

Tensile Bar Castings

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1 Introduction

In new casting development projects, there exists some form of an agreement between the casting purchaser and the casting manufacturer which outlines the technical requirements for qualification to production. These arrangements may range from more comprehensive specific dimensional and metallurgical requirements associated with aerospace fixed processes to a lone AS9102 dimensional requirement, which may apply to an industrial part There exists a gap, in the middle, where application. casting designer/purchaser assume metallurgical requirements including the notion that machined from casting (MFC) test bars are intended to and must meet ASTM requirements. Oftentimes, the designer/purchaser requires MFC expecting ASTM properties. Many times, casting houses agree, because they think there is no other choice and the designer must be correct. This can cost the casting producer in terms of excessive mechanical testing and lost production.

2 Experimental procedure

The paper thoroughly discusses the metallurgical differences and the inimitability of cast shapes including case studies, mechanical and process data, a metallurgical summary, photos and a practical guide to manage this topic.

3 Result and discussion

The paper represents collaboration with and data from our foundries where we successfully worked through these customer situations.

4 Conclusion

This paper is offered to the 75th World Foundry Congress as a service to both sides of this topic- casting purchaser and casting manufacturer. My hope in offering this work to the 75th World Foundry Congress, is that the audience gains valuable information to go on and successfully handle this topic in their own companies where the situation is turned from "production stopping" to smooth production.

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