

Cirex. Technical specifications

Investment casting ('lost wax') tolerances are specified by the international standard: VDG P690. The Cirex highly automated production process, virtually independent of human influences, makes it possible to achieve a very high reproducibility. Together with the low roughness values, substantial savings on machining can be realized. The tolerances in the tables below can be used as an indication, depending on the steel alloy used and the product geometry.

linear tolerances

nominal size	D ₁ tolerance general dimensions		D ₂ tolerance some functional dimen.		D ₃ tolerance specific dimensions	
	Cirex*	VDG P690	Cirex*	VDG P690	Cirex*	VDG P690
	to 6	± 0,10	± 0,15	± 0,08	± 0,12	± 0,06
6 to 10	± 0,12	± 0,18	± 0,10	± 0,14	± 0,06	± 0,11
10 to 18	± 0,20	± 0,22	± 0,14	± 0,17	± 0,09	± 0,14
18 to 30	± 0,26		± 0,20		± 0,17	
30 to 50	± 0,40		± 0,31		± 0,25	
50 to 80	± 0,45		± 0,37		± 0,30	
80 to 120	± 0,55		± 0,44		± 0,35	
120 to 180	± 0,80		± 0,65		± 0,50	
180 to 250	± 1,20		± 0,95		± 0,75	
250 to 315	± 1,30		± 1,10		± 0,80	
315 to 400	± 1,80		± 1,40			

*In many cases achievable due to the high reproducibility of the Cirex production process

tolerances for straightness, flatness and parallelism

tolerance class	lengths		
	to 25 mm	25 to 50 mm	above 50 mm
	typical tolerances		
D1	0,15 mm	0,25 mm	0,6 %
D2	0,10 mm	0,20 mm	0,4 %
D3	0,10 mm	0,15 mm	0,3 %

Shape and positional tolerances are to be agreed on with Cirex

dimensions for holes and channels

∅ resp. □ d (mm)	greatest length, depth respectively	
	continuous	blind
≥ 2 to 4	≈ 1 x d	≈ 0,6 x d
> 4 to 6	≈ 2 x d	≈ 1,0 x d
> 6 to 10	≈ 3 x d	≈ 1,6 x d
> 10	≈ 4 x d	≈ 2,0 x d

surface quality

degree	roughness values		
	Ra [μm]	Rz [μm]	CLA [μm]
N7	1,6	6 - 8	63
N8	3,2	12 - 16	125
N9	6,3	23 - 32	250