

Induction Crucible

Technology is upgrading today to the use of Induction furnaces for melting of copper and its alloys, for cleaner and faster melt. Morgan, with its extensive research and global technology support, has developed ISO pressed Clay Graphite "Cold Crucibles" for the applications, offering the most economical replacement of ram lining.

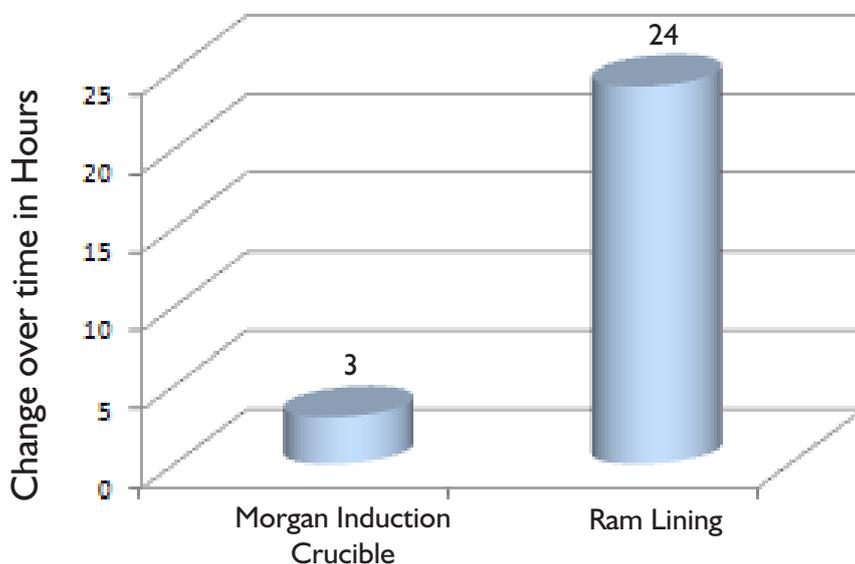
While ISO pressed technology & blend of imported raw materials impart superior product life, its excellent non-wetting property offers full capacity utilization throughout the product life & clean melt.

Morgan also manufactures Induction crucibles in Silicon carbide with roller forming technique, for furnace designs demanding energy transfer through a "Hot crucible".



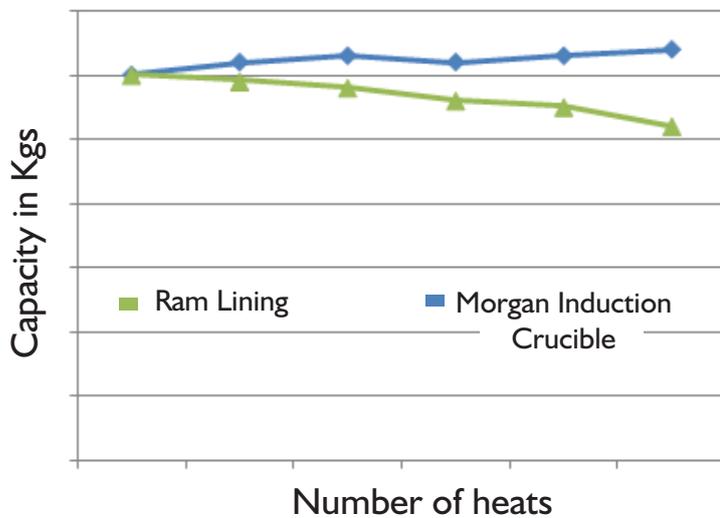
Advantages

- ✓ Easy change-over, requires less than 3 hours
- ✓ Flexibility of alloy change without wash melt or lining change over
- ✓ Almost nil dross sticking ensures full capacity utilization throughout the product life
- ✓ Consistent product performance, no leakage
- ✓ Contamination free molten metal, improved metal quality and lower casting rejection
- ✓ No former and skilled labor required



It has been an observation at Morgan's trial sites that at the end of life the change over time for the crucible is starkly less when compared to the process involving ram lining replacement.

This ensures that the downtime of the furnace is less and hence the over all productivity of the furnace is high.



It has been a common observation by the people who use ram lining that the output of molten metal over time reduces. This is mainly because of the dross sticking on the ram lining leading to reduced capacity utilization and hampering the quality of the molten metal.

The extensive research and development involved in determining the mix for the Morgan crucibles has ensured that the sticking problem of the dross is negligible. This has ensured almost full capacity utilization over the life of the crucibles and has helped in maintaining the quality of the molten metal.

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Installation procedure for Induction Crucibles

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1. Clean furnace walls and coil insulation for deposits. Repair with refractory cement if coil is not protected.

2. Slip plane installation against the wall of the furnace to facilitate free movement of the backing refractory against the coil face. Mica sheet or a special type of glass fibre woven paper should be used for the purpose.

3. A SS 304/316 Steel wire cage with vertical projections should be embedded on furnace refractory base in order to provide proper earth leakage detection.

4. Crucible should be placed centrally in the furnace, with help of crucible lifter or nylon rope.

5. Add refractory backing material evenly around the crucible, de-airing with a forked tool and tamping and/or vibrating the lining for achieving compaction evenly around the crucible is essential.

6. Fill the crucible with wood & jute bags for first pre-heating in order to remove gradual removal of moisture entrapped in crucible or ram lining.

7. Never introduce moist charge in the crucible. Use tongs to charge ingots or larger pieces of metal to avoid damage to the crucible. Place the charge vertically to avoid wedging the charge.

8. Provided that the crucible is still at bright red heat, the previously established max power setting can be applied immediately.

9. Energy consumption should be monitored on a regular basis to realise the benefits of using the crucible.

