TORQUE TABLES FOR FLANGE-CONNECTIONS AND TIGHTENING PROCEDURE CONFORMING TO ASME PCC-1

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TORQUE TABLES for the installation of flat gaskets with standard ASME flanges

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TEADIT® Material: **TF; ePTFE; NA; GR; SWG**

Class 150

Nominal diameter		Recommended torque	
Flange	Bolt	(Nm)	(Lb.ft)
1/2"	1/2"	35	25
3/4"	1/2"	40	30
1"	1/2"	50	40
1 1/4"	1/2"	80	60
1 1/2"	1/2"	80	60
2"	5/8"	160	120
2 1/2"	5/8"	160	120
3"	5/8"	160	120
3 1/2"	5/8"	160	120
4"	5/8"	160	120
5"	3/4"	270	200
6"	3/4"	270	200
8"	3/4"	270	200
10"	7/8"	430	320
12"	7/8"	430	320
14"	1"	680	500
16"	1"	680	500
18"	1 1/8"	960	710
20"	1 1/8"	960	710
24"	1 1/4"	1360	1000

Class 300

Nominal diameter		Recommended torque	
Flange	Bolt	(Nm)	(Lb.ft)
1/2"	1/2"	35	25
3/4"	5/8"	50	40
1"	5/8"	70	50
1 1/4"	5/8"	110	80
1 1/2"	3/4"	160	120
2"	5/8"	110	80
2 1/2"	3/4"	190	140
3"	3/4"	240	180
3 1/2"	3/4"	270	200
4"	3/4"	270	200
5"	3/4"	270	200
6"	3/4"	270	200
8"	7/8"	430	320
10"	1"	690	500
12"	1 1/8"	960	710
14"	1 1/8"	840	620
16"	1 1/4"	1190	880
18"	1 1/4"	1360	1000
20"	1 1/4"	1360	1000
24"	1 1/2"	1900	1400

TEADIT® Material: **SWG (type 913 and 913M)**

Class 400

Nominal diameter		Recommended torque	
Flange	Bolt	(Nm)	(Lb.ft)
1/2"	1/2"	USE CLASS 600 FLANGES	
3/4"	5/8"		
1"	5/8"		
1 1/4"	5/8"		
1 1/2"	3/4"		
2"	5/8"		
2 1/2"	3/4"		
3"	3/4"		
4"	7/8"	430	320
5"	7/8"	430	320
6"	7/8"	430	320
8"	1"	680	500
10"	1 1/8"	840	620
12"	1 1/4"	1190	885
14"	1 1/4"	1190	885
16"	1 3/8"	1630	1200
18"	1 3/8"	1630	1200
20"	1 1/2"	1900	1400
24"	1 3/4"	3530	2600

Class 600

Nominal diameter		Recommended torque	
Flange	Bolt	(Nm)	(Lb.ft)
1/2"	1/2"	40	30
3/4"	5/8"	80	60
1"	5/8"	120	90
1 1/4"	5/8"	120	90
1 1/2"	3/4"	220	160
2"	5/8"	120	90
2 1/2"	3/4"	160	120
3"	3/4"	240	180
4"	7/8"	410	300
5"	1"	610	450
6"	1"	610	450
8"	1 1/8"	840	620
10"	1 1/4"	1190	880
12"	1 1/4"	1190	880
14"	1 3/8"	1610	1190
16"	1 1/2"	1900	1400
18"	1 5/8"	2580	1900
20"	1 5/8"	2580	1900
24"	1 7/8"	4750	3500

All tables in this brochure are only applicable under the following conditions:

1. The application of the recommended torque is only valid for the listed Teadit products.
2. Flanges according to ASME B16.5 norm.
3. New bolts, material ASTM A193-B7, A193-B16, A320-L7 & ISO 898-1 class 8.8 lubricated with Molibden based grease. The friction factor of 0.15 was used to calculate. If a lubricant is used with a friction factor different from that stated, the torque must be corrected.
4. Gasket dimensions: Non-metallic gaskets (NA, TF, ePTFE, GR) according ASME B16.21 and metallic gaskets (SWG) according ASME B16.20.
5. Torque has to be applied in steps according to ASME PCC-1 procedure, never in one single step.

ASME PCC-1 Procedure*

Install: Hand tighten, (not to exceed 20% of Target Torque). Check flange gap around circumference for uniformity.

Round 1: Tighten to 20% to 30% of Target Torque usind cross pattern. Check flange gap around circumference for uniformity.

Round 2: Tighten to 50% to 70% of Target Torque usind cross pattern.

Round 3: Tighten to 100% of Target Torque usind cross pattern.

Round 4: Continue tightening the bolts, but on a circular clockwise pattern until no further nut rotation occurs at the Target Torque value.

Round 5: Time permitting, wait a minimum of 4 h and repeat Round 4.

**see ASME PCC-1 for further details*

Since all properties, specifications and application parameters shown throughout this document are approximate and may be mutually influenced, your specific application should not be undertaken without independent study and evaluation for suitability. All technical data and advice given is based on experiences TEADIT® has made so far. Failure to select proper sealing products can result in damage and/or personal injury. Properties, specifications and application parameters are subject to change without notice. TEADIT® does not undertake any liability of any kind whatsoever.

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