

Kastech[®] Electrolytic[™]

Also specified as Kolene No. 4 Electrolytic (K-4E)

If you produce or specify critical high quality iron castings that require

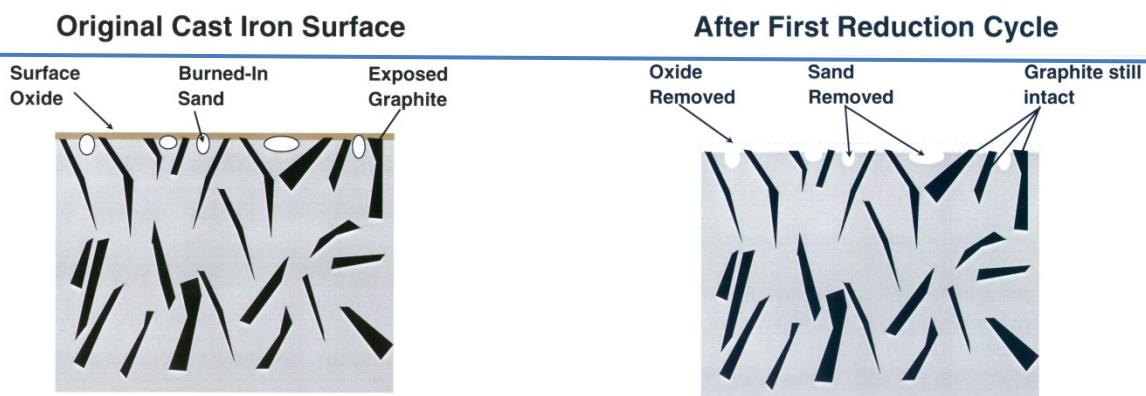
- 100% clean passages
- Superior heat transfer characteristics
- Excellent braze and babbitt bond strength
- Scale-free surfaces

then you need to specify Kastech Electrolytic cleaning for your castings.

Single Process – Multiple Results

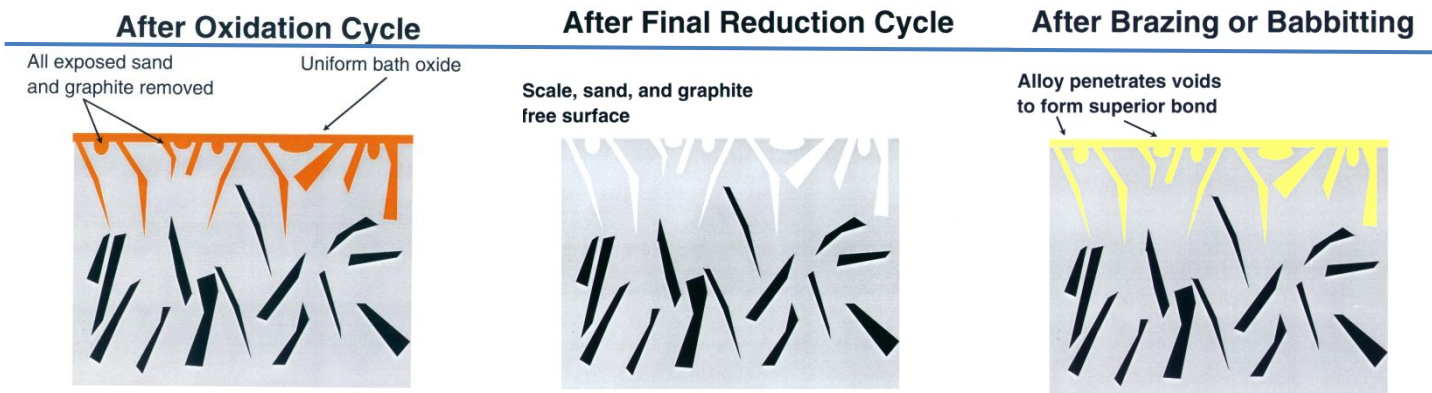
Kastech Electrolytic provides unique cleaning capabilities for cast iron components that no other single technique can match. By simply varying treatment parameters, one process can produce several end results.

Castings to be cleaned are simply immersed into the Kastech Electrolytic molten salt bath. The chemistry of the bath is neither oxidizing or reducing, but when activated by a direct current, can become either. By controlling the direct current polarity and sequence, a number of beneficial cleaning results can be achieved:



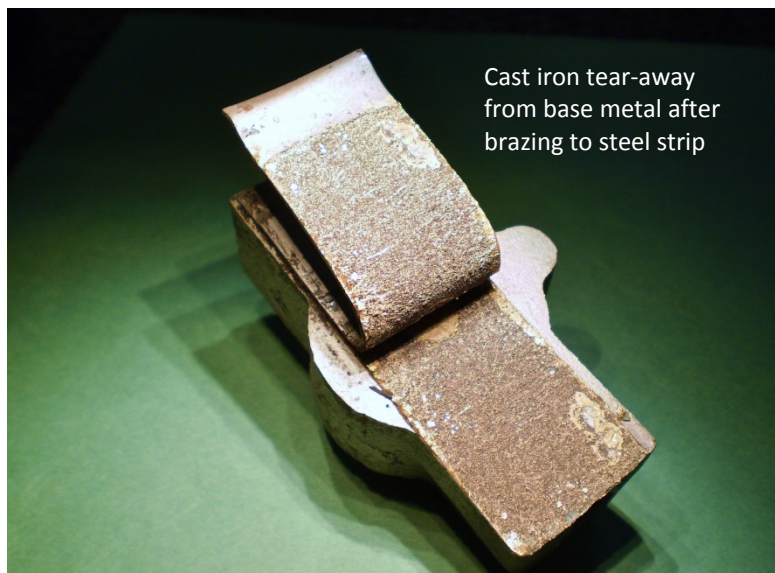
If cleaning for sand and scale removal is all that is required, the castings are cooled and water rinsed and the cleaning operation is finished.

For castings that will be brazed or babbitted, processing continues, with the polarity reversed to a positive or anodic charge relative to the workload. This generates an oxidizing environment in the bath. The casting's surfaces become coated with iron oxide, and any exposed graphite is oxidized to carbon dioxide gas, leaving a graphite-free surface (below left):



A final reversal of the casting's polarity to negative or reducing results in a casting surface that is chemically-cleaned and free of scale, sand, and graphite and ready for brazing, joining, or coating operations (above middle).

The filler metal or coating not only easily wets the clean surface, but can also migrate into the microvoids previously occupied by the graphite flakes (above right). This phenomenon greatly improves adhesion and bond strength. The result is a bond often stronger than the base cast iron material itself, as can be seen in the photo below:



Process Equipment

Equipment required to perform Kastech Electrolytic processing includes the salt bath furnace, water rinse tank(s), and protective hooding. In addition, a direct current rectifier with appropriate controls is provided to energize and control the reactivity of the molten salt.



Custom engineered process equipment can be designed for captive installation on site. Designs take into consideration throughput requirements, maximum casting size, and so forth. Loading and work handling systems range from simple manually operated hoists to fully programmable and automated systems. HMI interfaces with multiple cycle parameters coded to part number look-ups are also available.

Kolene provides you with an integrated process and single-source responsibility: equipment, chemicals and ongoing technical service and support.

Custom Cleaning / Commercial Processing Services

If you prefer to outsource your casting cleaning operations, Kolene Corporation can provide you with an approved processor list.

For further information about
Kastech[®] Electrolytic[™]

Please contact us for additional information about process equipment, to make arrangements for complimentary sample processing of your castings, or for additional information about our Custom Cleaning and Commercial Processing Services:

Toll-free: 800 521-4182
Phone: 313 273-9220
Fax: 313 273-5207
Email: sales@kolene.com

About Kolene Corporation....

For nearly 75 years, Kolene Corporation has been providing unique solutions for industries' most difficult cleaning challenges.

Grouped under the umbrella of ***Extreme Cleaning Technologies[®]***, we offer processes for cleaning, conditioning, and modifying a wide variety of materials:

- descale stainless and superalloys
- strip paint and powder coatings
- clean jet engine components for overhaul
- clean investment castings
- digest plasma / flame spray coatings
- remove forming / forging lubricants



www.kolene.com

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