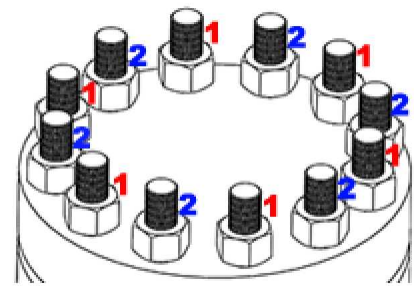


Client	Technip
Project	Captain C
Project Reference	13586754
Date and Engineer	24/11/2010 PRE
<b>Bolt Tensioning Datasheet</b>	
Flange Specification Ident	5 x 150 ANSI ANSI B16.5 & MSS-SP44 NEW APPLICATION



<b>Joint Information</b>	<b>Proposed Tensioning Tool</b>
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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



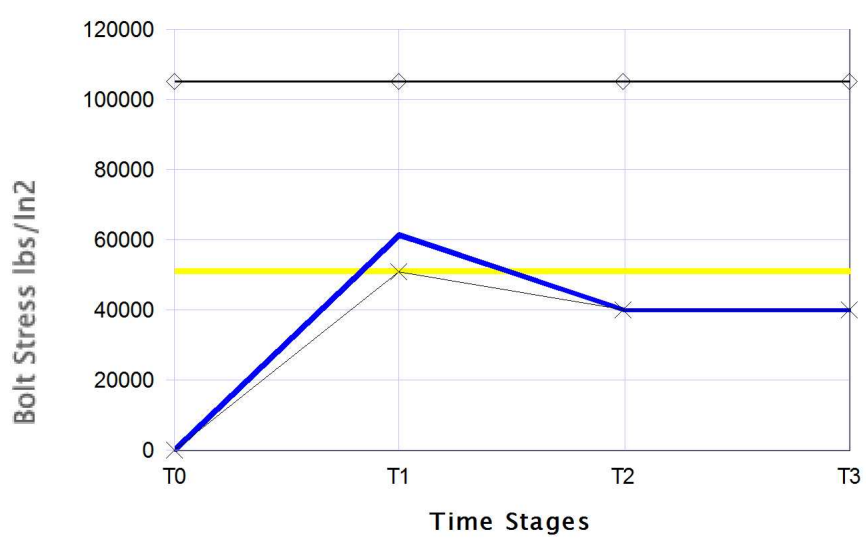
<b>Tensioning Tool Information</b>				
Proposed Tensioning Tool	C10-00	RN	STD SPLIT NUT	
Tool Pressure Area	1.841	In <sup>2</sup>	1187.50	mm <sup>2</sup>

<b>Bolt Information</b>				
Bolt Material	ASTM A193 - B7			
Bolt Yield Strength	105152	lb/in <sup>2</sup>	725	N/mm <sup>2</sup>
Tensile Stress Area	0.338	In <sup>2</sup>	218.17	mm <sup>2</sup>
Bolt Length	8.96	In	227.6	mm
<b>Torque Information</b>				
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			
<b>Checking Pass</b>			
Pass 1	1	9411	649
Pass 1	1	9411	649

	Bolt Stress		Bolt Load		% of Bolt Yield
	lbs/in <sup>2</sup>	N/mm <sup>2</sup>	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
<b>Tensioning Pressures</b>					
	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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