



Serrated Austenitic Screws

6/25/2009 by Tony Tipton, Former Chief Metallurgist

Case history from Metallurgical Department of NHML

Customer problem: Austenitic screws were losing preload and loosening during low temperature environmental testing.

What NHML did to solve problem: Testing at NHML indicated that the serrated design on the underside of the screw heads resulted in far less axial pre-load than predicated by common mechanical equations based on tightening torque and torque tables. Recommended that customer perform testing to determine the tightening torque versus axial preload relationship for his specific screw design.

Benefit to customer: Determination of the correct tightening torque to sufficiently pre-load the bolts so they stay tight during operation.