

MSS SP-9-2001
Reaffirmed 2005

Spot Facing for Bronze, Iron and Steel Flanges

Standard Practice
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Unless otherwise specifically noted in this MSS SP, any standard referred to herein is identified by the date of issue that was applicable to the referenced standard(s) at the date of issue of this MSS SP (See Annex A.).

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**SPOT FACING
FOR BRONZE, IRON AND STEEL FLANGES**

1. SCOPE

This MSS Standard applies to the spot facing of pipe flanges in bronze, gray iron, ductile iron or steel when cast integral with valves and fittings, as well as the companion flanges, when so required by the standard for the product.

2. DESIGN

2.1 The dimensions for spot facing apply to the use of hexagon head bolts or hexagon nuts in accordance with American National Standard heavy series, ASME B18.2.1 and ASME B18.2.2. For bolt sizes 1/2 and 5/8, the minimum diameter of spot facing is sufficient for regular square head bolts in accordance with ASME B18.2.1.

2.2 The minimum spot facing diameters illustrated in Figure 1 are listed in Table 1 for bolt sizes 1/2 in. through 3 1/2 in.

2.3 When cutting into the hub of companion flanges or the body of flanged fittings and valves with spot facing tools is necessary, the resulting wall thickness shall not be less than the minimum required thickness specified in the appropriate standard.

2.4 Eccentricity of the spot face diameter with the bolt hole must be limited to provide sufficient facing for the bolt head and nut used in the joint assembly.

2.5 The bolt sizes for which spot facing is provided include all the sizes required in the various flange standards as indicated:

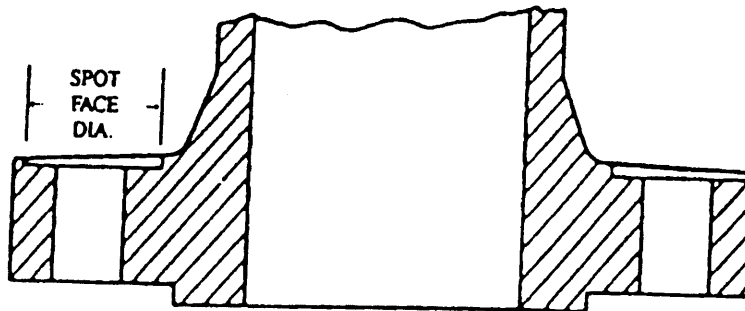


FIGURE 1 - Flange With Spot Facing

Table 1 - Spot Face Diameters

Bolt Size	Spot Face Diameter Minimum	
	Inches	mm
1/2	1.12	28.4
5/8	1.37	34.8
3/4	1.56	39.6
7/8	1.78	45.2
1	2.03	51.6
1 1/8	2.21	56.1
1 1/4	2.43	61.7
1 3/8	2.65	67.3
1 1/2	2.87	72.9

Bolt Size	Spot Face Diameter Minimum	
	Inches	mm
1 5/8	3.12	79.2
1 3/4	3.31	84.1
1 7/8	3.50	88.9
2	3.75	95.3
2 1/4	4.18	106.2
2 1/2	4.62	117.3
2 3/4	5.06	128.5
3	5.50	139.7
3 1/2	6.37	161.8