



Reduce New
Sand Purchase
and Spent Sand
Disposal up to

97%



W355 S8902 Godfrey Lane
Eagle, WI 53119

P: (262) 594-5891
F: (262) 594-3623

EnviroAir.net



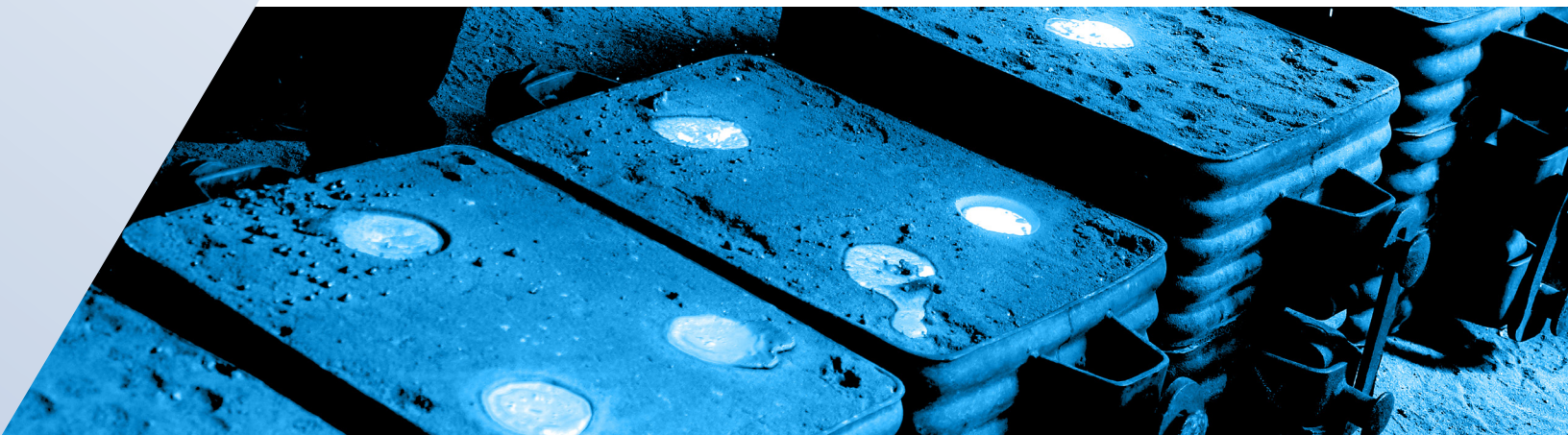
CASE STUDY

Thermal Sand Reclamation

EnviroAir Rotary Thermal Sand Reclaimers provide economic and environmental benefits by reducing the amount of new sand purchased, reducing the amount of waste sand disposed in landfills, reducing transportation costs and reducing the amount of chemical binders and additives required. The reclaimed sand also produces stronger molds and cores and provides improved casting quality.

The Challenge:

Many foundries who have sought the expertise of EnviroAir. For over 20 years, the company has consistently developed innovative and efficient solutions for optimizing sand usage in the production of high-quality metal castings. Their clients have a strong commitment to sustainable manufacturing practices and the desire to reduce raw material costs while maintaining product quality.



The Process:

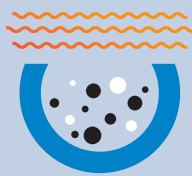
Each project is unique. This process requires a deep understanding of foundry operations, materials used, and cutting-edge recycling technologies to deliver a tailored solution that meets a company's specific needs and will maintain, if not improve, product quality and exceed industry standards.

This rotary thermal reclamation process can effectively reclaim sand from various sources and with different properties, leading to reduced waste and improved resource efficiency. Unlike fluidized bed systems, the rotary thermal reclamation process allows material of varying densities and tramp metal to easily flow through the retort. Heavier density material or tramp metal will not sink to the bottom and plug as in a fluidized bed system.

EFFECTIVELY HANDLES MATERIALS WITH VARYING DENSITIES



Tumbling Action
helps mix and process materials of different densities uniformly



Indirect Heating
ensures even heating of the sand and no direct flame impingement on the sand.



Flexibility
handles tramp metal and other contaminants that may be present in the used sand



Adjustable Process Parameters
like rotation speed and temperature accommodate different material characteristics

The Results:

After implementing EnviroAir's rotary thermal sand reclamation system, foundries typically experienced the following benefits:

Up to 97% Reduction in new sand purchase and used sand disposal.

3-5% Loss of fines that need to be made up with new sand purchase.



Improved sand quality offered consistent properties suitable for reuse in molds



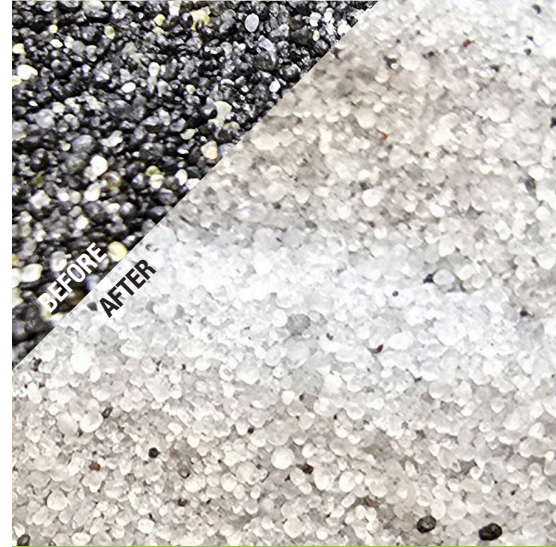
Emissions and landfill use were significantly reduced

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years until investment costs can be recouped by lowering material and disposal costs

Overall, the EnviroAir's Rotary Thermal Sand Reclamation System has proven to be an effective solution for a wide range of foundries providing both economic and environmental benefits by improving casting quality and reducing casting defects.

For more information about our test sample program tailored for your company, simply contact EnviroAir's engineering team at dlesch@enviroair.net or 262.594.5891, Ext. 105.



SAMPLE 1

GM Defiance Foundry

Sand Type:

Silica, Wedron 520 from Fairmount Minerals

Binder System:

Phenolic Urethane, Isocure Process with DMIPA as a catalyst



SAMPLE 2

GIW Industries, Inc.

Sand Type:

T40 silica sand supplied by Badger or Covia from mines in Wisconsin

Binder System:

Mancuso Furan