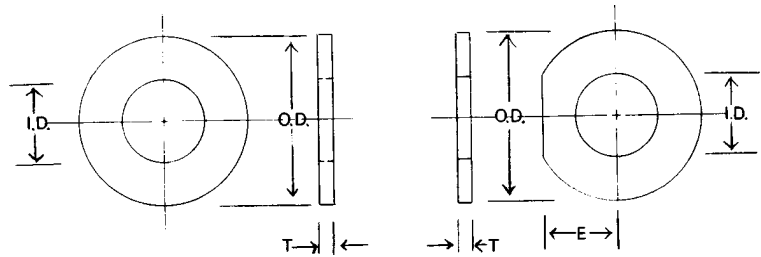




NOTE 1—Tolerances are as noted in table on washer dimension tolerances.



Washers

F436 Hardened Washers - Circular & Clipped Circular

Bolt Size	Circular	Circular and Clipped Circular		Clipped Circular		Minimum Edge Distance (E) ^A , in.
	Nominal Outside Diameter (OD), in.	Nominal Inside Diameter (ID), in.	Thickness (T), in.			
			max	min		
1/4	5/8	9/32	0.051	0.080	7/32	
5/16	1 1/16	1 1/32	0.051	0.080	9/32	
3/8	1 3/16	1 3/32	0.051	0.080	1 1/32	
7/16	5 9/64	1 5/32	0.051	0.080	1 3/32	
1/2	1 1/16	1 7/32	0.097	0.177	7/16	
5/8	1 5/16	1 1/16	0.122	0.177	9/16	
3/4	1 15/32	1 3/16	0.122	0.177	2 1/32	
7/8	1 3/4	1 5/16	0.136	0.177	2 5/32	
1	2	1 1/8	0.136	0.177	7/8	
1 1/8	2 1/4	1 1/4	0.136	0.177	1	
1 1/4	2 1/2	1 3/8	0.136	0.177	1 3/32	
1 3/8	2 3/4	1 1/2	0.136	0.177	1 7/32	
1 1/2	3	1 5/8	0.136	0.177	1 5/16	
1 3/4	3 3/8	1 7/8	0.178 ^B	0.28 ^B	1 17/32	
2	3 3/4	2 1/8	0.178 ^B	0.28 ^B	1 3/4	
2 1/4	4	2 3/8	0.24 ^C	0.34 ^C	2	
2 1/2	4 1/2	2 5/8	0.24 ^C	0.34 ^C	2 3/16	
2 3/4	5	2 7/8	0.24 ^C	0.34 ^C	2 13/32	
3	5 1/2	3 1/8	0.24 ^C	0.34 ^C	2 5/8	
3 1/4	6	3 3/8	0.24 ^C	0.34 ^C	2 7/8	
3 1/2	6 1/2	3 5/8	0.24 ^C	0.34 ^C	3 1/16	
3 3/4	7	3 7/8	0.24 ^C	0.34 ^C	3 5/16	
4	7 1/2	4 1/8	0.24 ^C	0.34 ^C	3 1/2	

^A Clipped edge E shall be not closer than 7/8 of the bolt diameter from the center of the washer.

^B 3/16 in. nominal.

^C 1/4 in. nominal.

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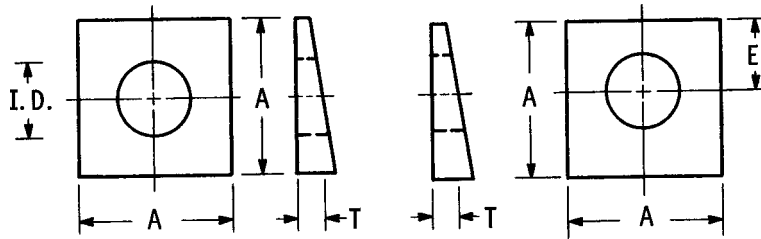
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Washers

F436 Hardened Washers - Square & Square Clipped



Square

Square Clipped

Bolt Size, in.	Square Beveled and Clipped Square Beveled ^A		Square Clipped		
	Minimum Side Dimension (A), in.	Nominal Inside Diameter (I.D.), in.	Mean Thickness (T), in.	Slope or Taper in Thickness	Nominal Edge Distance (E), ^B in.
1/2	1 3/4	1 7/32	5/16	1:6	7/16
5/8	1 3/4	1 1/16	5/16	1:6	9/16
3/4	1 3/4	1 9/16	5/16	1:6	2 1/32
7/8	1 3/4	1 5/16	5/16	1:6	2 5/32
1	1 3/4	1 1/8	5/16	1:6	7/8
1 1/8	2 1/4	1 1/4	5/16	1:6	1
1 1/4	2 1/4	1 3/8	5/16	1:6	1 3/32
1 3/8	2 1/4	1 1/2	5/16	1:6	1 7/32
1 1/2	2 1/4	1 5/8	5/16	1:6	1 5/16

^A Rectangular beveled washers shall conform to the dimensions shown above, except that one side may be longer than that shown for the A dimension.

^B Clipped edge E shall not be closer than 7/8 of the bolt diameter from the center of the washer.

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Washers

F436 Hardened Washers - Washer Dimension Tolerances

	To 1½ in. Nominal Bolt Size, incl	Over 1½ in. Nominal Bolt Size, incl	Over 3 to 4 in. Nominal Bolt Size, incl
Nominal diameter of hole, in.	-0, + 1/32	-0, + 1/16	-0, + 1/8
Nominal outside diameter, in.	± 1/32	± 1/16	± 1/8
Flatness: max deviation from straightedge placed on cut side shall not exceed (in.)	0.010	0.015	0.032
Concentricity, in.: center of hole to outside diameter	0.030 FIR ^A	0.090 FIR ^A	0.250 FIR ^A
Burr shall not project above immediately adjacent washer surface more than (in.)	0.010	0.015	0.025

^A Full indicator runout.

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