

IMPROVE EFFICIENCIES IN FOUNDRY SAND CONDITIONING

INNOVATIVE TECHNOLOGY FOR ENERGY-EFFICIENT OPERATIONS



Control your core mold sand temperature

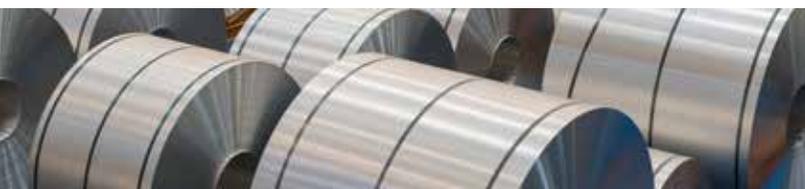
In the no-bake foundry process, sand is blended with a small amount of expensive ingredients, including a chemical binder and catalyst, in a high-speed mixer. When combined, the ingredients begin a chemical reaction process that is very sensitive to the temperature of the sand. Temperature changes in the sand create inconsistencies in the casting quality and waste expensive raw materials.

Solex Thermal Science is a worldwide provider of customized heat transfer solutions for bulk solids to a wide range of industries.

The Solex Advantage

Solex provides a proven solution to uniformly maintain the sand at its ideal temperature based on location, process, and ingredient additives. Depending on the environment and season, sand entering the core mold process could be anywhere between 35 F and 120 F, yet ideal sand temperature may be 75 F.

Grain-to-grain temperature profile is an important part of the molding process. The Solex heat exchanger is able to maintain grain to grain temperatures within ± 0.5 F and tempers the sand mixture. This ensures each grain will get the same performance from the ingredient additives, producing a high-integrity mold performance and better mold-to-mold consistency.



PATENTED* TECHNOLOGY THAT MAXIMIZES ENERGY EFFICIENCY

Small footprint and modular design

The vertical orientation of the Solex heat exchanger affords a small installation footprint, allowing it to easily retrofit into existing plants or save real estate in new plant designs. The Solex heat exchanger can be installed directly above the batch hopper and mixer dedicated to one core machine, or can be installed upstream to serve several core mold machines. The Solex heat exchanger is modular, making it ideal for plant capacity increases.

Safe and low maintenance

There are no rotating parts or pinch points, making it safe for operation. There is minimal wear and tear on the equipment because the sand flows at low velocity, creating near zero shear forces. The Solex heat exchanger does not use air, so there are no emissions, air handling, or filtration to manage, reducing exposure to silica.

Low cost of ownership and a high ROI

The sand temperature is controlled by maintaining a flow of water or water-glycol mixture inside the plates. The heat transfer is indirect (via conductivity) and only sensible heat is used to achieve the best thermal efficiencies at all times.

Increase company profit by reducing your core mold sand process cost per pound. Thus producing a more reliable and consistent product, and lessening waste material and cast rejects.



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