

## Stainless Steel Series

**Shurjoint** offers a full range of stainless steel grooved mechanical couplings in CF8 (304) and CF8M (316) for general service applications and in specialty alloys for applications including reverse osmosis and desalination systems. Grooved fittings are available in sizes from 1" (25 mm) to 24" (600 mm) produced in a combination of investment castings and wrought stainless.

### Pressure ratings of stainless steel couplings

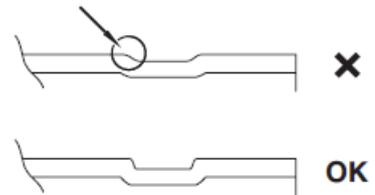
The design pressure rating of **Shurjoint** stainless steel grooved couplings follows Class 150 and is based on roll grooved Sch. 10S pipe. Pressure ratings will vary depending on the type of pipe used and grooves processed. See **Shurjoint** Performance Data Sheet #B-37 for pressure ratings (CWP) when used with other pipe schedules and cut-grooved pipe.

**Shurjoint** ductile iron couplings can be used in conjunction with stainless steel pipe, depending on the application, as the flow media does not come in direct contact with coupling housings but rather only the gasket. See **Shurjoint** Data Sheet #B-33 for performance data.

Stainless steel pipe in general is more difficult to groove than carbon steel pipe, as it is more difficult to achieve defined groove corners on stainless pipe. Grooves that are not defined and have too much of a radius could result in joint failure. Care must be taken to process grooves as defined as possible. For this reason, roll-groove machine manufacturers offer a variety of roll sets depending on the pipe material and wall thickness being grooved. Always select the correct roll set for the pipe being grooved.



Groove corners are not defined



If the same roll-set that has been used for carbon steel pipe is used on stainless steel pipe, rust or scale may be transferred to the stainless steel pipe during processing of the groove. Thus we recommend the use of a separate roll set specifically for use with stainless steel pipe. Also use caution to keep roll grooved stainless steel pipe dry prior to installation.

### Stainless Steel Casting Specifications

| Grade (UNS)  | Austenitic Stainless Steel |                |                | Duplex (Austenitic / Ferritic) Stainless Steel |                  |                  |
|--|----------------------------|----------------|----------------|--|------------------|------------------|
|  | CF8 J92600                 | CF8M J92900    | CK3MCuN J93254 | 2A, CE8MN J93345                               | 4A, CD3MN J92205 | 5A, CE3MN J93404 |
| <b>Composition, % (max, except where range is given)</b> |                            |                |                |  |                  |                  |
| Carbon   | 0.08                       | 0.08           | 0.025          | 0.08   | 0.03             | 0.03             |
| Manganese  | 1.50                       | 1.50           | 1.20           | 1.00   | 1.50             | 1.50             |
| Silicon  | 2.00                       | 1.50           | 1.00           | 1.50   | 1.00             | 1.00             |
| Sulfur   | 0.040                      | 0.040          | 0.010          | 0.040  | 0.020            | 0.040            |
| Phosphorus   | 0.040                      | 0.040          | 0.045          | 0.040  | 0.040            | 0.040            |
| Chromium   | 18.0-21.0                  | 18.0-21.0      | 19.5-20.5      | 22.5-25.5                                      | 21.0-23.5        | 24.0-26.0        |
| Nickel   | 8.0-11.0                   | 9.0-12.0       | 17.5-19.5      | 8.0-11.0                                       | 4.5-6.5          | 6.0-8.0          |
| Molybdenum   | 0.50                       | 2.0-3.0        | 6.0-7.0        | 3.0-4.5  | 2.5-3.5          | 4.0-5.0          |
| Nitrogen   |                            |                | 0.18-0.24      | 0.10-0.30                                      | 0.10-0.30        | 0.10-0.30        |
| Copper   |                            |                | 0.50-1.00      |  | 1.00             |                  |
| <b>Tensile Requirements, min.</b>                        |                            |                |                |  |                  |                  |
| Tensile Strength, ksi (MPa)                              | 70 (485)                   | 70 (485)       | 80 (550)       | 95 (655)                                       | 90 (620)         | 100 (690)        |
| Yield Strength, ksi (MPa)                                | 30 (205)                   | 30 (205)       | 38 (260)       | 65 (450)                                       | 60 (415)         | 75 (515)         |
| Elongation, %  | 35                         | 30             | 35             | 25   | 25               | 18               |
| ASTM Standards   | A351/ A743/A744            | A351/A743/A744 | A351/A743/A744 | A890/A351                                      | A890             | A890             |
| Wrought Equivalent Grade                                 | 304                        | 316            | 254SMO*        | 45D*   | 2205             | SAF 2507*        |

\* 254SMO is a registered trademark of AvestaPolarit AB, 45D is a registered trademark of ESCO Corporation and SAF 2507 is a registered trademark of AB Sandvik Steel.