

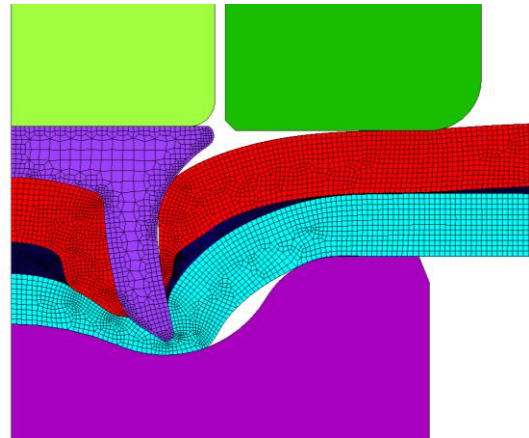
MASTER THESIS

Title/Topic:

Experimental investigation of hybrid joints and mechanical characterization of adhesives for automotive applications

Abstract:

Lightweight design is one of the most challenging tasks in nowadays car body design. To reduce the weight of the body in white various materials are used in different areas of the car body. Due to the different mechanical and physical properties of the materials conventional joining processes such as spot welding are often not applicable. For this reason, mechanical joining processes are applied increasingly. To improve the strength and the corrosion behavior of these joints the mechanical processes are often combined with adhesive bonding. In this thesis a routine for characterizing adhesives for numerical simulations should be developed and hybrid joints should be investigated experimentally.



Work packages:

- Detailed literature research on hybrid joining and adhesive bonding
- Development of an experimental testing procedure to determine the mechanical properties of adhesives
- Producing specimens for the validation of simulation models
- Evaluation and description of the obtained results
- Writing of the master thesis

Requirements:

Motivation and personal interest on the described topic
Highly self-initiated way of working
Basic knowledge in materials testing and numerical simulation

Duration: 6 months

Language: German or English

Work place: IMAT working group T&F, Inffeldgasse 11/I

Payment: By arrangement

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