible that achieves optimal life when melting copper and copper alloys and in induction furnace applications.



*Performance comparison of the new MorganMMS Z2 Crucibles compared to MetalTek's previous crucible in a 2000 pound 180Hz, 250KW induction furnace
(Data provided by MetalTek International)*

Several customer applications have already demonstrated that the new Z2 Syncarb also performs exceptionally well in zinc distillation operations as well, where a common mode of crucible failure is corrosive attack from the Zn vapors. "We've experienced a very dramatic improvement in average crucible life with Z2 crucibles versus other products used in the past – nearly four times the life in fact," said MorganMMS customer, Carl Bednark of MetalTek International. "We expect the Z2 Syncarb to have a major impact on our operations."



Z2 SYNCARB Crucibles

DESCRIPTION

Z2 Syncarb is a premium quality crucible manufactured by iso-static pressing that allows for very good chemical resistance against fluxes, excellent thermal conductivity and high levels of oxidation resistance.



Z2 Syncarb crucibles are high pressure, isostatically pressed CLAY-GRAPHITE crucibles. MorganMMS uses a proprietary processing technology that results in a product with a very homogenous and high density structure. The clay-bonded Z2 Syncarb crucible provides very good chemical resistance against fluxes and excellent thermal conductivity. The inherent high mechanical strength allows the production of much larger crucibles. Other properties include outstanding oxidation resistance, high refractoriness and good thermal shock resistance.

Z2 Syncarb crucibles are especially suitable for use in zinc distillation applications as well as for melting and holding of copper and copper alloys and induction furnace applications.

APPLICATIONS

Z2 Syncarb is designed to perform exceptionally well to melt and hold copper and copper alloys in induction furnaces as well as in zinc distillation applications. Z2 Syncarb can also be used in some precious metal melting applications especially in Globar furnaces.

TYPICAL METAL CASTING TEMPERATURE

- Metal casting temperature between 1000°C and 1400°C (1832°F and 2552°F)

PERFORMANCE CHARACTERISTICS

- Very good thermal conductivity and oxidation resistance.
- Very good resistance to chemical attack.
- High mechanical strength and good erosion resistance.
- Good thermal shock resistance.
- High refractoriness.

IDENTIFICATION

Z2 Syncarb crucibles are finished in a black color.

PATTERN RANGE

Z2 Syncarb crucibles are available in a range of shapes and sizes to suit most end user requirements. Certain sizes can be made available with pyrometer pocket to facilitate measurement of metal temperature. A wide range of pouring lips are available.

QUALITY

Z2 Syncarb crucibles are manufactured from premium grade raw materials under an ISO 9001:2008 quality management system.



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For additional information on Morgan MMS' products & services or to find a location nearest to you, please visit: www.morganmms.com
Z25SYNCARB0711 All dimensions are subject to normal manufacturing tolerances. Morgan Molten Metal Systems reserves the right to change specifications at any time. Not responsible for any typographic errors.



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