

Metric table

Dimensions in: millimeters - inches

1 d ₁ H13	2 d ₂ h13		3 s		d ₃ H13	f		For screws with thread size
	Low type	High type	Low type	High type		Low type	High type	
6.3 0.25	12 0.47	17 0.67	2.5 0.10	3 0.12	7 0.28	0.6 0.02	1 0.04	M 6
8.4 0.33	16 0.63	21 0.83	2.5 0.10	4 0.16	9.5 0.37	0.75 0.03	1.5 0.06	M 8
10.4 0.41	20 0.79	25 0.98	3 0.12	4 0.16	11.5 0.45	0.75 0.03	1.5 0.06	M 10
12.5 0.49	24 0.94	30 1.18	3.5 0.14	6 0.24	14 0.55	1 0.04	2 0.08	M 12
14.5 0.57	28 1.10	36 1.42	3.5 0.14	6 0.24	16 0.63	1 0.04	2 0.08	M 14
16.5 0.65	30 1.18	40 1.57	4 0.16	6 0.24	18 0.71	1 0.04	2 0.08	M 16
18.5 0.73	34 1.34	44 1.73	5 0.20	8 0.31	21 0.83	1.5 0.06	2.5 0.10	M 18
20.5 0.81	37 1.46	44 1.73	5 0.20	8 0.31	23 0.91	1.5 0.06	2.5 0.10	M 20
22.5 0.89	40 1.57	50 1.97	5 0.20	8 0.31	25 0.98	1.5 0.06	2.5 0.10	M 22
24.5 0.96	44 1.73	50 1.97	5 0.20	10 0.39	27 1.06	1.5 0.06	3.5 0.14	M 24
28 1.10	50 1.97	60 2.36	6 0.24	10 0.39	31 1.22	1.5 0.06	3.5 0.14	M 27
31 1.22	56 2.20	68 2.68	6 0.24	10 0.39	34 1.34	1.5 0.06	3.5 0.14	M 30
37 1.46	66 2.60	-	7 0.28	-	40 1.57	2 0.08	-	M 36

Specification

- Steel
European Standard No. 1.7227 (42CrMoS4V)
- Tempered to tensile strength
Rm = 1220 - 1400 N/mm²
- Precision-turned and ground
- Blackened finish
- GEOMET 500 coating
- ISO Fundamental Tolerances → page 2129
- RoHS compliant

BT
GO

Information

The effect of a washer on the quality of a threaded connection is often underestimated. GN 6339 washers provide a high quality connection. High static clamping forces can be achieved without loss of tension.

At a specified preloaded clamping force, a smaller diameter threaded bolt can be used. This can result in a better ratio between clamping distance and bolt diameter, minimizing the danger of failure.

The tempered, smooth bolt head / screw contact face results in a lower and more constant friction co-efficient, even when continuous tightening and untightening is required.

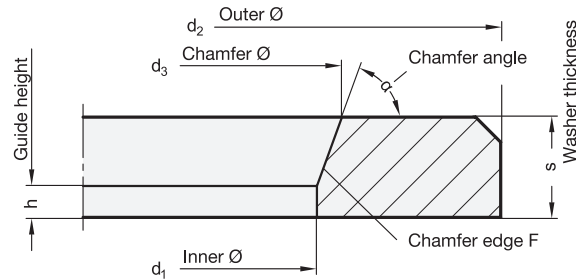
GN 6339 washers are suitable only for machine construction bolts of property classes 8.8 / 10.9 / 12.9, and not for DIN 6914 steel bolts.

How to order

GN 6339-20.5-37-5-BT

- | | |
|---|-------------------------------|
| 1 | Inner diameter d ₁ |
| 2 | Outer diameter d ₂ |
| 3 | Thickness s |
| 4 | Finish |

Technical information



Outer diameter d_2

The outer diameter d_2 of the low type corresponds to DIN 125 / ISO 7089 washers. The high type corresponds to DIN 7349 washers.

Chamfer diameter d_3

Together with the chamfer angle $\alpha = 70^\circ$ and the inner diameter d_1 , this dimension is the most important one of these heavy duty washers. Even in the lower tolerance range, the diameter d_3 is generally larger than the maximum contact under head diameter on a bolt.

This will ensure that the chamfer of d_3 of the hardened washer will not be pressed into the under head radius causing an indentation which would damage the bolt.

Inner diameter d_1

The inner diameter d_1 is kept as small as possible ensuring that the bolt is guided centrally in the washer. The choice of a matching pair of bolt and washer with least radial clearance is important in order to avoid a mismatch between chamfer diameter d_3 and the maximum contact area diameter of the bolt head.

Chamfer angle $\alpha = 70^\circ \pm 2^\circ$

This relatively large angle is necessary when using hex headed bolts to avoid interference with the chamfer diameter d_3 of the washer.

Chamfer edge F

The extended chamfer edge F, as seen from d_3 , and d_1 create an edge that provides the smallest radial clearance towards the transition from bolt shank to head. Even with the minimum chamfer angle of $\alpha = 68^\circ$ and the smallest dimensions for d_1 and d_3 , this radial clearance is sufficient for all bolts according to DIN EN.

Guide height h

This is the height of the cylindrical part of the inner diameter d_1 . The dimension h should be as high as possible in relation to the thread pitch of the bolt.

Washer thickness s

GN 6339 heavy duty washers are higher than comparable DIN washers (exception: DIN 7439 which is equal to the high type).

A larger thickness leads to a stronger washer. In addition, taking the chamfer d_3 into consideration, a minimum guide height is provided which ensures that the thread will not be damaged when tightening.