

MSS SP-83-2006

**Class 3000
Steel Pipe Unions
Socket Welding and Threaded**

Standard Practice
Developed and Approved by the
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CAUTIONARY NOTES REGARDING INSTALLATION OF STEEL UNIONS

- a) Leakage from a union can result when joining pipe ends which are poorly aligned.
- b) Care should be taken to avoid placing unions in lines subject to live loads and bending loads, which may cause leakage.
- c) Care should be taken to prevent damage to the seating surfaces.
- d) Due consideration should be given to the possibility of shock pressure in the system.

NOTE: UNION PARTS FROM DIFFERENT MANUFACTURERS ARE NOT FUNCTIONALLY INTERCHANGEABLE AND COMBINING PARTS FROM DIFFERENT MANUFACTURERS IS NOT RECOMMENDED.

**STEEL PIPE UNIONS
SOCKET WELDING AND THREADED**

1. **SCOPE**

1.1 This Standard Practice establishes envelope and other essential dimensionals, finish, tolerances, testing, marking, material, and minimum performance requirements for forged carbon and stainless steel pipe unions, socket welding and threaded ends.

2. **PRESSURE RATINGS**

2.1 These unions shall be designated as Class 3000 socket welding or threaded and shall carry ratings shown in Table 1.

3. **SIZE**

3.1 The size of the union is identified by the nominal pipe size.

4. **DESCRIPTION**

4.1 The complete union shall consist of three parts: male end, female end, and, nut. Equivalent terms are tabulated in Table 2.

**TABLE 1
Pressure-Temperature Service Rating
Class 3000 Carbon and Stainless Steel
Unions Socket Welding & Threaded Ends**

SERVICE TEMP DEGREE °F	NON-SHOCK WORKING PRESSURE psig			
	ASTM A 105 CARBON STEEL	ASTM A 182 F316	ASTM A 182 F304L F316L	ASTM A 182 F304
100	3000	2915	2430	2915
200	2735	2510	2050	2430
300	2655	2265	1835	2140
400	2565	2080	1670	1905
500	2425	1935	1545	1770
600	2220	1830	1460	1680
650	2180	1800	1420	1650
700	2155	1750	1390	1630
750		1710	1360	1610
800		1680	1330	1595
850		1645	1300	1575
900		1595		1555
950		1565		1515
1000		1470		1300