

Tolerances of Plastics to DIN16901

Deviations from the nominal dimensions are unavoidable in the manufacture of plastic shapes.

There are various reasons for these deviations:

a) Machining distribution

this depends on

- the evenness of the shape
- the setting of the machine
- the temperature of the tools
- the distortion of the tool under pressure.

b) The condition of the tool

- manufacturing tolerances for tool dimensions (see DIN 16 749)
- wear on tools
- deviations in the position of mobile tool parts.

The tolerances for this norm have been laid down taking into account these factors and numerous measurements in practice.

The plastics in this norm are divided into tolerance rows. All the plastics used by Bopla for standard enclosures, PS, ABS, PC, Noryl SE 1 (PPE), PA (GF, GB), and polyester are in Row 130, for which the tolerances given below apply. The tolerances apply on the basis of the machining shrinkage worked into the tool only for the appropriate enclosure with the standard material stated.

Nominal Dimensions

over	0	1	3	6	10	15	22	30	40	53
to	1	3	6	10	15	22	30	40	53	70

For dimensions not tied to tools¹⁾

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$\pm 0,18 \pm 0,19 \pm 0,20 \pm 0,21 \pm 0,23 \pm 0,25 \pm 0,27 \pm 0,30 \pm 0,34 \pm 0,38$

For dimensions tied to tools ²⁾

$\pm 0,08 \pm 0,09 \pm 0,10 \pm 0,11 \pm 0,13 \pm 0,15 \pm 0,17 \pm 0,20 \pm 0,24 \pm 0,28$

Nominal Dimensions

70	90	120	160	200	250	315	400	500	630	800
90	120	160	200	250	315	400	500	630	800	1000

For dimensions not tied to tools¹⁾

$\pm 0,44 \pm 0,51 \pm 0,60 \pm 0,70 \pm 0,90 \pm 1,10 \pm 1,30 \pm 1,60 \pm 2,00 \pm 2,50 \pm 3,00$

For dimensions tied to tools²⁾

$\pm 0,34 \pm 0,41 \pm 0,50 \pm 0,60 \pm 0,80 \pm 1,00 \pm 1,20 \pm 1,50 \pm 1,90 \pm 2,40 \pm 2,90$

Figures in mm

1) Dimensions not tied to tools are those formed by the interaction of mobile tool parts, e.g. wall thicknesses and floor thicknesses or dimensions that are affected by additives or pushers.

2) Dimensions tied to tools are those in the same part of the tool.