

WASHERS

**BEVELED WASHERS****ANSI/ASME  
B18.23.1  
1967 (R1975)****IFI Notes:**

1. *ANSI/ASME B18.23.1 is a standard developed through the procedures of The American Society of Mechanical Engineers. B18.23.1 is under the jurisdiction of ASME Standards Committee B18.*
2. *The latest edition of B18.23.1 was published in 1967 and at that time was ANSI B27.4. In 1975 the standard was reaffirmed without technical change and redesignated B18.23.1.*
3. *B18.23.1 covers two types of beveled washers, Types A and B. Hardened steel Type B washers are intended to be the same as the hardened beveled washers covered in ASTM F436, page L-23. To achieve this agreement, IFI in this presentation of B18.23.1, has made one minor technical change. The inside diameter of 1 in. Type B washers has been increased from 1.06 in. to 1.12 in.*
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**1. Introductory Notes.****1.1 Scope.**

1.1.1 This standard covers two types of beveled washers designated as Type A (Malleable Iron) and Type B (steel). These washers are intended for American Standard beams and channels in structural applications, to compensate for lack of parallelism where an outer face of the bolted parts has a slope of more than 1:20 with respect to a plane normal to the bolt axis.

1.1.2 The inclusion of dimensional data in this standard is not intended to imply that all products described herein are production items. Consumers are requested to consult with manufacturers concerning lists of stock production sizes.

**1.2 Types of Washers.**

1.2.1 The Type A and B unhardened washers are intended for applications where hardened washers are not required.

1.2.2 The Type B washers may be supplied unhardened or hardened. Hardened washers are intended for applications using high strength structural bolts, as defined in the Specifications for Structural Joints using

ASTM A325 and A490 Bolts, issued by the Research Council on Structural Connections of the Engineering Foundation.

**1.3 Dimensions.**

All dimensions in this standard are given in inches, unless otherwise stated.

**1.4 Materials.**

1.4.1 Type A Beveled Washers shall be made of malleable cast iron.

1.4.2 Type B Beveled Washers shall be made of steel.

1.4.3 Type B hardened washers shall conform to the chemical and hardness requirements of ASTM F436, page L-23.

**1.5 Finish.**

Washers are normally supplied with a plain natural finish unless otherwise specified.

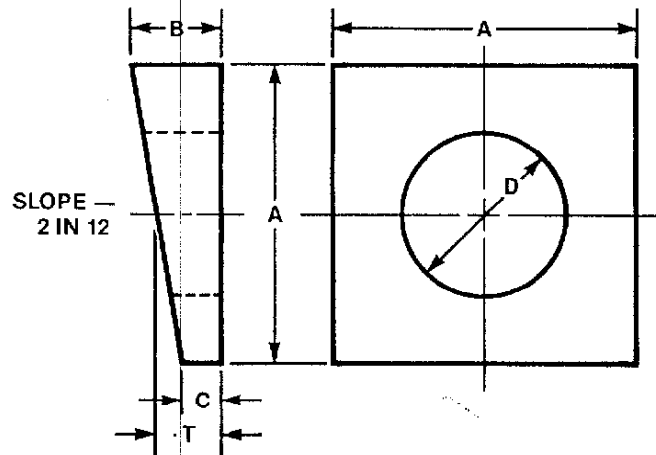
**1.6 Quality.**

Washers shall be free from burrs, loose scale, sharp edges and all other defects that might affect their serviceability.

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Dimensions of Beveled Washers

Bolt Diameter		A	B	C	T	D	A	B	C	T	D
		Type A — Malleable Iron					Type B — Steel				
Tolerance		±0.03	±0.03	±0.03	Nom	±0.03	±0.03	+0.02 -0.03	±0.02	Nom	+0.03 -0.01
1/4	0.250	0.69	0.22	0.09	0.16	0.31	0.88	0.26	0.12	0.19	0.28
5/16	0.312	1.00	0.31	0.16	0.23	0.38	0.88	0.26	0.12	0.19	0.34
3/8	0.375	1.25	0.34	0.12	0.23	0.44	0.88	0.26	0.12	0.19	0.41
1/2	0.500	1.25	0.34	0.12	0.23	0.56	1.75	0.45	0.16	0.31	0.53
5/8	0.625	1.50	0.38	0.12	0.25	0.69	1.75	0.45	0.16	0.31	0.69
3/4	0.750	1.50	0.44	0.19	0.31	0.81	1.75	0.45	0.16	0.31	0.81
7/8	0.875	2.00	0.56	0.22	0.39	0.94	1.75	0.45	0.16	0.31	0.94
1	1.000	2.00	0.56	0.22	0.39	1.06	1.75	0.45	0.16	0.31	1.12
1-1/8	1.125	2.25	0.62	0.25	0.44	1.25	2.25	0.50	0.12	0.31	1.25
1-1/4	1.250	2.25	0.72	0.31	0.52	1.38	2.25	0.50	0.12	0.31	1.38
1-3/8	1.375	2.75	0.78	0.31	0.55	1.50	2.25	0.50	0.12	0.31	1.50
1-1/2	1.500	3.00	0.81	0.31	0.56	1.62	2.25	0.50	0.12	0.31	1.62