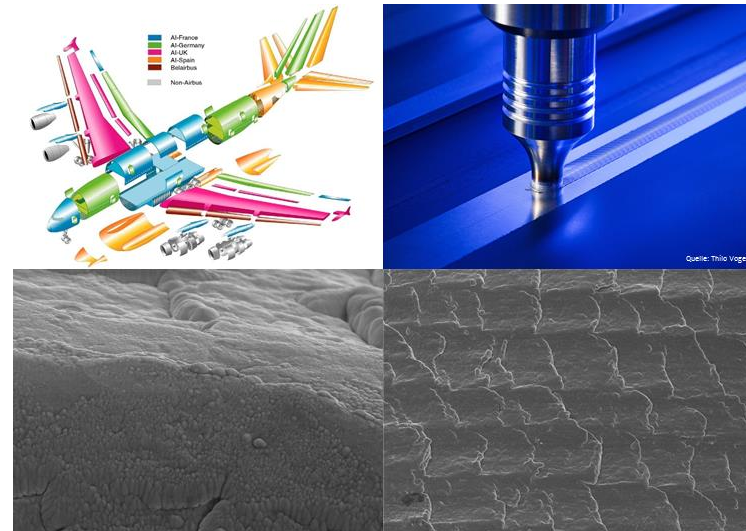


Thema: Qualification of surface coating systems for friction stir welding tools



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Type of Thesis:

Bachelorthesis	X	Experiments	X
Projectthesis	X	Development	
Masterthesis	X	Theoretical	X
		Literature research	X

Department:

Friction stir Welding (FSW), PVD/CVD

Start: now

Our profile:

For the last 60 years the Welding and Joining Institute (ISF) of the RWTH Aachen University has been doing research work in the field of modern welding and joining technologies. The work at the ISF comprises almost all industrially relevant, non-detachable joining methods.

Description:

Friction Stir Welding (FSW) is a new, cutting edge joining technology that doesn't melt but rather plasticizes the joining partners. The joining is done mechanically by stirring. It can therefore be used to join materials with limited fusion weldability and created mixed material joints.

In this Thesis the possible application of surface coating systems for friction stir welding tools shall be examined. PVD and CVD coated tools will be produced in cooperation with the Surface Engineering Institute (IOT). The coating systems will be classified and their suitability for friction stir welding will be determined through welding experiments. Moreover, optical (micro/macro grindings) and electro-optical (REM) investigations will be conducted.

We offer induction and support, as well as the opportunity to gain insight into a cutting edge joining method and work with us using one of the latest machines in Germany to conduct your experiments.

Your profil:

Student of mechanical engineering, materials engineering or related studies. Knowledge of welding technology is not a prerequisite. More important are an interest in solving technical problems and a self reliant and structured way of working.

If you are interested in working on a novel system or have any questions, don't hesitate to contact me.