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Westfield Fasteners Product Specification:

DIN 125 A - Plain Washers 'Form A'

This product guide contains the specification for metric sized 'form A' flat washers as available from Westfield Fasteners. The basis of this specification is the DIN standard DIN 125.

Product Description

A standard flat washer for use in just about any bolted or screwed assembly. A flat washer's main task is to spread the load across a wider area, which comes in particularly useful when dealing with softer materials. This washer is considered normal in terms of its sizing: larger and smaller external diameter flat washers are available, and specified under various other standards.

Scope of the DIN Standard.

DIN standard 125 actually defines two different types of flat washer, albeit with the same overall dimensions: type or form B, which includes a chamfer on one edge, and form A which is without this feature, and is covered specifically here. There is some overlap in availability between the two types, but DIN 125 includes the sizes and tolerances of 'Form A' flat washers from M1.6 up to and including M35. Sizes larger than for M35 are only specified as type B. DIN 125 specifies washers with a hardness of up to 250HV, and both types of these washers are designed for use with bolts and screws of property class 8.8 or less.

Table 1 below defines the overall dimensions and tolerances of this washer type.

Although the DIN 125 standard has now been superseded by various ISO standards (including ISO 7089 and 7090), off the shelf parts are currently more generally available to the older specification. The ISO standards specify the same dimensions and tolerances, but have revised hardness classes.

Type A, without chamfer
Sizes: 1.7 to 37mm

Type B, with external chamfer
Sizes: 5.3 to 165 mm



Figure 1: DIN 125 Washer - Type or Form A

Variations from DIN 125

The DIN 125 standard mentions steel and stainless steel specifically, but the standard also allows for production in other materials. Please note that due to manufacturing limitations, all nylon variants of these items are only "similar to" and not "in absolute accordance with" this specification and the DIN 125 standard upon which it is based.

Table 1: Dimensions & Tolerances according to DIN 125 (Type A)

Nominal Size	For Thread Size	Clearance Hole Diameter, d_1		Outside Diameter, d_2		Thickness, h		
	M	min=nom	max	max=nom	min	nom	max	min
1.7	1.6	1.7	1.84	4	3.7	0.3	0.35	0.25
1.8	1.7	1.8	1.94	4.5	4.2	0.3	0.35	0.25
2.2	2	2.2	2.34	5	4.7	0.3	0.35	0.25
2.5	2.3	2.5	2.64	6	5.7	0.5	0.55	0.45
2.7	2.5	2.7	2.84	6	5.7	0.5	0.55	0.45
2.8	2.6	2.8	2.94	7	6.64	0.5	0.55	0.45
3.2	3	3.2	3.38	7	6.64	0.5	0.55	0.45
3.7	3.5	3.7	3.88	8	7.64	0.5	0.55	0.45
4.3	4	4.3	4.48	9	8.64	0.8	0.9	0.7
5.3	5	5.3	5.48	10	9.64	1	1.1	0.9
6.4	6	6.4	6.62	12	11.57	1.6	1.8	1.4
7.4	7	7.4	7.62	14	13.57	1.6	1.8	1.4
8.4	8	8.4	8.62	16	15.57	1.6	1.8	1.4
10.5	10	10.5	10.77	20	19.48	2	2.2	1.8
13	12	13	13.27	24	23.48	2.5	2.7	2.3
15	14	15	15.27	28	27.48	2.5	2.7	2.3
17	16	17	17.27	30	29.48	3	3.3	2.7
19	18	19	19.33	34	33.38	3	3.3	2.7
21	20	21	21.33	37	36.38	3	3.3	2.7
23	22	23	23.33	39	38.38	3	3.3	2.7
25	24	25	25.33	44	43.38	4	4.3	3.7
27	26	27	27.33	50	49.38	4	4.3	3.7
28	27	28	28.33	50	49.38	4	4.3	3.7
29	28	29	29.33	50	49.38	4	4.3	3.7
31	30	31	31.39	56	55.26	4	4.3	3.7
33	32	33	33.62	60	58.8	5	5.6	4.4
34	33	34	34.62	60	58.8	5	5.6	4.4
36	35	36	36.62	66	64.8	5	5.6	4.4
37	36	37	37.62	66	64.8	5	5.6	4.4

For further details, please refer to the ISO/DIN standard document for this item.