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Westfield Fasteners Product Specification:

DIN 440 Type R - Wood Construction Washers

This product guide contains the specification for metric timber construction washers (type R), standard parts available from Westfield Fasteners. The basis of this specification is the DIN standard DIN 440.

Product Description

Washers for timber or wood construction (DIN 440 type R), are a robust design that distributes the force a bolt head and nut apply to the wood when tightened. By spreading the load over a larger surface area, the large diameter washer will protect the timber around the fixing point from being crushed or splitting. These timber construction washers are especially useful for softwood and aluminium, and their additional support will aid the structural integrity of the joint. The increased bearing surface of the washer will also help accommodate the movement in the wood as the timber expands and contracts with changes in humidity.

Scope of the DIN Standard.

DIN 440 specifies the requirements for these wood construction washers with a larger outside diameter. This standard covers two types: washers with a round hole (type R) here, and the type V square holed washers. This standard includes data for type R washers for sizes from M5 to M52. The standard specifically states that these washers are designed primarily for use in nut and bolt assemblies for timber construction.

The standard states a hardness class of 100 HV for these washers.

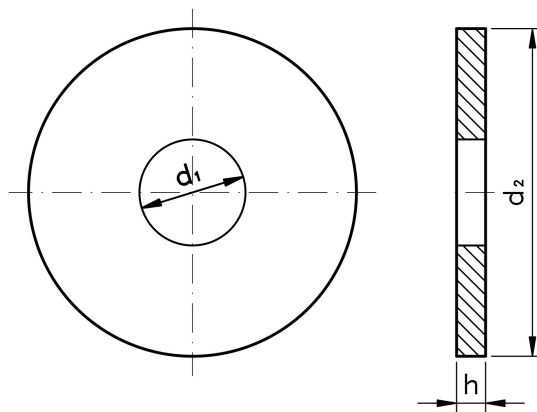


Figure 1: Timber Construction Washer to DIN 440 (Type R)

Table 1: Dimensions & Tolerances according to DIN 440 (mm)

Nominal Size	For Thread Size	Hole Diameter, d ₁		Outside Diameter, d ₂		Thickness, h			Approximate mass (7.85kg/dm ³), per 1000 units, in kg
		min=nom	max	max=nom	min	nom	max	min	
5.5	M5	5.5	5.8	18	16.9	2	2.3	1.7	3.62
6.6	M6	6.6	6.96	22	20.7	2	2.3	1.7	5.43
9	M8	9	9.36	28	26.7	3	3.6	2.4	13.0
11	M10	11	11.43	34	32.4	3	3.6	2.4	19.1
13.5	M12	13.5	13.96	44	42.4	4	4.6	3.4	43.3
15.5	M14	15.5	15.93	50	48.4	4	4.6	3.4	55.7
17.5	M16	17.5	18.2	56	54.1	5	6	4	87.2
22	M20	22	22.84	72	70.1	6	7	5	174
24	M22	24	24.84	80	78.1	6	7	5	215
26	M24	26	26.84	85	82.8	6	7	5	242
30	M27	30	30.84	98	95.8	6	7	5	322
33	M30	33	34	105	102.8	6	7	5	368
36	M33	36	37	112	109.8	6	7	5	416
39	M36	39	40	125	122.5	8	9.2	6.8	695
42	M39	42	43	140	137.5	8	9.2	6.8	881
45	M42	45	46	150	147.5	8	9.2	6.8	1010
48	M45	48	49	160	157.5	8	9.2	6.8	1150
52	M48	52	53.2	170	167.5	10	11.2	8.8	1620
56	M52	56	57.2	180	177.5	10	11.2	8.8	1800

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