

AT TECH CAST INC.—

New Single-piece Investment Casting Replaces 7-part Fabrication

When you can combine a seven-piece fabrication into a single casting and have a new component which is stronger, more dimensionally consistent, and more attractive yet at lower cost, the decision is a no brainer.

That was exactly the situation for Tait Towers, a leader in the design and



The original component was a fabrication of seven separate pieces welded together.



The new single-piece investment casting costs less, is stronger and more dimensionally consistent, more attractive, and includes the Tait logo as cast-in feature.

quality staging for the touring entertainment industry as it commissioned Tech Cast, Inc. of Myerstown PA to cast a part for their staging equipment.

Tech Cast Sales Engineer Marty Pfautz noted the part is used in the assembly of large sound stages and platforms. “Tait Towers came to Tech Cast with a casting design for a part they called a K-nut. This part is used just above the wheel on a 4-wheel platform (see photo on following page). These platforms are rolled in and locked together to form the base of the stage. The K-nut casting is part of the locking mechanism,” Pfautz said. “In this industry, the stages need to be quick and easy to assemble and disassemble; they need to be light weight; and they must fold into a small package for transport to the next show.”

“Tait was fabricating this part from seven pieces, which was costly and time consuming. By combining the seven pieces together, Tait created a casting design that would replace the fabrication,” he continued. “Tech Cast worked with the company to refine the design to achieve the lowest cost part and tooling that would meet their needs. The end product is stronger due to the elimination of all the welds, it is dimensionally more consistent, it is more attractive, and it has the Tait logo on it in four places— and all at a lower price.”

A finalist in the Investment Casting Institute’s recent casting contest, the 6” x 6” x 2.5” new component is cast in ASTM A216, grade WCB.

Tech Cast, Inc. is a privately owned, ISO 9001-2000 investment casting

INVESTMENT CASTING EXPERTS

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Capabilities: Investment castings up to 300 lbs

Primary Markets Served:

- Pumps, Valves, Impellers (Commercial)
- Pumps, Valves, Impellers (Severe Service)
- Oil and Gas Industry
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Alloys poured: Over 250 alloys poured to include steel, stainless steels, cobalt base, nickel base, copper base alloys

Certifications: Pressure Equipment Directive 97/23/EC
ANNEX 1 Paragraph 4.3 certification
ISO 9001-2000 certification



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foundry. The company produces net and near-net shapes, ferrous and nonferrous components with assisted design capabilities using computer aided technology. This includes 3-D modeling, as well as solidification simulation.

Pfautz indicated Tech Cast, Inc. strives to achieve early customer involvement “Our main goal is to develop a unique partnership with customers early on in the product development stage, in order to produce high-quality components that will provide superior performance and long-term durability,” he said. “This requires sound engineering design, consistent and repeatable process controls, a strong understanding of economic requirements, and frequent communication.”

With casting capability ranging from castings that weigh a fraction of an ounce to in excess of 300 lbs., Tech Cast has the ability to meet strict military, and/or nuclear specifications, and other unique and challenging customer-driven specifications.



The new investment cast component is shown on a section of a portable stage.

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