



2023 INNOVATOR OF THE YEAR Fenico Precision Casting

The 2023 *Innovator of the Year* award was presented to Fenico Precision Casting of Paramount, California for their work in the field of process improvement and the environmental impact of their new product at the ICI's 70th Annual Technical Conference and Exposition in Pittsburgh, PA.

The ICI congratulates Fenico Precision Casting for being selected as this year's Innovator of the Year. Though we had several fine submissions, the award went to Fenico due to its originality, simplicity of implementation, environmental impact and universal

benefits to the foundry community. We look forward to the company presenting innovation details once they have secured patent protection.

From Fenico...

T-HOT TOP

California AQMD and EPA regulations ensure that all manufacturing must reduce air pollution from specific sources. Regulate toxic and hazardous air emissions, and these regulations are enforced in the same manner which pertains to the ambient air quality standard. The T-HOT TOP

idea is taking into consideration for a better environment that we must adhere to California's EPA and AQMD requirements, while making it economically viable for the foundry process, as well.

Traditionally, the HOT TOP is an exothermic material applied into the pour cup immediately after pouring metal. The exothermic material is initially providing enormous amount of heat to the metal on top of riser to keep the metal in molten form longer till solidification. The riser can offer proper gravity feeding the runner and castings during solidification. The result

Recipients of the *Innovator of the Year* have successfully incorporated improvements in the investment casting process in one or more of the following areas:

- Technology
- Process Improvement
- New Process or Product Introduction
- New Machine Introduction
 - Safety Improvement
 - Cost Reduction
- Creative Business Concept
 - Customer Satisfaction
- Operational Improvement
 - Quality Enhancement
 - Environmental Impact



is better soundness, yield, directional solidification, and good casting quality without shrinkage defects.

Unfortunately, the traditional Hot Top is just like the old razor blades with double sharp edges. It helps to improve casting process, but it also caused bad environmental impact for air quality at the same time. The most important parameters considered are the emission rate and toxicity. The reaction of Hot Top and liquid metal produces harmful smoke in the atmosphere. These emissions are considered as volatile SO₂, CO, CO₂, and NO_x which we all know is harmful for our environment, lung disease, health, and other safety issues.

The T-HOT TOP functions the same as the traditional Hot Top. However, there are more advantages below:

1. It will eliminate smoke and harmful gas SO₂, CO, CO₂ and NO_x in the atmosphere. Good process for our environment and reduces health concerns significantly for our foundry personnel.
2. Not only is our new foundry process environmentally friendly but it saves costs on purchasing



Hot Top material. The T-HOT TOP is reusable/recyclable with environmental worry-free.

3. No more metal contamination of the riser head, eliminate the extra time and labor cutting off the riser for scrap or separation in recycling process.

4. Last but not least, T-HOT TOP is cleaner, and user friendly for melters, foundry and finishing/cut-off personnel.

T-HOT TOP is currently patent pending and will be shared with ICI members upon receipt of patent approval.