

# Analysis of welded aluminum-aluminum, copper-copper and copper-aluminum assemblies using the explosive welding method

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***Abstract:** The main goal of my dissertation is the analysis of welded aluminum-aluminum, copper-copper and copper-aluminum assemblies using the explosive welding method (EXW).*

*This welding method is characterized for a wavy interface. However, in previous welded aluminum-copper assemblies was observed that this interface is not exactly wavy for these metal combinations. The reason for this fact is unknown. With my analysis and observations I wish to conclude if the interface aspect is due to the combination aluminum-copper, if the same aspect is verified if we switch to copper-aluminum, or if we only use copper or aluminum.*

*To make this possible I will weld the three combinations above, and compare the obtained interfaces with the previous interfaces obtained in previous dissertations and published data.*

*The explosive welding requires the use of explosive material. This fact causes some disadvantages, like the need of a proper place, knowledge about explosive material and specific formation on how to manipulate them. With this course I intend to fulfill a lack in my formation, in order to better understand how to operate with explosive material, the explosion per say and the results from it.*

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