

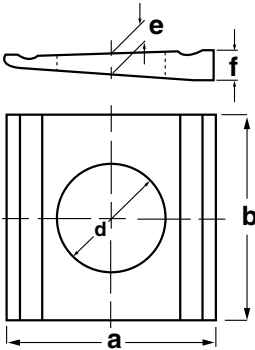
Beveled Washers

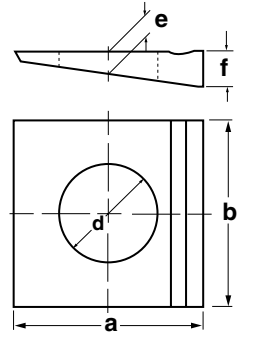
Metric

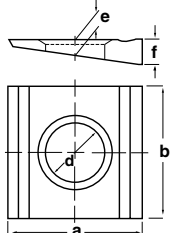
Rondelles biseautées

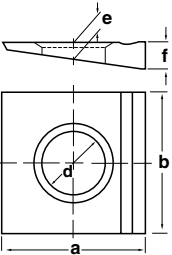
Métrique

D

<p>DIN 434 8% Slope for "U" Beams Steel, Plain (Suffix ZP indicates Zinc Plated)</p> 	SPAENAUR No.	For BOLT DIAMETER		Hole Dia. d (mm)	Dimensions in Millimetres				PKG QTY.
		Metric	Inch		a	b	e	f	
		635-050	M8		5/16"	9	22	22	
635-051	M10	3/8"	11	22	22	2.9	3.8	100	
635-051ZP	M10	3/8"	11	22	22	2.9	3.8	100	
635-052	M12	1/2"	13.5	30	26	3.7	4.9	50	
635-053	M16	5/8"	17.5	36	32	4.45	5.9	50	
635-053ZP	M16	5/8"	17.5	36	32	4.45	5.9	50	
635-054	M20	3/4"	22	44	40	5.25	7	50	
635-055	M22	7/8"	24	50	44	6	8	25	
635-055ZP	M22	7/8"	24	50	44	6	8	25	
635-056	M24	1"	26	56	56	6.26	8.5	25	
635-056ZP	M24	1"	26	56	56	6.26	8.5	25	
635-057	M27	-	30	56	56	6.26	8.5	25	
*635-058	M30	1-1/8"	33	62	62	6.5	9	10	

<p>DIN 435 14% Slope for "I" Beams Steel, Plain</p> 	SPAENAUR No.	For BOLT DIAMETER		Hole Dia. d (mm)	Dimensions in Millimetres				PKG QTY.
		Metric	Inch		a	b	e	f	
		635-060	M8		5/16"	9	22	22	
635-061	M10	3/8"	11	22	22	3.05	4.6	100	
635-062	M12	1/2"	13.5	30	26	4.1	6.2	50	
635-062ZP	M12	1/2"	13.5	30	26	4.1	6.2	50	
635-063	M16	5/8"	17.5	36	32	5	7.5	50	
635-064	M20	3/4"	22	44	40	6.1	9.2	50	
635-065	M22	7/8"	24	50	44	6.5	10	25	
635-066	M24	1"	26	56	56	6.9	10.8	25	
635-067	M27	-	30	56	56	6.9	10.8	25	
*635-068	M30	1-1/8"	33	62	62	7.5	11.7	10	

<p>DIN 6918 8% Slope for "U" Beams Countersunk – Steel, Plain</p> 	SPAENAUR No.	For BOLT DIAMETER		Hole Dia. d (mm)	Dimensions in Millimetres				PKG QTY.
		Metric	Inch		a	b	e	f	
		657-208	M12		1/2"	13	30	26	
657-209	M16	5/8"	17	36	32	4.45	5.9	50	
657-267	M20	3/4"	21	44	40	5.25	7	50	
657-268	M22	7/8"	23	50	44	6	8	25	
657-271	M27	-	28	56	56	6.26	8.5	25	

<p>DIN 6917 14% Slope for "I" Beams Countersunk – Steel, Plain</p> 	SPAENAUR No.	For BOLT DIAMETER		Hole Dia. d (mm)	Dimensions in Millimetres				PKG QTY.
		Metric	Inch		a	b	e	f	
		657-201	M12		1/2"	13	30	26	
657-202	M16	5/8"	17	36	32	5	7.5	50	
657-203	M20	3/4"	21	44	40	6.1	9.2	50	
657-205	M24	1"	25	56	56	6.9	10.8	25	

DIN 6917 and DIN 6918 are for use with DIN 6914 Hex Cap Screws

SPAENAUR CATALOG 14

Inch and Metric

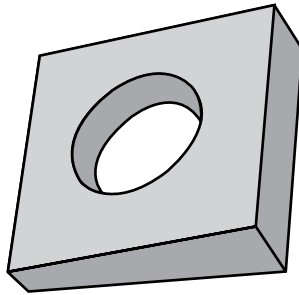
Beveled Washers / Shim Rings

Pouce et Métrique

Rondelles biseautées / Rondelles d'ajustage

MALLEABLE IRON BEVELED WASHERS

16-2/3% Slope

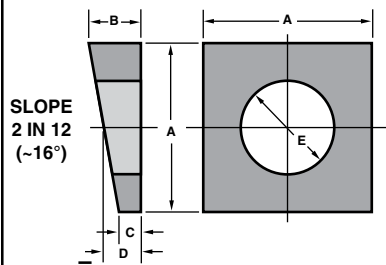


Plain Finish

SPAENAUR No.	Bolt Dia.	Across Flats (Square)	Thickness		Hole Dia.	PKG QTY.
			at Large End	at Taper		
635-001	1/4"	11/16"	7/32"	5/64"	5/16"	50
W-289	3/8"	1-1/4"	11/32"	5/32"	7/16"	50
W-290	1/2"	1-1/4"	11/32"	5/32"	9/16"	50
635-A01-1K	5/8"	1-1/2"	13/32"	5/32"	11/16"	25
W-292	3/4"	1-1/2"	13/32"	5/32"	13/16"	25
W-293	7/8"	2"	1/2"	7/32"	15/16"	10
W-294	1"	2"	9/16"	7/32"	1-3/32"	10

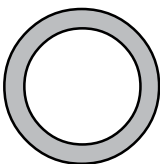
ALUMINUM (Alloy 319) BEVELED WASHERS

TYPE A - Plain Finish



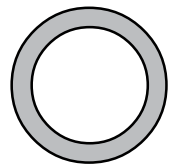
SPAENAUR No.	BOLT DIA.	A	B	C	D	HOLE DIA. E	PKG QTY.
635-300	1/4"	0.69"	0.22"	0.09"	0.16"	0.31"	100
635-301	5/16"	1.00"	0.31"	0.16"	0.23"	0.38"	100
635-302	3/8"	1.25"	0.34"	0.12"	0.23"	0.44"	50
635-303	1/2"	1.25"	0.34"	0.12"	0.23"	0.56"	50
635-304	5/8"	1.50"	0.38"	0.12"	0.25"	0.69"	25
635-305	3/4"	1.50"	0.44"	0.19"	0.31"	0.81"	25

Metric SHIM and SUPPORTING RINGS



Shim Washer Material - Steel St 2 K 60, Oil Dipped.
Supporting Ring Material - Spring Steel, Oil Dipped, HRC: 44-49.

DIN 988



Dimensions in Millimetres

SPAENAUR No.	I.D.	O.D.	Thickness	PKG QTY.	SPAENAUR No.	I.D.	O.D.	Thickness	PKG QTY.
SHIM RINGS					SUPPORTING RINGS				
657-179	10	16	0.1	100	657-164	63	80	0.3	50
657-180	10	16	0.2	100	657-223	63	80	0.5	50
657-181	10	16	0.3	100	657-224	63	80	1.0	50
657-182	10	16	0.5	100	657-225	70	90	0.1	50
657-165	10	16	1.5	100	657-226	70	90	0.3	50
657-163	10	16	2.0	100	657-315	75	95	0.1	50
657-158	12	18	0.5	100	657-146	75	95	0.3	50
657-210	13	19	0.3	100	657-227	75	95	0.5	50
657-213	25	35	0.5	100	657-228	80	100	0.1	25
657-214	32	45	0.1	100	657-252	80	100	0.15	25
657-215	32	45	0.15	100	657-229	80	100	0.3	25
657-216	32	45	0.3	100	657-230	80	100	0.5	25
657-217	32	45	0.5	100	657-231	80	100	1.5	25
657-168	40	50	0.1	50	657-232	120	150	0.1	1
657-160	40	50	0.15	50	657-233	120	150	0.3	1
657-159	40	50	0.20	50	657-167	120	150	0.5	1
657-161	40	50	0.5	50	SUPPORTING RINGS				
657-218	42	52	0.5	50	657-211	15	21	1.5	100
657-219	45	55	0.1	50	657-212	16	22	1.5	100
657-220	45	55	0.15	50	657-814	25	35	2.0	100
657-828	45	55	0.3	50	657-311	32	45	2.5	100
657-221	45	55	0.5	50	657-312	35	45	2.5	100
657-222	63	80	0.1	50	657-313	40	50	2.5	50
					657-314	45	55	3.0	50

CATALOG 14

SPAENAUR