

Investment Casting

Tolerance Table Standard



Dimensions mm		All Materials						Titanium and titanium alloys						Aluminium and Aluminium alloys							
of	till	excluding Ti and Al						T <sub>1</sub>		T <sub>2</sub>		T <sub>3</sub>		A <sub>1</sub>		A <sub>2</sub>		A <sub>3</sub>			
		D1		D2		D3		Free Sizes		Field	GTA	Field	GTA	Field	GTA	Field	GTA	Field	GTA		
0	6	± 0.10	0.20	± 0.08	0.16	± 0.06	0.12	± 0.25	0.50	0.5		0.4		0.4		0.3		0.24		0.20	
6	10	± 0.12	0.24	± 0.10	0.20					0.6					0.36		0.28		0.22		
10	14	± 0.15	0.30	± 0.12	0.24	± 0.09	0.18	± 0.40	0.80	0.7	<b>15</b>	0.5	<b>14,5</b>	0.44	<b>14</b>	0.44	<b>14</b>	0.34	<b>13,5</b>	0.28	<b>13</b>
14	18	± 0.20	0.40	± 0.14	0.28					0.8		0.7		0.52		0.52		0.40		0.34	
18	24	± 0.25	0.50	± 0.17	0.34	± 0.12	0.23	± 0.60	1.20												
24	30	± 0.30	0.60	± 0.20	0.40	± 0.14	0.28			1.0		0.8		0.62		0.80		0.62		0.50	
30	40	± 0.37	0.74	± 0.25	0.50	± 0.17	0.34			1.5		1.2		0.9		0.90		0.74		0.60	
40	50	± 0.44	0.88	± 0.30	0.60	± 0.20	0.40	± 0.80	1.60	1.7		1.4		1.1		1.10		0.88		0.70	
50	65	± 0.52	1.04	± 0.38	0.76	± 0.23	0.46			2.0	<b>15,5</b>	1.6	<b>15</b>	1.3	<b>14,5</b>	1.60		1.30		1.00	
65	80	± 0.60	1.20	± 0.46	0.92	± 0.27	0.54	± 1.00	2.00	2.4		1.9		1.5		1.90		1.50		1.20	
80	100	± 0.68	1.36	± 0.53	1.06	± 0.30	0.60			3.2		2.6				2.60		2.20		1.60	
100	120	± 0.76	1.52	± 0.60	1.20	± 0.33	0.66			3.6	<b>16</b>	2.8	<b>15,5</b>			2.80	<b>15,5</b>	2.40	<b>15</b>	1.70	<b>14,5</b>
120	140	± 0.84	1.68	± 0.65	1.30	± 0.36	0.72			4.0		3.2				3.20		2.60		1.90	
140	160	± 0.92	1.84	± 0.72	1.44	± 0.38	0.76			6.2	<b>16,5</b>	5.0	<b>16</b>			5.00		4.00	<b>15,5</b>		
160	180	± 1.02	2.04	± 0.80	1.60	± 0.42	0.84			7.2						5.60	<b>16</b>	4.60			
180	200	± 1.12	2.24	± 0.88	1.76	± 0.43	0.86									6.60					
200	225	± 1.28	2.56	± 0.95	1.90	± 0.47	0.94														
225	250	± 1.44	2.88	± 1.05	2.10	± 0.51	1.02														
250	280	± 1.64	3.28	± 1.15	2.30	± 0.56	1.12														
280	315	± 1.84	3.68	± 1.25	2.50	± 0.63	1.26														
315	355	± 2.10	4.20	± 1.40	2.80	± 0.71	1.42														
355	400	± 2.40	4.80	± 1.60	3.20	± 0.80	1.60	± 1 %	2 %												
400	450	± 2.70	5.40	± 1.80	3.60	± 1.90	1.80														
450	500	± 3.00	6.00	± 2.00	4.00	± 1.00	2.00														
500	800	± 3.50	7.00	± 2.50	5.00	± 1.25	2.50														
800	1000																				
1000	1500																				

The reachable tolerance standards for investment castings are referred in VDG-data sheet P690. The validity ranges are as follows:

Degree of Accuracy D1, T1, A1: Valid for all free sizes

Degree of Accuracy D2, T2, A2: Valid for all tolerated dimensions

Degree of Accuracy D3, T3, A3: Has to be negotiated for every dimension and can only be held on few dimensions.