21 October 2020
13.00 – 14.00 UTC
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SUMMARY OF THE LECTURE

In order to join the different parts of a car body to create the crash structure, components are usually welded using resistance spot welding to achieve a reliable connection. There are challenges to guarantee a high-quality weld when new material grades are introduced. During resistance spot welding of current Advanced High-Strength Steels (AHSS), interaction of a liquefied zinc coating and steel (caused by the heat during welding) can lead to small surface cracks. This is known as Liquid Metal Embrittlement (LME). WorldAutoSteel undertook a study in partnership with University of Paderborn LWF, Fraunhofer IPK and Institut de Soudure to better understand parameters related to LME. Join this steelTalks to learn about the results of physical experimentation and simulation to address LME and acquire the knowledge to prevent and judge possible residual LME.

SPEAKER INTRODUCTION

Dr.-Ing Max Biegler
Group Lead Joining and Coating Technology
Fraunhofer Institute for Production Systems and Design Technology IPK
Max Biegler finished his studies in mechanical engineering at Technical University of Munich in 2015. During his doctorate, he focused on numerical modelling of welding processes, including resistance spot welding and additive manufacturing. Currently, he is heading the department Joining and Coating Technology at Fraunhofer IPK in Berlin.

Christoph Boehne
Research Associate
Laboratory for Material and Joining Technology (LWF)
Christoph Boehne (M.Sc.) finished his studies in mechanical engineering at University of Paderborn in 2017. He is currently working as a research associate at the Laboratory for Material and Joining Technology (LWF) in Paderborn with a focus on resistance spot welding processes.