

Achieving faster through-put, lower cost per unit, and consistent part quality from first to last



You can achieve superior quality at faster production rates. *So why haven't you looked into cope and drag?*

Are you having a part or component machined or fabricated because that's the "way it's done?" Or because you believe it to be the most affordable way?

What if there is a process that provides a higher level of quality than you could ever achieve with your current process while also speeding up production times?

Aluminum casting on an automated cope and drag line delivers these benefits and many more.

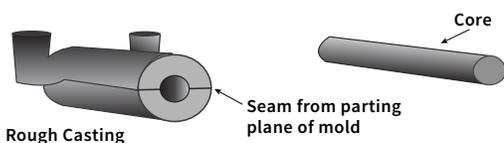
If your part meets the following criteria, you may need to give us a call.

1. Dimensional Accuracy

How critical is the part's dimensional accuracy?

Your part should be made to spec every time, especially when designed for high-performance or mission critical applications such as racing vehicles or military equipment. Fabricated parts consist of multiple pieces joined together, so imperfections are common and tolerances are not as tight as that of castings.

Automated cope and drag casting is highly repeatable, eliminating shift or mismatch issues that can occur in other molding or fabrication methods. Parts are not only produced quickly on a cope and drag line; they are produced accurately and to-spec from first to last.



2. Surface Finishes

Does the part require a consistent, high-quality finish?

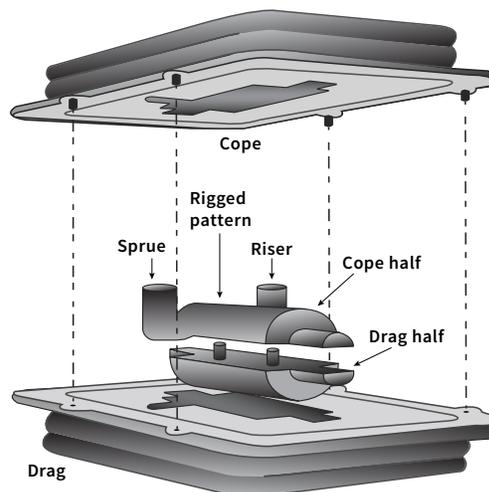
Parts manufactured on an automated cope and drag line typically have a better, more consistent surface finish and texture than parts produced by other sand casting processes.

3. Part Complexity

Is the part complex or does it involve intricate shapes?

Castings allow for more complex geometric shapes and internal features that cannot be achieved using other manufacturing techniques. Some processes are known for providing accurate shapes; however, tooling cost is higher compared to cope and drag.

Some manufacturers have product development teams that can work with product engineers to achieve the benefits obtainable by selecting this process. This can yield long-term savings.



What is Cope and Drag?

Cope and Drag are terms for the upper (cope) and lower (drag) halves of patterns used in aluminum sand casting. Each half is placed into a flask, which is packed into the pattern to create the mold. The cope and drag are then joined and metal is poured into the mold. The metal cools and solidifies, forming the new part.

Boose is equipped with the largest automated, non-ferrous cope and drag line in the USA and has helped customers increase production and reduce costs of large, complex aluminum sand castings for nearly a decade.



4. High-Volume Runs

What is the desired part quantity?

High-volume runs can be unnecessarily slowed down by certain manufacturing processes such as machining, no-bake casting, or stamping. Especially for no-bake, production rates are slowed due to the time it takes for molds to cure and harden.

In larger automated cope and drag operations, foundries utilize robotic pouring systems to minimize operator involvement and provide a safer plant environment and a more consistent product to the end user. The economic annual usage to employ these automated systems is between 500 and 5,000 pieces.

5. Part Size

Is it a large or heavy part? When it comes to size, up to 180 – 200 lbs. of aluminum alloy can be poured to produce castings.

Are you looking to produce large parts in high volumes? Parts measuring 36" x 36" x 16" can be manufactured efficiently and affordably on an automated cope and drag line.

6. Type of Application

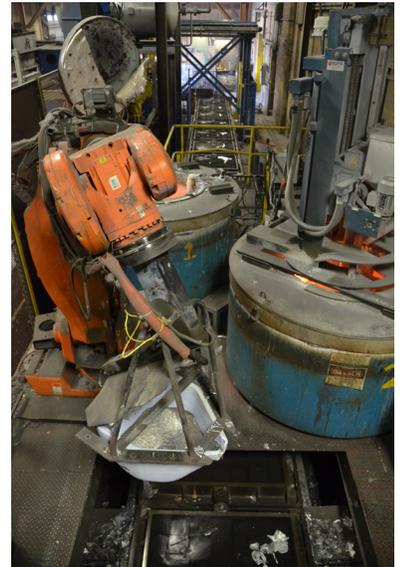
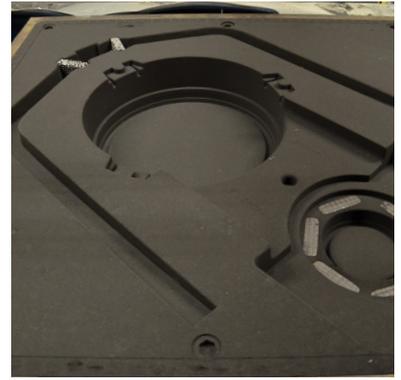
What is the part's application? If strong, dependable parts are needed, a casting is typically preferred because it is one, solid piece free of welding or soldering, which are opportunities for weakness.

The automated cope and drag line at Boose can provide durable and reliable castings for a variety of industrial applications including:

- **Pumps and Housings**
- **Off-Road Vehicles and Construction Equipment**
- **After-Market Racing**
- **Agricultural Equipment**
- **Mass Transit Vehicles**
- **Marine Vessels and Engines**
- **Military and Defense**

Trust the team at Boose.

Since 1933, we've provided high-quality, cost-effective sand castings for virtually any industrial application. Our ISO 9001:2008 certified foundry is home to the largest non-ferrous, cope and drag line installed in a manufacturing foundry in the United States.



For large, high-volume production castings that meet precise specifications, choose **Boose Aluminum.**

Submit an RFQ:

boosealum.com/rfq

Send us an email:

baf@boosealum.com

Call Joe Boose to Discuss:

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