

ISO 7091

Plain washers - Normal series - Product grade C



Standard	ISO 7091		
Product Type	This International Standard specifies the characteristics of normal-series, product-grade-C plain washers in the 100 HV hardness class and of nominal sizes (nominal thread diameters) ranging from 1,6 mm to 64 mm inclusive. Washers of hardness class 100 HV are suitable for - hexagon bolts and screws of product grade C in property classes up to and including 6.8; - hexagon nuts of product grade C in property classes up to and including 6; - case-hardened thread rolling screws. If dimensions other than those listed in this International Standard are required, they should be selected from those given in ISO 887. When soft material pieces are clamped, or large clearance holes in the workpiece are used, the user should check the technical suitability of this type of washer.		
Material	Stainless Steel, Carbon Steel		
Property Class	100 HV		
Surface Finish	Passivated, Plain, Zinc Plated, Hot Dip Galvanized, Dacromet		
Size Range	M1.6 - M64	Thread	ISO metric coarse pitch

BASIS OF SPECIFICATION

WHICH STANDARD GOVERNS WHAT

Dimensions to	ISO 7091:2000
Carbon steel / Alloy steel mechanical properties to	ISO 898-3:2018
Stainless steel mechanical properties to	ISO 3506-7:2024
Product grade	C

HARDNESS REQUIREMENTS

REQUIRED VALUES PER ISO 7091

Class	Hardness	Governing property	Source
100 HV	min. 100 HV	Hardness class (upper limit per standard table)	ISO 7091

DIMENSIONAL DATA - SIZES WE SUPPLY

ALL DIMENSIONS PER THE STANDARD

d Diameter - mm	d1 Inner Diameter - mm	d1 (max) Inner Diameter - mm	d2 Outer Diameter - mm	d2 (min) Outer Diameter - mm	h Washer Thickness - mm	h (max) Thickness - mm	h (min) Thickness - mm
M5	5.5	5.8	10	9.1	1	1.2	0.8
M6	6.6	6.96	12	10.9	1.6	1.9	1.3
M8	9	9.36	16	14.9	1.6	1.9	1.3
M10	11	11.43	20	18.7	2	2.3	1.7
M12	13.5	13.93	24	22.7	2.5	2.8	2.2
M16	17.5	17.93	30	28.7	3	3.6	2.4
M20	22	22.52	37	35.4	3	3.6	2.4
M24	26	26.52	44	42.4	4	4.6	3.4
M30	33	33.62	56	54.1	4	4.6	3.4
M36	39	40	66	64.1	5	6	4

FURTHER SIZES IN THIS STANDARD

ALL DIMENSIONS PER THE STANDARD

Not held in stock. Available to order; minimum order quantity applies.

d Diameter - mm	d1 Inner Diameter - mm	d1 (max) Inner Diameter - mm	d2 Outer Diameter - mm	d2 (min) Outer Diameter - mm	h Washer Thickness - mm	h (max) Thickness - mm	h (min) Thickness - mm
M1.6	1.8	2.05	4	3.25	0.3	0.4	0.2
M2	2.4	2.65	5	4.25	0.3	0.4	0.2
M2.5	2.9	3.15	6	5.25	0.5	0.6	0.4
M3	3.4	3.7	7	6.1	0.5	0.6	0.4
M3.5	3.9	4.2	8	7.1	0.5	0.6	0.4
M4	4.5	4.8	9	8.1	0.8	1	0.6
M14	15.5	15.93	28	26.7	2.5	2.8	2.2
M18	20	20.43	34	32.4	3	3.6	2.4
M22	24	24.52	39	37.4	3	3.6	2.4
M27	30	30.52	50	48.4	4	4.6	3.4
M33	36	37	60	58.1	5	6	4
M39	42	43	72	70.1	6	7	5
M42	45	46	78	76	8	9.2	6.8
M45	48	49	85	82.8	8	9.2	6.8
M48	52	53.2	92	89.8	8	9.2	6.8
M52	56	57.2	98	95.8	8	9.2	6.8
M56	62	63.2	105	102.8	10	11.2	8.8
M60	66	67.2	110	107.8	10	11.2	8.8
M64	70	71.2	115	112.8	10	11.2	8.8

MARKING

Carbon steel / Alloy steel

Head marking to ISO 898-3:2018

Stainless steel

Head marking to ISO 3506-7:2024

Marking requirements are set by the material standard named above, not by the product standard. Confirm the ordered property class before production.

INSPECTION DOCUMENTS WE CAN ISSUE

EN 10204 3.1 material certificate	Can be included when agreed in the order.
Dimensional inspection report	Can be provided for the agreed inspection scope.
Certificate of conformity	Can be issued against the confirmed order requirements.
Mechanical test report	Available when the required tests are agreed before production.
Chemical analysis report	Available when the material verification scope is agreed.
Coating inspection report	Can record the coating checks agreed for the order.

REFERENCES & NOTES

Note: Dimensional values follow the selected execution standard. Material properties and batch test results are included only when declared or supported by the applicable certificate or test report.

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