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Westfield Fasteners Product Specification:

DIN 2093 - Disc Spring Washers

This product guide contains the specification for Disc Spring Washers. They are a stock item available from Westfield Fasteners.

Product Description

Disc spring washers made to DIN 2093 can also be known as Belleville washers or conical spring washers. We also supply Belleville/conical washers, but the difference is that the spring discs are thinner and are designed to cope with dynamic repeating pressure and static pressure, as opposed to the conical Belleville washers, which are designed to take just static pressure.

Made from SS301, stainless spring steel, these disc springs can be subjected to large loads or impacts. They can be used singularly, stacked or in series. When stacked or in series, the washers can increase their dampening effect. The disc springs offer a high force in a confined space, when compared to coiled compression springs.

Tolerance

Tolerances: Outer diameter (d2) is tolerance class h12. Coaxiality tolerance for d2 is the same or less than 50 : 2 . IT11 Coaxiality tolerance for d2 is greater than 50 : 2 . IT12 Inner diameter (d1) tolerance class H12

A guiding element should be used to keep the disc springs in place. Preferably an internal mandrel or an external sleeve.

With use, all disc spring will be subject to 'creep and relaxation'. This is the loss of original shape and strength.

Keeping the loading within the permissible pressures, according to the standards for the material of the disc spring, will allow both static and dynamic loading not to cause 'loss of spring load' and cracking to the upper inner edge.

Scope of the DIN Standard

These disc springs are manufactured to DIN 2093, which states the dimensions, tolerances and the spring forces for the 3 types of disc springs. The disc spring we supply are Dimensional series A. There is also B and C.

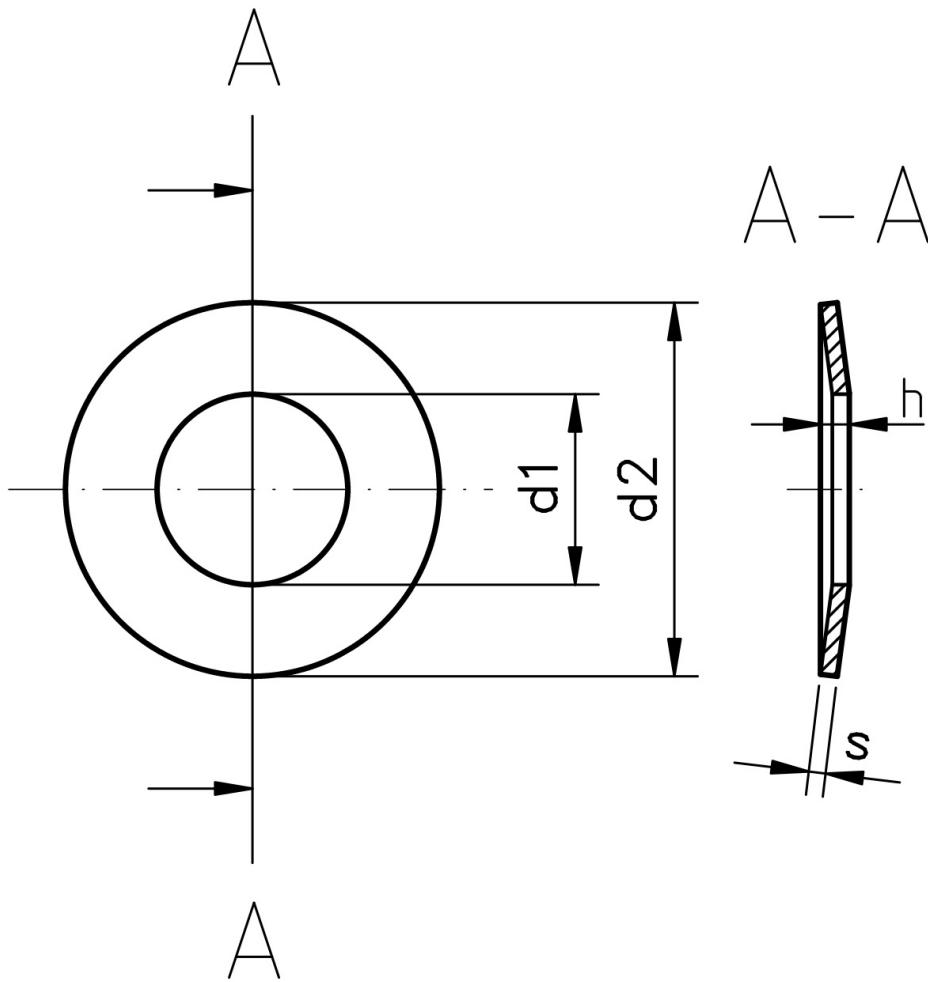


Figure 1: Disc Spring Washers to DIN 2093

Table 1: Dimensions & Tolerances according to DIN 2093 (mm)

d2	d1	s	m	h
10	5.2	0.5	0.25	0.75
12.5	6.2	0.7	0.3	1
14	7.2	0.8	0.3	1.1
16	8.2	0.9	0.35	1.25
18	9.2	1	0.4	1.4
20	10.2	1.1	0.45	1.55

Table 1 Continued: Dimensions & Tolerances on thickness according to DIN 2093 (mm)

t	Tolerances
$0.2 \leq t \leq 0.6$	+ 0.02
	- 0.06
$0.6 < t < 1.25$	+ 0.03
	-0.09

Table 1 Continued: Dimensions & Tolerances on free overall height according to DIN 2093 (mm)

t	Tolerance
$t < 1.25$	+ 0.10
	- 0.05

For further details, please refer to the DIN standard document for this item.E&OE