

Hot Tearing Evaluation of Al – Based Alloys

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Hot tearing during solidification of aluminium alloys castings can be a serious problem. This phenomenon is well known but still insufficiently investigated. Hot tearing occurs in form of irregular cracks in metal castings that develop during solidification and cooling (typically while the casting is still inside the mold or die cavity). The cause of hot tearing is generally attributed to the development of thermally induced tensile stresses and strains in a casting as the molten metal contracts during solidification and solid state shrinkage. Submitted paper consists of two parts. The first part introduces the reader to the phenomenon of hot tearing. The second part describes newly developed method for assessing hot tearing susceptibility of aluminium alloys, and also gives the results on hot tearing for various aluminium alloys.

Keywords: Hot tearing, Al alloys, Freezing range, Chemical composition

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