Mindesteinschraubtiefen nach VDI 2230-1:2015
für Innengewinde in Aluminium-Knetlegierungen
(Scherfestigkeitsverhältnis τ_B / R_m = 0.6)

Statik | Ermüdungsfestigkeit | Bruchmechanik
Schrauben, Schweißnähte, Maschinenbauteile
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Scherfestigkeit [N/mm²]	Festigkeits-klasse	Mindesteinschraubtiefen [mm] für Nenndurchmesser											
		M3	M4	M5	M6	M8	M10	M12	M16	M20	M24	M30	M36
20	8.8	42.3	52.9	66.2	77.1	101.5	125.9	150.3	204.4	259.6	308.5	387.4	466.6
	10.9	54.7	68.3	85.5	99.7	131.2	162.7	194.4	264.5	324.0	385.0	483.7	582.6
	12.9	64.0	79.8	100.0	116.6	153.5	190.4	227.4	309.6	379.2	450.6	566.2	682.1
39 (Al99,5)	8.8	22.2	27.8	34.7	40.6	53.3	66.0	78.8	106.8	135.6	161.1	202.1	243.2
	10.9	28.6	35.7	44.7	52.1	68.5	84.9	101.4	137.6	168.6	200.4	251.5	302.7
	12.9	33.3	41.6	52.1	60.8	79.9	99.1	118.3	160.7	196.9	234.0	293.8	353.7
54 (AlMn1Cu)	8.8	16.3	20.5	25.5	29.9	39.2	48.5	57.9	78.3	99.3	118.1	147.9	177.9
	10.9	20.9	26.2	32.7	38.2	50.2	62.2	74.2	100.5	123.2	146.4	183.6	220.9
	12.9	24.4	30.5	38.1	44.5	58.4	72.4	86.4	117.2	143.6	170.7	214.1	257.7
60	8.8	14.8	18.6	23.2	27.1	35.5	44.0	52.5	70.8	89.9	106.9	133.8	160.9
	10.9	18.9	23.7	29.6	34.6	45.4	56.3	67.2	90.9	111.4	132.4	165.9	199.6
	12.9	22.0	27.6	34.4	40.2	52.9	65.5	78.2	105.9	129.8	154.2	193.4	232.7
80	8.8	11.4	14.3	17.8	20.8	27.3	33.8	40.2	54.1	68.7	81.7	102.1	122.7
	10.9	14.5	18.2	22.6	26.5	34.7	43.0	51.3	69.2	84.8	100.8	126.2	151.7
	12.9	16.8	21.0	26.2	30.7	40.3	49.9	59.5	80.4	98.6	117.2	146.8	176.6
100	8.8	9.3	11.7	14.6	17.1	22.3	27.6	32.9	44.1	56.0	66.5	83.1	99.8
	10.9	11.8	14.8	18.4	21.6	28.3	35.0	41.7	56.1	68.8	81.8	102.4	123.0
	12.9	13.6	17.1	21.3	25.0	32.7	40.5	48.3	65.2	79.9	95.0	118.9	142.9
120	8.8	7.9	10.0	12.4	14.6	19.0	23.5	28.0	37.4	47.5	56.5	70.4	84.5
	10.9	10.0	12.6	15.6	18.3	24.0	29.7	35.4	47.5	58.2	69.2	86.5	103.8
	12.9	11.5	14.5	18.0	21.1	27.7	34.3	40.9	55.0	67.4	80.1	100.2	120.4
140	8.8	6.9	8.8	10.9	12.8	16.7	20.6	24.5	32.7	41.4	49.3	61.4	73.6
	10.9	8.7	11.0	13.6	16.0	20.9	25.9	30.8	41.3	50.6	60.2	75.1	90.1
	12.9	10.0	12.6	15.7	18.4	24.1	29.8	35.5	47.7	58.5	69.6	86.9	104.3
160	8.8	6.2	7.9	9.7	11.4	14.9	18.4	21.9	29.1	36.9	43.9	54.6	65.4
	10.9	7.8	9.8	12.1	14.3	18.6	23.0	27.4	36.6	44.9	53.4	66.6	79.9
	12.9	8.9	11.2	13.9	16.4	21.4	26.5	31.5	42.2	51.8	61.6	76.9	92.3
180	8.8	5.7	7.2	8.8	10.4	13.6	16.7	19.9	26.3	33.3	39.6	49.3	59.0
	10.9	7.0	8.9	11.0	12.9	16.8	20.8	24.8	33.0	40.5	48.2	60.0	71.9
	12.9	8.0	10.2	12.6	14.8	19.3	23.9	28.4	38.0	46.6	55.4	69.2	82.9
200	8.8	5.2	6.7	8.2	9.7	12.6	15.5	18.4	24.2	30.6	36.4	45.2	54.1
	10.9	6.4	8.1	10.0	11.8	15.4	19.0	22.6	30.1	36.9	43.9	54.7	65.5
	12.9	7.3	9.3	11.5	13.5	17.6	21.8	25.9	34.6	42.5	50.5	63.0	75.5
220	8.8	4.9	6.3	7.7	9.1	11.8	14.5	17.2	22.6	28.5	33.9	42.1	50.2
	10.9	5.9	7.5	9.3	10.9	14.3	17.6	20.9	27.7	34.0	40.5	50.4	60.3
	12.9	6.8	8.6	10.6	12.4	16.3	20.1	23.9	31.8	39.1	46.4	57.9	69.3
240	8.8	4.7	5.9	7.3	8.6	11.2	13.7	16.3	21.3	26.9	32.0	39.6	47.2
	10.9	5.6	7.1	8.7	10.3	13.4	16.5	19.6	25.9	31.8	37.8	46.9	56.1
	12.9	6.3	8.0	9.9	11.6	15.1	18.7	22.2	29.5	36.2	43.1	53.6	64.2
260	8.8	4.4	5.7	6.9	8.2	10.7	13.1	15.5	20.3	25.5	30.4	37.5	44.8
	10.9	5.3	6.7	8.2	9.7	12.6	15.5	18.5	24.3	29.9	35.6	44.1	52.7
	12.9	5.9	7.5	9.3	10.9	14.2	17.5	20.8	27.6	33.9	40.3	50.1	59.9
270 (AlCu4SiMg)	8.8	4.4	5.6	6.8	8.1	10.4	12.8	15.2	19.8	24.9	29.7	36.7	43.7
	10.9	5.1	6.5	8.0	9.5	12.3	15.1	18.0	23.7	29.1	34.6	42.9	51.3
	12.9	5.8	7.3	9.0	10.6	13.8	17.0	20.2	26.8	32.9	39.1	48.6	58.1
280	8.8	4.3	5.5	6.7	7.9	10.2	12.6	14.9	19.4	24.4	29.0	35.9	42.7
	10.9	5.0	6.4	7.8	9.3	12.0	14.8	17.6	23.1	28.4	33.8	41.8	49.9
	12.9	5.6	7.1	8.8	10.3	13.4	16.6	19.7	26.0	32.0	38.0	47.2	56.5
300	8.8	4.1	5.3	6.4	7.6	9.9	12.1	14.4	18.7	23.5	27.9	34.5	41.1
	10.9	4.8	6.1	7.5	8.9	11.5	14.2	16.8	22.1	27.1	32.2	39.9	47.6
	12.9	5.3	6.8	8.3	9.9	12.8	15.8	18.7	24.7	30.4	36.1	44.8	53.5
320	8.8	4.0	5.1	6.2	7.4	9.6	11.7	13.9	18.1	22.7	27.0	33.3	39.6
	10.9	4.6	5.9	7.2	8.6	11.1	13.6	16.2	21.2	26.0	31.0	38.3	45.7
	12.9	5.1	6.5	8.0	9.5	12.3	15.1	18.0	23.6	29.0	34.5	42.8	51.1
340	8.8	3.9	5.0	6.0	7.2	9.3	11.4	13.5	17.5	21.9	26.1	32.2	38.3
	10.9	4.5	5.7	7.0	8.3	10.7	13.2	15.6	20.4	25.1	29.9	36.9	44.0
	12.9	4.9	6.3	7.7	9.1	11.8	14.5	17.3	22.7	27.9	33.1	41.1	49.0

farblich hervorgehobene Werte sind:

●: 1.5 · d ≤ mges ≤ 3 · d - nur mit Vorsicht und gesonderter Prüfung zu verwenden / ●: mges > 3 · d - nach Möglichkeit zu vermeiden