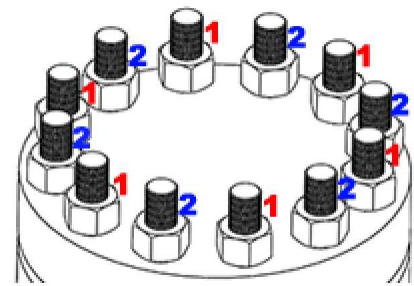


Client	Technip
Project	Captain C
Project Reference	13586754
Date and Engineer	24/11/2010 PRE
Bolt Tensioning Datasheet	
Flange Specification Ident	5 x 150 ANSI ANSI B16.5 & MSS-SP44 NEW APPLICATION



Joint Information	Proposed Tensioning Tool
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Nom Thread Size	3/4"-10UN	Flange Configuration		
TPI	10	F1	30.20	WN-RTJ
Num Bolts	8	Gap	10	
Bolt to Tensioning Ratio	50%	F2	30.20	WN-RTJ
Load Transfer Factor LTF	1.2806	Ws		
Clamp Length	2.772	In	70.40	mm



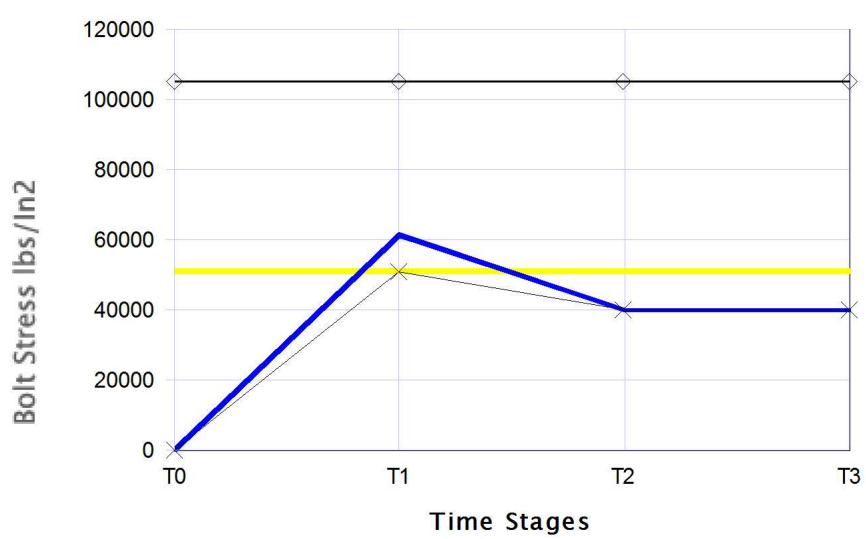
Tensioning Tool Information				
Proposed Tensioning Tool	C10-00	RN	STD SPLIT NUT	
Tool Pressure Area	1.841	In ²	1187.50	mm ²

Bolt Information				
Bolt Material	ASTM A193 - B7			
Bolt Yield Strength	105152	lb/in ²	725	N/mm ²
Tensile Stress Area	0.338	In ²	218.17	mm ²
Bolt Length	8.96	In	227.6	mm
Torque Information				
Torque	142	ft.lb	192	N.m
Coefficient of Friction	0.12			

Tensioner Pass	Bolt #	Applied Pressure	
		psi	bar
Pass 1	1	11293	779
Pass 2	2	9411	649
Pass 3			
Pass 4			
Checking Pass			
Pass 1	1	9411	649
Pass 1	1	9411	649

	Bolt Stress		Bolt Load		% of Bolt Yield
	lbs/in ²	N/mm ²	Tons	kN	%
Based on Tensile Stress Area					
T1 @ A Pressure	61469	423.81	9.28	92.46	58.5
T1 @ B Pressure	51224	353.18	7.73	77.05	48.7
T2 Residual	40000	275.79	6.04	60.17	38.0
Stress @ Detensioning	51224	353.18	7.73	77.05	48.7
Tensioning Pressures					
	1st Pass		2nd Pass		% of Bolt Yield
	psi	Bar	psi	Bar	%
100% Tensioning Pressures	9411	649	-	-	48.7
50% Tensioning Pressures	11293	779	9411	649	58.5
Max Detensioning Pressures	9411	649	-	-	48.7

Predicted Bolt



Application Comments

Max Detensioning Pressure refers to the maximum capacity of the tensioning tool and should not be considered to be the safe max load capacity of the flange
 100% Tensioning is the recommended mode of bolt tensioning, wherever possible use 100% Bolt to tool ratio
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