Institute of Materials Science, Joining and Forming
Kopernikusgasse 24/I, 8010 Graz

Announcement of a Master's Thesis, 23.07.2018
Liquid zinc embrittlement of stainless steels

Description

Liquid Metal Embrittlement (LME) is a phenomenon which can occur during welding of a zinc coated steels, in the automotive industry for example. Due to its low melting point (420°C), zinc present at the surface of the steel melts during the welding operation and penetrates at the grain boundaries, damaging the mechanical behaviour of the welds.

The objective of this work is to investigate the influence of different parameters (temperature, heating rate, strain rate…) on the sensitivity to liquid zinc embrittlement of different stainless steels in order to deepen the understanding of involved mechanisms. The sensitivity to LME will be investigated using Gleeble tests performed on zinc coated samples and microscopy investigations of tested samples. The work will be performed at the Institute of Materials Science, Joining and Forming, in cooperation with the company Aperam, France, http://www.aperam.com

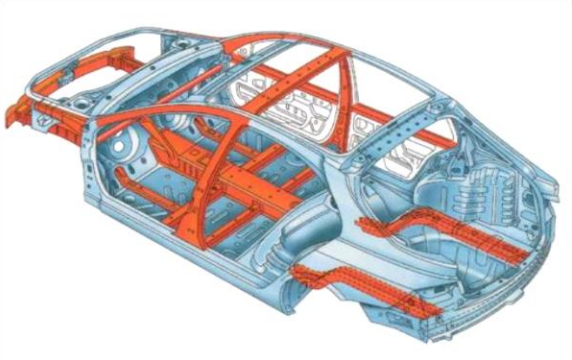

Figure 1: Body in white

Organisation

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Duration: as of now for min. 6 months
Location: Materials group, Kopernikusgasse 24, 8010 Graz
Reward: € 2.000 + € 500 performance bonus for an excellent success

Further informationen

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