

## PROCEDURE OF WELDING BY COLD PRESSURE ON COGGED SURFACES

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### ABSTRACT

*Cold welding on cogged surfaces is achieved by pressing an easy deformable metal (example aluminium) on a cogged surface of a harder component. The process requires accurate cleaning of contact area, where the cold welding is expected to occur. The joint was obtained only by plastic deformation of the Aluminium component on the harder one, made from Copper, Carbon or Stainless Steel, etc. The deformation of Aluminium is about 20-30 %. The welding on cogged surfaces of materials with different plasticity makes possible the production of bimetallic or multilayer elements. The weld tensile strength is up to 10% of aluminium ultimate tensile strength, better results being obtained for the shearing strength. A thermal treatment can be used to over double the joint resistance, by activating the materials diffusion on the contact surface. The weld contact electric resistance is negligible, recommending the process for producing dissimilar elements used in electrotechnics.*

**KEYWORDS:** cold welding, pressure welding, aluminum joints

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