

PETRACARBON PTE LTD

1001 REDHILL INDUSTRIAL ESTATE #04-01 / 06 JALAN
 BUKIT MERAH, SINGAPORE 159455.
 FAX: (65) 6273-3121 / 6273-9670
 TEL: (65) 6271-0800

FLANGE MATL: ASTM A105
 FLANGE SIZE: _____
 JOINT REF: _____

BOLT MATL: _____
 BOLT SIZE: _____
 NO. OF BOLT: _____
 NUT SIZE (A/F): _____

ASME VIII BOLT LOADS AND SYSTEM PRESSURES TO ASME VIII 1996 DIVISION 1

METHOD OF STATEMENT (BOLT TORQUING) AND CHECK SHEET

GASKET TYPE: _____ TORQUE WRENCH MODEL: _____
 TOOL COVERAGE : Single Hand Tool Torque Wrench SOCKET SIZE: _____

The following procedure shall be carried out with reference to the appropriate "BOLT TORQUING DATA SHEET".

	Required Torque Value: _____ lbf.ft Bolt Stress at: _____ psi	Check "√"
STEP 1	Check that all the stud bolts on the flange are loosen.	<input type="checkbox"/>
STEP 2	Check that the gasket is in position & stud bolts have applied with lubricant.	<input type="checkbox"/>
STEP 3	Check the flange gap around the flange is constant. (Should the flange gap be uneven around the flange, the tightening of bolts will start with the widest flange gap).	<input type="checkbox"/>
STEP 4	Check the piping severely mis-aligned. (If yes, report the matter for necessary action. Otherwise, proceed to STEP 5)	<input type="checkbox"/>
STEP 5	Number all bolts consecutively, 1, 2, 3, 4, etc... in a "Criss Cross" clockwise direction of torquing sequence.	<input type="checkbox"/>
STEP 6	Set the Torque Wrench to 30% of the required torque. Torque value _____ lbf.ft	<input type="checkbox"/> <input type="checkbox"/>
STEP 7	Using the Criss Cross method, work diagonally on the bolts around the flange.	<input type="checkbox"/>
STEP 8	Set the Torque Wrench to 70% of the required torque. Repeat STEP 7. Torque value _____ lbf.ft	<input type="checkbox"/> <input type="checkbox"/>
STEP 9	Set the Torque Wrench to 100% of the required torque. Repeat STEP 7. Torque value _____ lbf.ft	<input type="checkbox"/> <input type="checkbox"/>
STEP 10	Do a final exercise by torquing each of the bolt consecutively one round in clockwise direction as per STEP 9 torque value.	<input type="checkbox"/>
	<u>At this stage the tensioning operation is said to be completed.</u> (The torque value can be increased by another 10-15% should the compression thickness is insufficient)	
SAFETY CHECK	* <i>All necessary safety precautions have been carried out.</i>	<input type="checkbox"/>
	* <i>Personnel involved in bolt torquing are competent and fully trained in the use of bolt torquing and tightening techniques.</i>	<input type="checkbox"/>
	* <i>Request information on hazardous chemicals, noise level, check of scalding, lightings & location of compressed air supply, purging of gases, ventilation as required or specified by plant regulation.</i>	<input type="checkbox"/>
REMARKS	_____ _____ _____	

Client: _____	Work performed by: _____
Contract No.: _____	Work checked by: _____
Attention to: _____	Date: _____

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METHOD OF STATEMENT (BOLT TORQUING) AND CHECK SHEET

GASKET TYPE: _____ TORQUE WRENCH MODEL: _____
 TOOL COVERAGE : Single Torque Wrench SOCKET SIZE: _____

The following procedure shall be carried out with reference to the appropriate "BOLT TORQUING DATA SHEET".

	Required Torque Value: _____ lbf.ft Bolt Stress at: _____ psi	Check "√"
STEP 1	Check that all the stud bolts on the flange are loosen.	<input type="checkbox"/>
STEP 2	Check that the gasket is in position & stud bolts have applied with lubricant.	<input type="checkbox"/>
STEP 3	Check the flange gap around the flange is constant. (Should the flange gap be uneven around the flange, the tightening of bolts will start with the widest flange gap).	<input type="checkbox"/>
STEP 4	Check the piping severely mis-aligned. (If yes, report the matter for necessary action. Otherwise, proceed to STEP 5)	<input type="checkbox"/>
STEP 5	Number all bolts consecutively, 1, 2, 3, 4, etc... in a "Criss Cross" clockwise direction of torquing sequence.	<input type="checkbox"/>
STEP 6	Set the Torque Wrench to 30% of the required torque. Gauge Pressure _____ psi Torque value _____ lbf.ft	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
STEP 7	Using the Criss Cross method, work diagonally on the bolts around the flange.	<input type="checkbox"/>
STEP 8	Set the Torque Wrench to 70% of the required torque. Repeat STEP 7. Gauge Pressure _____ psi Torque value _____ lbf.ft	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
STEP 9	Set the Torque Wrench to 100% of the required torque. Repeat STEP 7. Gauge Pressure _____ psi Torque value _____ lbf.ft	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
STEP 10	Do a final exercise by torquing each of the bolt consecutively one round in clockwise direction as per STEP 9 pressure.	<input type="checkbox"/>
	<u>At this stage the tensioning operation is said to be completed.</u> (The torque value can be increased by another 10-15% should the compression thickness is insufficient)	
SAFETY CHECK	<i>* All necessary safety precautions have been carried out.</i>	<input type="checkbox"/>
	<i>* Personnel involved in bolt torquing are competent and fully trained in the use of bolt torquing and tightening techniques.</i>	<input type="checkbox"/>
	<i>* Request information on hazardous chemicals, noise level, check of scalding, lightings & location of compressed air supply, purging of gases, ventilation as required or specified by plant regulation.</i>	<input type="checkbox"/>
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