

# FastLUBE Project Management

**LESSON LEARNED**  
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**TITLE/SUBJECT:** Stainless Steel Bolting Technique

**LESSON LEARNED:** Use of specialized bolt lubricant can substantially reduce galling and lower required torque values for stainless steel bolting applications.

**APPLICATION:** Specialized bolt lubricants can be applied anywhere galling is a problem. This includes bolting and threaded piping applications.

**PROJECT EXPERIENCE:** The Port Arthur Ethylene Expansion utilized a specialized bolt lubricant to allow sufficient tension to be applied to structural connections in cryogenic service.

**DETAILS:** Utilizing a Skidmore bolt tension calibrating tool, it was identified that the stainless steel bolts were yielding due to torsional stress before the appropriate tensile stress could be developed. The 3/4" diameter bolts, fabricated with 100ksi material and designed to be loaded to 28 kips (33 kips yield), were failing when loaded with only 26 kips (79% of yield). The project experimented with most of the standard lubricants (i.e. wax, anti-seize) without success. We contacted our steel fabricator, who in turn had us contact Fastorq. Fastorq was able to provide us with a specialized bolt lubricant which eliminated the friction problem.

**COST & BENEFITS:** Specialized lubricants, when specified, will reduce rework associated with over-torqued bolting applications.

**IMPLEMENTATION:** Specialized bolt lubricants should be specified on the design documents. This will eliminate the need to rely on the constructor to identify the need.

**CATEGORY:** Constructibility

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