CHAVESBAO
Lontana Group

C/ Bizkargi, 6 – POL. SARRIKOLA
48195 LARRABETZU (BISCAY)
Tel. 944 123 199 Fax. 944 117 132

Technical data sheet

Title	Conical washer
Standard	NF E 25 511

1.- Functions of washers.

The main functions of washers are:

1.- To protect contact surfaces against scratches or wear that may be caused by screws or nuts by rubbing.
2.- To distribute the tightening force evenly to obtain local pressures that are close to the average pressure.
3.- To move the tightening force to different areas of the head of the screw or nut. Oversized or torn holes.
4.- To reduce the risks of loosening due to increase in the friction coefficient on the screw or nut (serrated or ribbed washers)
5.- To secure a possible loss of tightening torque due to deformation of the parts (elastic washers)
6.- To compensate for the lack of parallelism of the parts or uneven surfaces.
7.- Watertightness between the head or screw or nut and the part to be tightened (polyamide coated washer).
8.- Fastening of cables to the electrical connections.

2- Application and classes of washers

NF E25 511 steel conical washers are designed for joining screws and nuts up to class 8.8. Through their design they are intended to prevent loosening of the joints made with screws.
These washers are made of steel and have a hardness from 420HV to 510HV, with a zinc plated finish.

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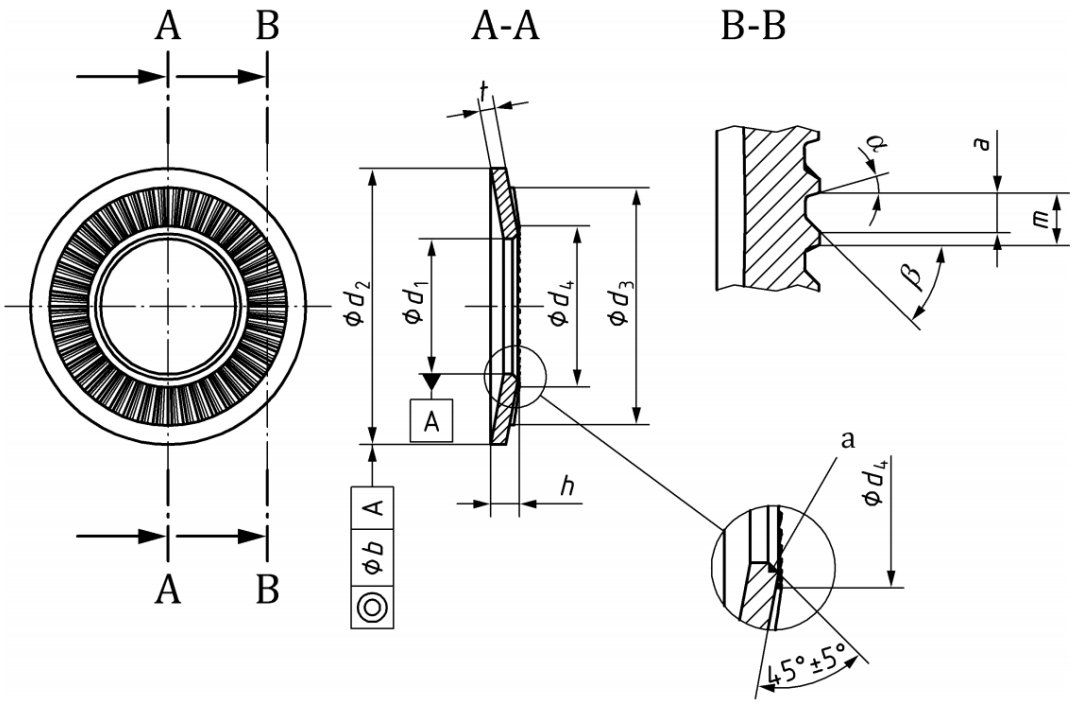
3.- Dimensions of washers



METRIC	d1	d2	t	max. h	B	No. of ridges	d3	d4
M3	3.1	8	0.6	1	0.3	28	5.5	4.1
M4	4.1	10	0.9	1.4	0.3	32	7	5.2
M5	5.1	12	1.1	1.8	0.36	36	8	6.2
M6	6.1	14	1.3	2.1	0.36	45	10	7.4
M8	8.2	18	1.4	2.35	0.36	45	13	9.8
M10	10.2	22	1.6	2.75	0.42	45	16	11.9
M12	12.4	27	1.8	3.1	0.42	45	18	14.4
M14	14.4	30	2.4	3.7	0.42	45	21	16.4
M16	16.4	32	2.8	4.1	0.5	60	24	18.4
M20	20.5	40	3.2	4.9	0.5	60	30	22.8