

## Cupola Process Consulting

### Advanced Engineering and Computer Modeling for Your Changed Operating Conditions

When your cupola was designed, it ran on very specific design criteria that might have changed over time. Production capacity might have gone up or down, charge material might have changed, and coke quality had to be adjusted to new supply chains.

All that may have shifted your formerly optimized operation into a less efficient and more costly operation than originally anticipated.

With our cupola process knowledge, and exclusive computer modeling technology, we are able to bring you back to the profitable side of your operation. You'll realize maximum efficiency and high quality output, while reducing operating costs to achieve the lowest cost per ton again.

Kuttner engineers will help troubleshoot your system using our timesaving process simulation. The generated data will be compared to your individual real-life situation, and Kuttner will suggest beneficial process changes.



Our extensive cupola melt system process experience and advanced computer modelling allows us to provide consulting to meet your specific needs. We custom design solutions for the features that your system demands.

These demands can include:

- Above-charge and below-charge takeoff cupola furnaces
- Upper stack or external CO combustion
- Completely integrated and automated process controls
- Refractory lined or unlined cupolas
- Tuyere and shell water cooling systems
- Oxygen injection or enrichment systems with integrated flow controls, complete code compliance, and optimal safety features

#### Partner with Kuttner for Innovative Designs and Proven Results

Look to Kuttner for metallurgical engineering, cupola modeling, and comprehensive process engineering to meet your unique cupola melting system and environmental compliance needs. Our melt center experience includes a wide range of products and solutions to benefit your operation, including:

- Cupola Furnace (Hot and Cold Blast)
- CO combustion
- Hot blast recuperator
- Gas cooler
- Gas Cleaning system

#### Global Resources Help You Compete in North America

Kuttner North America combines extensive cupola melting systems engineering expertise with the global technological resources of the Kuttner Group of companies. Contact Kuttner North America for single-source engineering and consulting, service, and technical support.

# Cupola Process Consulting



Our extensive cupola melt system process experience and advanced computer modelling allows us to provide consulting to meet your specific needs. Your optimized Cupola Melt System will allow scrap purchasing flexibility and the greatest production flexibility, while producing consistent high quality iron output at the lowest cost per ton.

## Engineering for Scrap and Alloy Flexibility

- Large, small, thick, and thin scrap
- Uncleaned, unstripped, or wet and oily scrap
- Galvanized steel with potential for zinc recovery
- Borings, briquettes, blast furnace runner iron
- Low cost ferro-silicon or silicon carbide alloys and briquettes

## Engineering for Operating Flexibility

- Up to 2:1 melt rate turn down with oxygen and blast
- Precise hot blast and oxygen control for in-spec chemistry
- Coke replacement options with coal or other carbon materials

## Engineering for Low Operating Cost

- Optimal cupola and tuyere design to maximize heat exchange
- Lowest possible coke rates
- Minimized heat and particulate loading to emission control systems
- Low manpower costs
- Low electric and gas energy costs
- Lowest refractory cost per ton
- Long melt campaigns up to 2 months between drops



**Call (888) 918-4483 today for more information or a quote for your specific application.**

Kuttner North America is your complete source for the planning, engineering, design, manufacture, installation, and support for state-of-the-art melt centers, gas cleaning systems, waste recovery systems, and environmental systems for many industries. Throughout our history, we have always placed a high emphasis on quality and customer care. Contact Kuttner North America for single-source engineering and complete parts, service, and technical support.