PumpWorks Castings, LLC

Complex Mold Production Reduces Lead Time by 9 Weeks & Saves Thousands

Customer Challenge

The customer required extremely fast lead time as well as complicated casting geometry for replacement cyclinders on an old obsolete compressor. MW Smith DXP Engineers, contacted Pumpworks Castings, LLC about the need for 2 Compressor Cylinders on an expedited basis. The challenge; reduce lead time from an estimated 17+ weeks down to 8 weeks without tooling.

The Solution / ExOne Competitive Advantage

Using ExOne technology, Pumpworks Castings, LLC was able to meet the schedule by providing the old obsolete compressor heads to MW Smith DXP in 8 weeks. The complex molds were printed in about 7 days and it was estimated that using a traditional wood pattern to make this complex mold, it would have taken about 8-9 weeks. By using ExOne technology, the mold was made ready for the casting pour in about 1 week versus 8-9 weeks. By printing the complex mold in 1 week, the aggressive delivery of 8 weeks was met and the compressor repairs were started.

About ExOne

ExOne uses 3D printing to create complex molds and cores directly from CAD data for a variety of industries with accuracies of ± 0.011 in. (± 0.3 mm). The ExOne® process achieves geometric complexity and scale unmatched using conventional casting techniques without the need for a physical pattern. ExOne produces accurate, uniform cores and molds rapidly.

Specifications

Customer: MW Smith/DXP Longview
Part: Compressor Cylinder
Part size: 46 x 38 x 46 assembled mold
Material: Class 40 Cast Iron
Industry: Gas

Traditional Methods and Pricing

Method: Pattern-based casting/machining
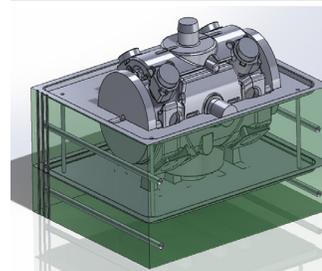Total time: 16 - 17 weeks
Tooling costs: $70,000

ExOne® Sand Printing Method

3D Sand Mold Printing and Casting
Print Media: Silica Sand/Furan Binder
Production Time: 8 weeks
Tooling Cost: $0

CAD Rendering

Old Pump

To learn more, contact: **www.exone.com**

ExOne operates facilities across the Americas, Europe and Asia.

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