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The influence of the cog geometriy on the resistance of cold-welded joints

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ABSTRACT

Cold welding on cogged surfaces can be realized by pressing a smooth aluminum component on the cogged surface of a more rigid component. Focus is to be laid on the deformation of the plastic component.

Welded joints have been made from a combination of aluminum and copper, brass, carbon steel, stainless steel with a deformation rate of over 20%, value which is much lower than that normally used for the classic cold welding. The stretch resistance is reduced up to 10% of the aluminum fracture strength, being directly influenced by the cog geometry.

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