

Applications of the welding on cogged surfaces

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ABSTRACT

The proposed procedure envisages the welding of an aluminum component by cold pressing on the cogged surface of a more rigid component. Special attention is paid to the deformation of the plastic component. Welded joints between aluminum and copper, brass, carbon steel, stainless steel has been obtained. The maximum mechanical resistance may be obtained with a deformation rate of minimum 20% for the welding of aluminum with copper and brass, and of 30% for the welding of aluminum with steels respectively. The values are much lower than those used for the classic cold welding. The stretch resistance of the joint is reduced up to 10% of the aluminum stretch resistance, the shearing resistance being better.

References

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