GASKET RESOURCES INC.

‡DURLON® 9000 STEP RING GASKETS ‡

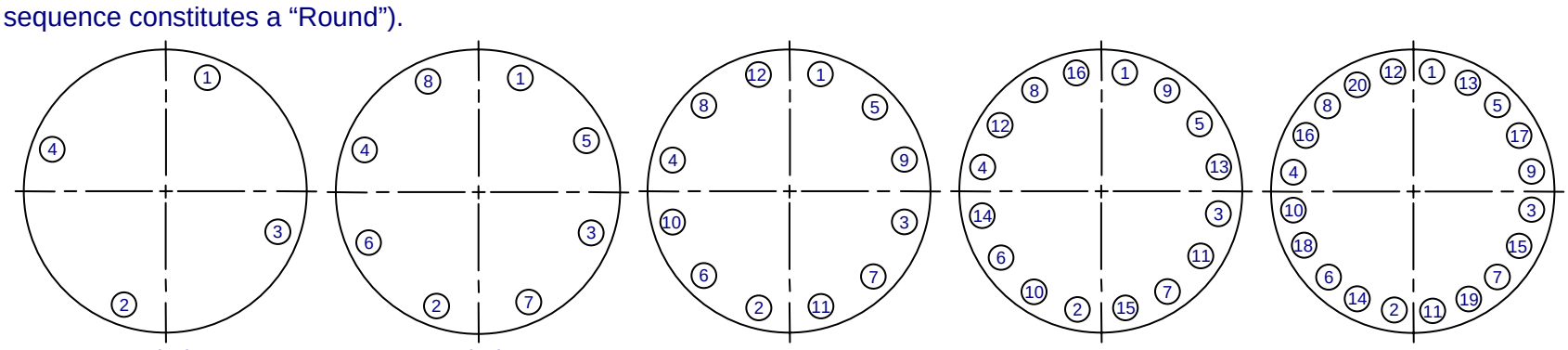
APPLICATIONS:

- CLASS 150 RF FLOATING (LAP JOINT) FLANGES
- MONDI™ DUCTILE IRON SULFURIC ACID PIPING

- GASKET IS CENTERED BY THE BOLTS
- LOAD IS CONCENTRATED OVER THE SMALLER INNER SEALING AREA
- PREVENTS FLUID MIGRATION FROM INSIDE THE PIPE
- ONE PIECE - NO GLUED JOINT OR GASKET TO GASKET SEAL

Gasket Installation Procedure:

1. Visually examine and clean flanges, bolts, nuts and washers. Replace components if necessary.
2. LUBRICATE BOLTS, NUTS, AND FLANGE SURFACE AROUND BOLT HOLES. If possible use hardened steel washers.
3. Install new gasket. DO NOT REUSE OLD GASKET, MULTIPLE GASKETS, OR LUBRICATION ON THE GASKET.
4. Number bolts in cross-pattern sequence according to the appropriate sketch below.
5. IMPORTANT! HAND TIGHTEN; then PRE-TIGHTEN BOLTS to stabilize the flanges, but DO NOT EXCEED 20% of Target Torque
6. CHECK GAP BETWEEN FLANGES for uniformity.
7. Use the APPROPRIATE CROSS-PATTERN TIGHTENING SEQUENCE in the sketch below for ROUNDS 1, 2, and 3 and/or ROUND 4 (each sequence constitutes a “Round”).



Final Torque: _____ ft-lbs (see chart below)

- BOLTS / NUTS: LUBRICATE, HAND TIGHTEN,
- PRETIGHTEN: to 10-20 ft-lbs (but not greater than 20% of bolt yield)
- Round 1 - Tighten to _____ ft-lbs - 1st torque value in chart below (25% of final torque)
- Round 2 - Tighten to _____ ft-lbs - 2nd torque value in chart below (50% of final torque)
- Round 3 - Tighten to _____ ft-lbs - Final torque value in chart below (100% of final torque)

  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.
- Round 4 - ROTATIONAL ROUND: Tighten at the Final Torque (same as Round 3 above) using a ROTATIONAL, clockwise tightening sequence, starting with the No. 1 Bolt. Continue tightening around until no further nut rotation occurs at 100% of the Final Torque value for any nut.
- NOTE – If possible, after 4 hours rotational retightening at ambient temperature and pressure can compensate for bolt or gasket relaxation.

Torque Values - 1/8” DURLON® 9000 Step Gaskets for Class 150 Floating Flanges

Nominal Pipe Size	Durlon 9000 Step Gaskets - Torque / Round (ft-lbs)							
	F593 316SS, dry			SAE Gr. 5, lubricated			Tighten Seq Dwg *	
	1st	2nd	Final	1st	2nd	Final	Bolt No.	Bolt Dia.
3"	20	40	75	25	50	100	4-bolt	5/8"
4"	15	30	70	15	30	70	8-bolt	5/8"
6"	30	60	120	30	60	120	8-bolt	3/4"
8"	25	50	110	40	80	160	8-bolt	3/4"
10"	35	70	150	40	80	160	12-bolt	7/8"
12"	45	90	180	45	90	180	12-bolt	7/8"
14"	65	130	260	90	180	370	12-bolt	1"
16"	69	139	210	75	150	310	16-bolt	1"
18"	65	130	260	100	200	400	16-bolt	1-1/8"
20"	85	170	350	85	170	350	20-bolt	1-1/8"
24"	115	230	460	115	230	460	20-bolt	1-1/4"

Note: It is assumed that new studs or bolts and nuts are used and studs, nuts and the flange facings on the nuts are lubricated with a never-seize type paste using the installation and bolt tightening practices outlined above.

* Refer to the appropriate bolt tightening sequence drawing for the number of bolts listed.

** A raised step is not required on sizes under 3" ID and standard ANSI ring gaskets should be used.

These torque values are considered reliable but care should be taken on ductile iron to not crack or damage the flanges.

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