Tooling and Casting Options

A brief discussion about the decision process for Prototyping, Tooling, and Production of Metal Castings

Contact: AnchorTech, LLC
16610 SE 34th Way
Vancouver, WA 98683

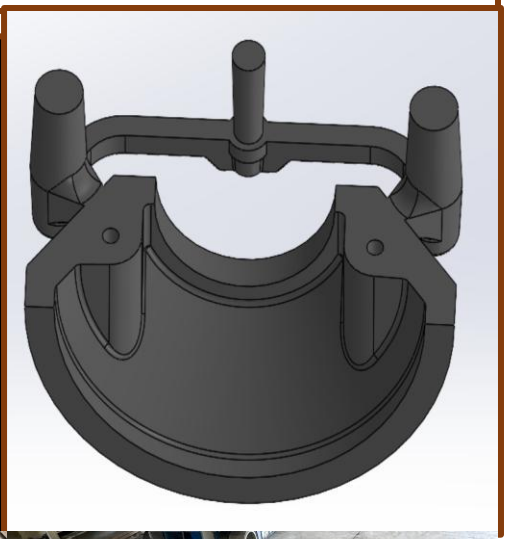
Bob Grainger
Office: 360 836 8217
Mobile: 651 238 5949
Email: Bob@AnchorTechLLC.com

Reverse Engineering
From scrapped parts

- Scrapped Casting is
- Digitally scanned
- To create a CAD file
- And PDF Print
- A pattern is made
- And Production parts are produced

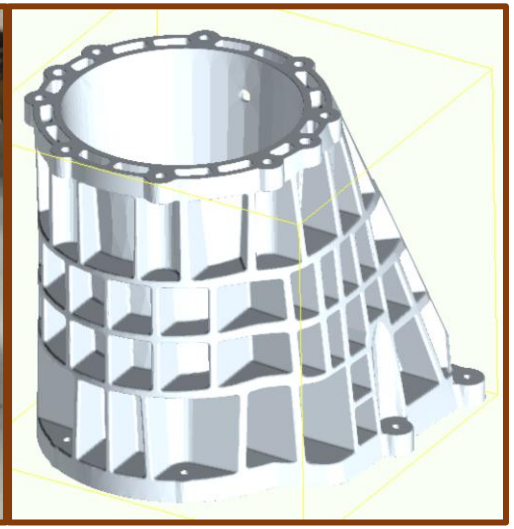
Printed Sand Molds for prototypes or very low production requirements

- Part Complexity
- Quantity of parts needed
- Material need (SS, Bronze, etc.)
- Metallurgical properties
- Timing
- Need for repeat quantities



What drives the choice of the casting process

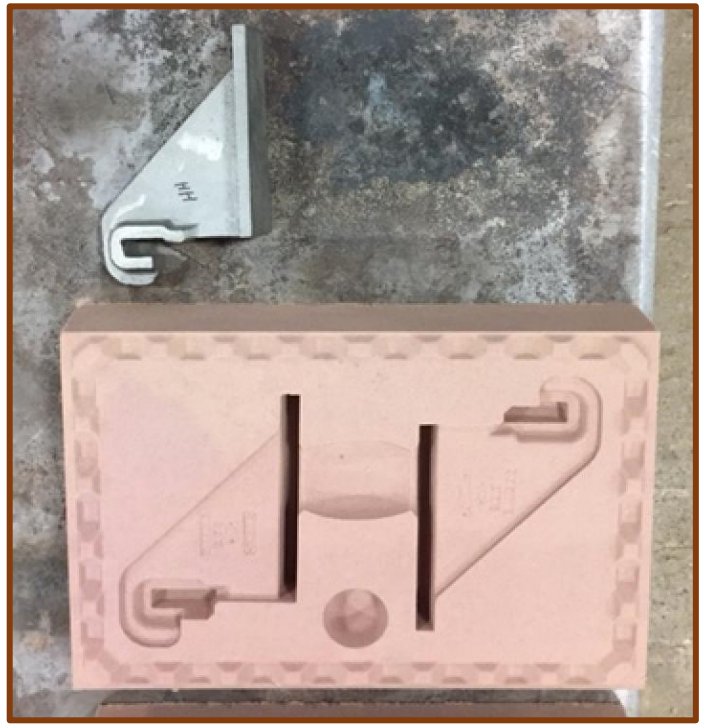
- Part Complexity
- Quantity of parts needed
- Material need (SS, Bronze, etc.)
- Metallurgical properties
- Timing
- Need for repeat quantities



Rapid Prototype Transfer Case
Delivery: 2 Weeks
Cost: $4,500

Process Options

- Sand Cast (Green-Sand)
- Sand Cast (Chemically bonded)
- Loose-Molding
- Rapid Investment Cast
- Regular Investment Casting
- Die Cast
- Permanent Mold
- DMLS (Direct metal laser sinter)



Typical Chem bonded sand mold with SS Casting it produces

Material Options

- Gray Iron
- Ductile Iron
- White Iron
- Steel (All grades)
- Stainless Steel (All Grades)
- Inconel Grades
- Aluminum
- Zinc

Inconel 625 Casting

Post Casting Processes Available

- Machining
- Painting
- Powder coating
- Anodizing
- Assembly

Powder coated Hose Guide
with Retainer & Lanyard

What information is needed to provide a quote and pick a process

- Options:
- On old casting for Reverse engineering.
- Casting Drawing with Tolerances
- CAD Data file (STP format is best)
- Number of parts needed
- Post Process requirements

- Options:
- Prototype
- Investment Cast
- Match Plate
- Cope & Drag (top & bottom)
- Cores or no cores
- Loose Mold

Patterns: How long will it take?

• From STP File	• 1 Week or less for Quote
• Pattern complete	• 1 to 4 Weeks
• 1st Articles	• 1 to 2 weeks
• 1st Article Approval	• 1 Week (Usually)

Production: How long will it take?

• 1st Article approval	• A few days to 1 week
• Production sampling	• 1 week for First Articles
• Production parts	• 1 to 4 weeks after F.A. Approval
• Post Processing	• Depends on the requirement
• Delivery transit time	• Domestic – 1 week or less
	• Off shore: 4 to 7 weeks

Quality & Certifications

- 1st Article Inspection Report
- Metallurgical Certification if required.

- Completed by Source Inspector or the foundry.
- Submission of Metallurgical report form Spectrographic analysis.

Other Resources

- Design & CAD:
- Rapid Prototyping:
- Pattern Making:
- Source Inspection in China:

- JS&A: Denver
- General Pattern, Minneapolis
- Springbrook Pattern, Wisconsin
- Newstart Industries, Beijing

Why AncorTech?

- We manage the process from start to finish.
- Process Selection
- Vendor Selection
- Drafting of part and tooling review
- 1st Article delivery and review
- Post Processing management: Machining, Decorating, Etc
- Delivery arrangement.

Contact Information

- Thanks for attending today.

- Please feel free to call at any time with any additional questions or for a review of an existing opportunity.

- Bob Grainger — Bob's Phone: 651 238 5949
- AnchorTech, LLC — Email: Ayecapnbob@aol.com
- 16610 SE 34th Way — Email: Bob@AnchorTechLLC.com
- Vancouver, WA 98683. — www@AnchorTechLLC.com