



Submittal Information for Spears® Manufacturing Company Flange Hardware Kits

GSHK-0422

Date: _____

Job Name: _____ Location: _____

Engineer: _____ Contractor: _____

Scope:

This submittal covers Spears® Industrial Grade Flange Hardware Bolt, Nut & Washer Kits (HK Series) intended for use with Spears® Flanges and Full-Face Gaskets.

Product Specification:

Bolts

All bolts shall be provided in zinc-plated grade 5 carbon steel, 304 Stainless Steel or 316 Stainless Steel as specified. Bolt kits shall be sized to accommodate (2) flange thicknesses, (2) washers and (1) 1/8" full face gasket thickness on appropriate flange diameter. See table. Zinc-plated grade 5 carbon steel shall be manufactured in accordance with ASME B18.2.1. 304 & 316 Stainless Steel nuts shall be manufactured in accordance with ASME B18.6.3. All bolts threads shall be supplied lubricated with a chemically compatible anti-seize thread lubricant with a K factor (nut factor) of 0.15.

Nuts

All nuts shall be provided in zinc-plated grade 5 carbon steel, 304 Stainless Steel or 316 Stainless Steel as specified. Zinc-plated grade 5 carbon steel nuts shall be manufactured in accordance with ASME B18.2.2. 304 & 316 Stainless Steel nuts shall be manufactured in accordance with ASTM F594. Orient nut so flat side contacts flange surface.

Washers

All washers shall be provided in zinc-plated grade 5 carbon steel, 304 Stainless Steel or 316 Stainless Steel as specified. Zinc-plated grade 5 carbon steel shall be manufactured in accordance with ASME B18.21.1. 304 & 316 Stainless Steel nuts shall be manufactured in accordance with ASME B18.6.3. Two (2) plate-type washers per bolt shall be provided in hardware kit.

Product Marking:

All bolts, nuts and washers shall display proper product marking in accordance with their respective standards.

Flange Installation:

Follow proper solvent cementing and/or threaded component procedures as applicable to join the flange to the pipe. Once a flange is joined to pipe, the method for joining two flanges is as follows:

1. Piping runs joined to the flanges must be installed in a straight-line position to the flange to avoid stress at the flange due to misalignment. Piping must also be secured and supported to prevent lateral movement which can create stress and damage the flange.
2. With full face gasket in place, align the bolt holes of the mating flanges by rotating the ring into position with a Van Stone style flange or by rotating the pipe assembly with a one-piece flange installed.
3. Insert all bolts, washers (two standard flat washers per bolt), and nuts.
4. Make sure the faces of the mating surfaces are flush against gasket prior to bolting down the flanges.
5. Tighten all nuts by hand until they are snug. Using a calibrated torque

wrench (+/-1 ft.-lb.), establish uniform pressure over the flange face by tightening the bolts in 5 ft.-lb. increments according to the torque values shown in the following table using a 180° opposing sequence. Make sure that there are at least two (2) exposed threads beyond the nut upon final tightening.

NOTE: Thermoplastic materials relax over time. Re-torquing may be necessary 24 hours after initial tightening.

Referenced Standards:

- ASME B18.2.1 Grade 5 Bolt Standard
- ASME B18.2.2 Grade 5 Nut Standard
- ASME 18.21.1 Grade 5 Washer Standard
- ASME 18.6.3 304/316 SS Bolt & Washer Standard
- ASTM F594 SS Nut Standard

Bolt Dimensional Table

| Flange Size | Bolts Per Kit | Diameter (in.-TPI) | Length (in.) | Torque (ft.-lb.) |
|---------------|---------------|--------------------|--------------|------------------|
| 1/2 | 4 | 1/2-13 | 2 | 12 |
| 3/4 & 1 | 4 | 1/2-13 | 2-1/4 | 12 |
| 1-1/4 & 1-1/2 | 4 | 1/2-13 | 2-1/2 | 12 |
| 2 | 4 | 5/8-11 | 3 | 12 |
| 2-1/2 | 4 | 5/8-11 | 3-1/4 | 25 |
| 3 | 4 | 5/8-11 | 3-1/2 | 25 |
| 4 | 8 | 5/8-11 | 3-1/2 | 25 |
| 6 | 8 | 3/4-10 | 4 | 40 |
| 8 | 8 | 3/4-10 | 4-1/2 | 40 |
| 10 & 12 | 12 | 7/8-9 | 5 | 64 |
| 14 | 12 | 1-8 | 6 | 95 |
| 16 | 16 | 1-8 | 6-1/2 | 110 |
| 18 | 16 | 1-1/8-7 | 6-1/2 | 110 |
| 20 | 20 | 1-1/8-7 | 5 | 110 |
| 24 | 20 | 1-1/4-7 | 5 | 110 |

PROJECT APPROVAL

Approved: _____
PRINT

Sign: _____

Date: _____

