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## **Westfield Fasteners Product Specification:**

## DIN 7989 - Washers for use in Structural Steelwork

This product guide contains the specification for washers designed for use in structural steelwork, specifically those manufactured to DIN standard DIN 7989. These washers are stock items from Westfield Fasteners.

## **Product Description**

Washers for use in structural steelwork. These are strong thick sectioned flat washers, with a reduced outer diameter for applications where there needs to be a tight clearance around the joint. Like all washers, those made to DIN 7989 are use to spread the load of the fastener, protect the adjoining surface and help to prevent the joint from loosening.

## Scope of the DIN Standard.

The standard DIN 7989 gives the dimensions and form of these punched plain washers designed for use in steelwork. These washers are designed for and suitable for use with bolts, screws and nuts made to DIN 7968, DIN 7969, DIN 7990, DIN EN ISO 4032 and DIN EN ISO 4034. Figure 1 and table 1 below show dimensions and tolerances for sizes M10 to M30.

The DIN 7989 standard mentions steel only as a material, with a hardness class of 100HV.

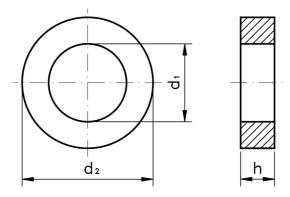


Figure 1: Structural Steelwork Washers

Table 1: Dimensions & Tolerances according to DIN 7989 (mm)

Hole Diameter, d <sub>1</sub>			Outside Diameter, d <sub>2</sub>		This less and le
Nominal Thread Size	min	max	max	min	Thickness, h
M10	11	11.70	20	18.7	
M12	13.5	14.20	24	22.7	
M16	17.5	18.20	60	28.7	
M20	22	22.84	67	35.4	8 +/- 1.2
M24	26	26.84	44	42.4	
M27	30	30.84	50	48.4	
M30	33	34	56	54.1	

For verification of details and for further information please refer to the ASME standard document.  ${\sf E\&OE}$