



# DURLON® - Gasketing: Bolt Tightening Worksheet

SEALING SOLUTIONS

Location/Identification: \_\_\_\_\_

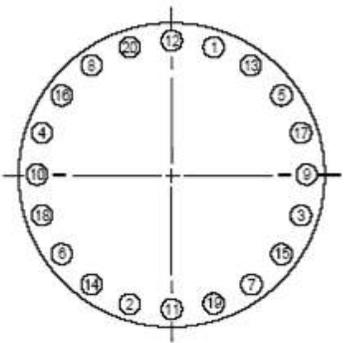
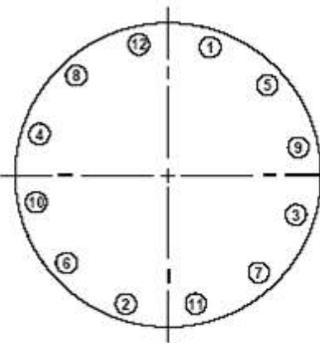
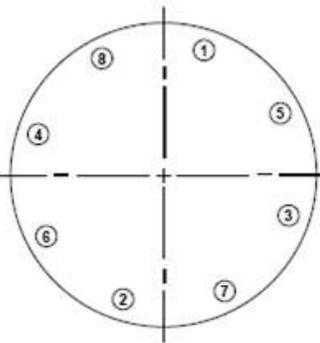
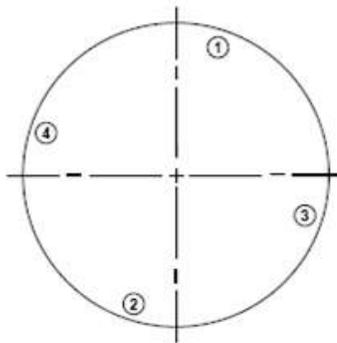
Nominal Bolt Size: \_\_\_\_\_

Gasket Contact Surface Finish on Flange: \_\_\_\_\_

Lubricant Used: \_\_\_\_\_

*(Instructions: Initial each step when completed in space provided below)*

- \_\_\_ 1. Visually examine and clean flanges, bolts, nuts, and washers. Replace defective components if necessary.
- \_\_\_ 2. Lubricate bolts, nuts, and flange surface around bolt holes and use hardened steel washers.
- \_\_\_ 3. Install new gasket. Do not reuse old gasket or use multiple gaskets.
- \_\_\_ 4. Number bolts in cross-pattern sequence according to the sketch below.
- \_\_\_ 5. Important! Hand tighten then pre-tighten bolts to 10/20 ft-lbs torque but do not exceed 20% of target torque.
- \_\_\_ 6. Check gap uniformity.
- \_\_\_ 7. Use the appropriate cross-pattern tightening sequence in the sketch below for Rounds 1, 2, 3, and Round 4 (each sequence constitutes a Round).
- \_\_\_ 8. Target Torque: \_\_\_\_\_ ft-lbs



\_\_\_ 4-bolt & 8-bolt flanges:

- Round 1: Tighten to \_\_\_\_\_ ft-lbs (30% target)
- Round 2: Tighten to \_\_\_\_\_ ft-lbs (60% target)
- Round 3: Tighten to \_\_\_\_\_ ft-lbs (100% target)

\_\_\_ 12-bolt flanges & above:

- Round 1: Tighten to \_\_\_\_\_ ft-lbs (20% target)
- Round 2: Tighten to \_\_\_\_\_ ft-lbs (40% target)
- Round 3: Tighten to \_\_\_\_\_ ft-lbs (80% target)
- Round 4: Tighten to \_\_\_\_\_ ft-lbs (100% target)

*Check gap around the circumference between each of these rounds, measured at every other bolt. If the gap is not reasonably uniform around the circumference, make the appropriate adjustments by selective bolt tightening before proceeding.*

- \_\_\_ 9. Rotational Round: 100% of the Target Torque. Use rotational, clockwise tightening sequence starting with Bolt #1 for one complete round and continue until no further nut rotation occurs at 100% of the Target Torque value for any nut.
- \_\_\_ 10. Final Round: Retorque after 24 hours. Repeat Round 4 above followed by a Rotational Round. A large percentage of short-term preload loss occurs within 24 hours after initial tightening. This Round covers this loss. This is especially important for PTFE gaskets.

Tightening Method Used:

- \_\_\_ Hand Wrench                      \_\_\_ Manual Torque Wrench                      \_\_\_ Hydraulic Torque Wrench
- \_\_\_ Impact Wrench                      \_\_\_ Other

Contact Triangle Fluid Controls for tightening pattern for large diameter flanges.

Worksheet Information By: \_\_\_\_\_

Date: \_\_\_\_\_

Joint Assembled By: \_\_\_\_\_

Date: \_\_\_\_\_