



## **FAQ's for Purchasing Austempered Ductile Iron - ADI**

### **What should I, as the purchasing person of castings that are to austempered, be aware of?**

- Not all foundries are the same. Pick one and stay with that foundry throughout the process. AP can help guide you to the foundries that can produce high quality ductile iron to be austempered.
- If you switch foundries after a component is in production, you will have to re-qualify the component to ensure that the component's performance has not been compromised.
- Not all austempering heat treaters are the same. Pick a qualified source and confirm that you are getting what you asked for i.e. parts conform to specification (ASTM, ISO or SAE standards).
- Make sure that the print contains as much information as possible about the final requirements. Including, but not limited to:
  - Specification (ASTM, ISO, SAE) and Grade of ADI
  - Part weight
  - Inspection criteria including type (hardness, test bars or microstructure) along with the location on the component where inspection will occur
  - Material/Chemistry must be agreed upon by heat treater/casting supplier/customer
  - Austempering to be completed before or after machining
  - Reference to internal documents where needed

### **What does austempering cost?**

Austempering typically costs anywhere from \$0.20 to \$0.50 per lb., but the actual cost is based on many factors including individual part geometry, annual volume, and cycle time.

### **Why do I get so many "no quotes" from potential austempering sources?**

Commercial heat treaters will only quote the programs that they are capable of processing. For example, austempering of thin steel fasteners makes perfect sense on a "belt line", but such work would normally be cost prohibitive in a UBQA (Universal-Batch-Quench-Austemper) furnace, which is best suited for heat treatment of castings and larger components.

### **Why do austempering quotes vary from heat treater to heat treater?**

Every heat treater that provides the austempering service has specific equipment that they use for austempering. Factors like the through put of that specific piece of equipment and utility costs are just some of the things to consider when a heat treater determines its pricing structures.

### **Don't you need to buy ADI from a specially licensed foundry?**

NO! ADI is an internationally recognized material that is specified in standards like ASTM A897/897M, SAE J2477 and ISO 17804. Any iron foundry that produces high quality ductile iron in partnership with a heat treater with the right equipment and expertise should be able to produce ADI.

### **I am a buyer of ADI components. Am I better off buying my austempering service separately or am I better off letting the foundry or machine shop handle it?**

Only the individual buyer can decide which course of action to take. If you desire a "finished component" on your dock that is ready for assembly, then you will probably choose the route of have an entity such as the machine shop, foundry, etc., be the tier one supplier of the components. Note that there is a cost associated with this, but in this scenario, the tier one entity assumes responsibility for the specific component.