

Procedure for Gland packing installation

1. Scope:

This procedure covers steps for installation of the gland packing arrangement in the event of packing leakage in 42" Class 300 Bolted Bonnet Gate Valve.

2. Packing arrangement:

Packing arrangement consists of Braided end rings reinforced with Inconel wire at top and bottom and three die-molded rings as shown in Fig.1. This arrangement is followed for valve assembly and spare supply.

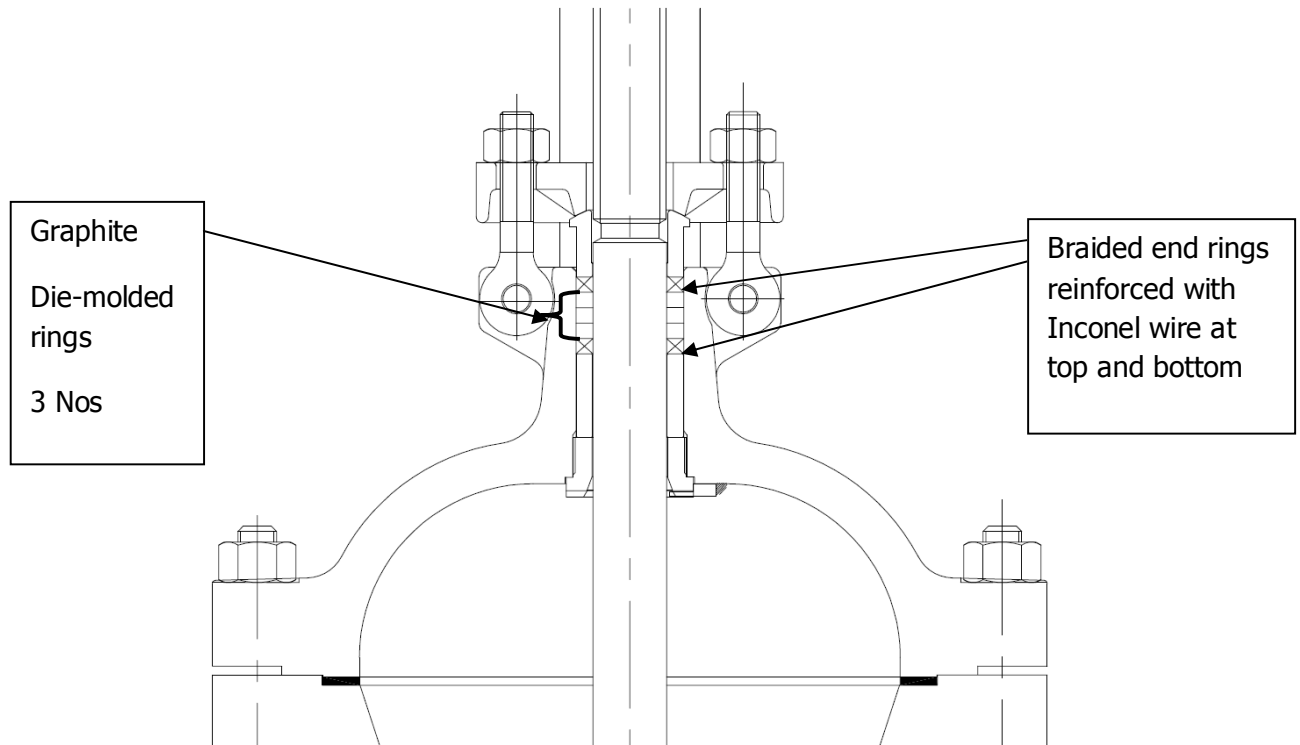


Fig.1

3. Steps for packing installation:

1. Ensure that the valve is in depressurized condition. The pipe line must be shut off so that there is no pressure inside the valve before the gland eye bolts are loosened. In addition keep the valve in fully open condition in back seat position.
2. Remove the worn out packings from stuffing box

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3. Assemble one braided ring followed by three (OR) four die-molded ring and end ring as shown in Fig.1 depending upon the space availability in the stuffing box.

** Braided end rings rings are already cut so that they can be inserted around the stem. In case of solid molded packing like graphite rings, use a sharp knife and cut the ring at 30deg angle. Then slightly twist the ring and insert it around the stem. Don't not open up the ring as it could break.*

4. Tighten the Gland nuts evenly starting with a Torque of 400 N-m.
5. Pressurize the line with the valve in half-open position
6. Check for leakage from the Stem and Stuffing box; if leakage still persists, increase the Gland nut torque in increments of 50 N-m after depressurizing the Valve. The Gland nut torque can be increased up to 600 N-m.
7. If leakage still persists, increase the Gland nut torque to the maximum value as per the guideline given in table 1

Table 1: Guideline for Gland nut torque tightening*

Valve size/Class/type	Gland nut Torque (N-m)	
	Minimum	Maximum
42" Class 300 Bolted Bonnet Gate Valve	462	650

** Note – The indicated torque values could vary depending on factors such as lubrication in the gland nut threads, surface roughness of stem and stuffing box and other site conditions. .*