

## **Tensile Properties Characterization of an Stainless Steel Tube for LBB Evaluation**

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316 stainless steel has been widely employed in the chemical, petrochemical, pharmaceutical and nuclear mainly due to their good corrosion resistance properties on various ambients and good weldability. However, to be welded or when working at high temperatures, 316 as well as various austenitic steels, undergoes a chromium carbide precipitation process called sensitization. To prevent sensitization, a widely used solution is the reduction of the carbon content in the material to levels lower than 0.04 % in mass. In this case the 316 material is designated 316L, where L represents low-carbon. However, the reduction in carbon content also reduces the mechanical strength of the material, and in face of this, the strategy is to add nitrogen in amounts above 0.10 % in mass, which increases the strength of the material by solid solution without precipitating chromium. In this case, the material gains the N denomination and 316L is called 316LN. This study evaluates the tensile properties of 316LN steel, and the influence of the welding procedure, using coated electrode 316L in these properties, focusing on its use in a methodology of leak-before-break (LBB).