

IPP recommends the following procedures to ensure a reliable and tight IPP Deltaflex® flange joint

Alignment

1. The sealing faces of the two stub-ends in a joint should contact each other, or in the case of rubber gasketed joint, they should be parallel to each other all around the circumference and in full contact (see lines A–A, B–B, C–C in Fig. 1 and 2).
2. The IPP Deltaflex® flange face D–D (see Fig. 3) should be in full contact with the upper face of the stub-end all around the circumference to avoid fulcrum effect, which will lead to leaking and even breaking of the flange itself while torquing the bolts

Bolt Tightening

1. Install all the bolts and nuts finger-tight, ensuring at all times that the alignment conforms to figures 1, 2, and 3.
2. As the first torquing step, tighten the bolts in a crisscross sequence as shown in Fig. 4. Using a torque wrench with 20% of the final torque listed in the table on the other side of this sheet, taking care that points (I) and (II) are satisfied at all times.
3. In the four remaining steps, repeat step two four times, each time increasing the torque by 20% of the final value.

4. After reaching the final torque, use rotational tightening until all bolts are stable at the final torque value (in general, two complete times around is required).

Always use the crisscross pattern!

Caution! Do not use this procedure to align and/or pull the joint together.

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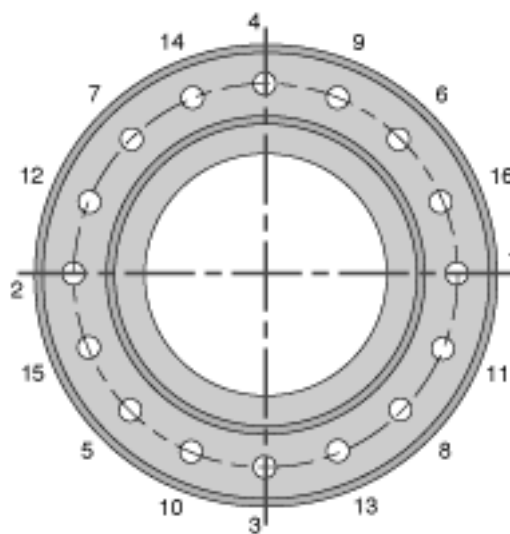


Fig.4 Tightening Sequence

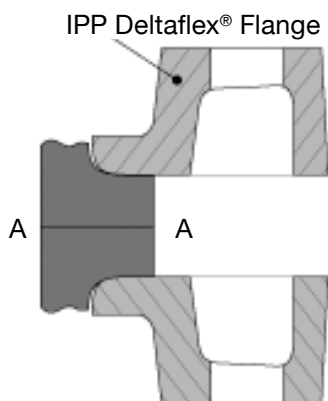


Fig.1 HDPE Stub-end

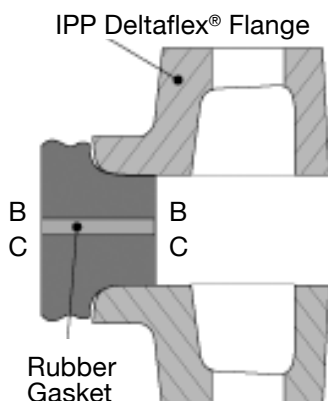


Fig.2 Steel Stub-end

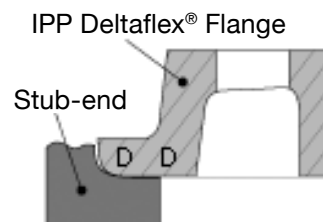


Fig.3

Metric Nominal Pipe Size (mm)	Number of Bolts	Initial Minimum Lubed Torque (N/M)	Initial Maximum Lubed Torque (N/M)
50/63	4	30	43
75/90	4	41	61
110	8	41	61
125	8	60	89
160/180	8	60	89
200/225	8	79	119
250	12	79	119
315	12	102	155
355	12	190	285
400	16	190	285
450	16	190	285
500	20	190	285
560	20	217	325
630	20	244	366
710	24	244	366
800	24	325	488
900	32	353	529
1000	36	420	630
1200	44	420	630
1600	44	495	746

For additional details, download the Plastic Pipe Institute's (PPI) TN-38, bolt torque for polyethylene flanged joints bulletin (PDF).

http://ipp-inc.com/Libraries/Product_Catalogs/tn-38_bolt_torque_flanged_joints.sflb.ashx