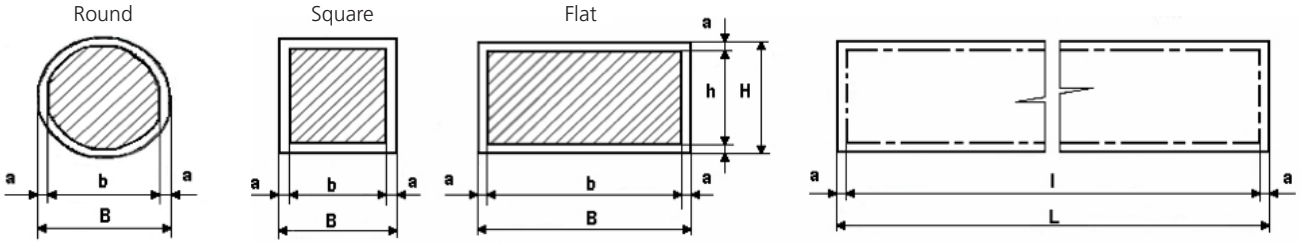
MACHINING ALLOWANCES AND TOLERANCES FOR HOT-FORGED PRODUCTS • UNI 7486: 1975



a = machining allowance
b, h, l = dimensions after machining
B, H, L = raw material dimensions

DIMENSION		FOR LENGTH > 6000 mm, TOLERANCES AND ALLOWANCES HAVE TO BE AGREED WHILE PLACING THE ORDER											
b or h after mechanical processing mm		Carbon steels and low-alloyed steels, max L 3500 (% of every alloy elements < 5)				Carbon steels and low-alloyed steels, max L 3500 - 6000 (% of every alloy element < 5)				High-alloyed steels, max L 3500 (% of every alloy element ≥ 5)			
		increase b or h (2 a)	deviation B or H	increase l (2 a)	deviation L	increase b or h (2 a)	deviation B or H	increase l (2 a)	deviation L	increase b or h (2 a)	deviation B or H	increase l (2 a)	deviation L
> 100	≤ 125	14	± 3,8	17	+ 17 / - 10	17	± 4,8	22	+ 21 / - 13	10	± 2,0	16	+ 14 / - 11
> 125	≤ 160	16	± 4,2	19	+ 18 / - 11	19	± 5,4	24	+ 22 / - 14	12	± 2,3	18	+ 14 / - 11
> 160	≤ 200	18	± 4,9	22	+ 20 / - 13	21	± 6,3	26	+ 22 / - 15	14	± 2,8	20	+ 14 / - 14
> 200	≤ 250	21	± 5,6	24	+ 22 / - 14	24	± 7,2	29	+ 26 / - 17	17	± 3,4	23	+ 16 / - 16
> 250	≤ 315	25	± 6,5	28	+ 26 / - 15	28	± 8,4	32	+ 29 / - 19	21	± 4,2	26	+ 18 / - 18
> 315	≤ 400	30	± 7,7	32	+ 28 / - 18	33	± 10,0	36	+ 33 / - 22	26	± 5,1	30	+ 21 / - 21
> 400	≤ 500	36	± 9,2	38	+ 33 / - 22	40	± 11,9	42	+ 38 / - 25	32	± 6,3	36	+ 25 / - 25
> 500	≤ 630	44	± 11,0	45	+ 39 / - 25	48	± 14,3	49	+ 46 / - 29	39	± 7,8	42	+ 29 / - 29
> 630	≤ 800	54	± 13,5	55	+ 45 / - 30	58	± 17,4	58	+ 51 / - 34	49	± 9,8	52	+ 35 / - 35
> 800	≤ 1000	66	± 16,3	67	+ 55 / - 36	71	± 21,3	69	+ 61 / - 41	61	± 12,1	63	+ 42 / - 42

Measures are expressed in mm. e.g. non-alloyed round bars b = 330 mm and l ≤ 3500 mm. Diameter of turned raw material B = 330 + 30 = 360 ± 7,7

DIMENSION		FOR LENGTH > 6000 mm, TOLERANCES AND ALLOWANCES HAVE TO BE AGREED WHILE PLACING THE ORDER											
b or h after mechanical processing mm		Low-alloyed steels, L 3500 - 6000 (% of every alloy elements ≥ 5)				Tool steels L 3500 max				Tool steels L 3500 - 6000			
		increase b or h (2 a)	deviation B or H	increase l (2 a)	deviation L	increase b or h (2 a)	deviation B or H	increase l (2 a)	deviation L	increase b or h (2 a)	deviation B or H	increase l (2 a)	deviation L
> 100	≤ 125	13	± 4,0	21	+ 18 / - 12	7	± 1,5	14	+ 14 / - 11	10	± 2,1	17	+ 14 / - 10
> 125	≤ 160	15	± 4,6	22	+ 20 / - 13	9	± 1,8	15	+ 14 / - 11	12	± 2,5	19	+ 15 / - 12
> 160	≤ 200	18	± 5,2	25	+ 22 / - 14	11	± 2,2	17	+ 14 / - 14	14	± 2,9	21	+ 16 / - 14
> 200	≤ 250	21	± 6,0	27	+ 24 / - 16	13	± 2,6	20	+ 16 / - 16	17	± 3,5	23	+ 17 / - 17
> 250	≤ 315	24	± 7,0	30	+ 27 / - 18	16	± 3,2	23	+ 18 / - 18	21	± 4,2	26	+ 19 / - 19
> 315	≤ 400	29	± 8,4	35	+ 31 / - 21	19	± 4,0	27	+ 21 / - 21	26	± 5,0	30	+ 22 / - 22
> 400	≤ 500	35	± 10,0	40	+ 35 / - 24	24	± 4,9	32	+ 25 / - 25	32	± 6,2	35	+ 26 / - 26
> 500	≤ 630	42	± 12,0	47	+ 42 / - 28	30	± 6,0	38	+ 29 / - 29	39	± 7,5	41	+ 31 / - 31
> 630	≤ 800	52	± 14,9	55	+ 49 / - 33	37	± 7,4	47	+ 35 / - 35	49	± 9,4	49	+ 36 / - 36
> 800	≤ 1000	64	± 18,1	66	+ 59 / - 40	46	± 9,3	57	+ 42 / - 42	61	± 11,6	59	+ 44 / - 44

Measures are expressed in mm. e.g. tool steels round b = 260 mm and l ≤ 4000 mm. Diameter of turned raw material B = 260 + 21 = 281 ± 4,2. Only for rounds, ovalization is not higher than the tolerance corresponding to diameter B. Flats tolerances and allowances values are valid if: b/h ≤ 8 for alloyed, non-alloyed, quality or special steels; b/h ≤ 5 for base non-alloyed steels. Lucefin Group tolerance for rough products on b or h is + 1 mm / + 3 mm.