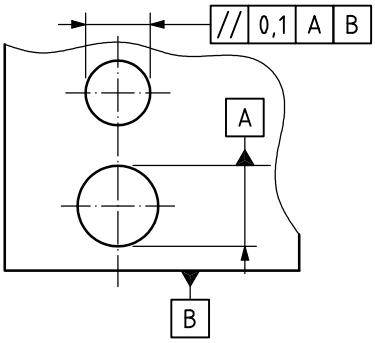
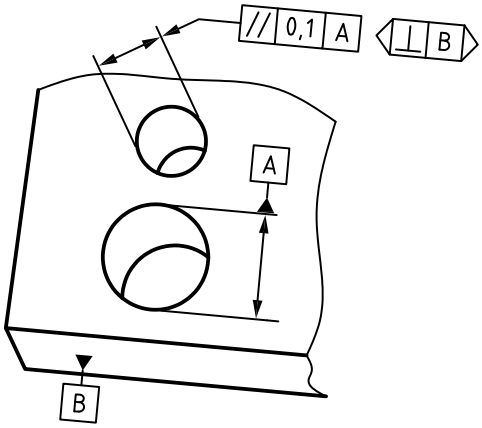
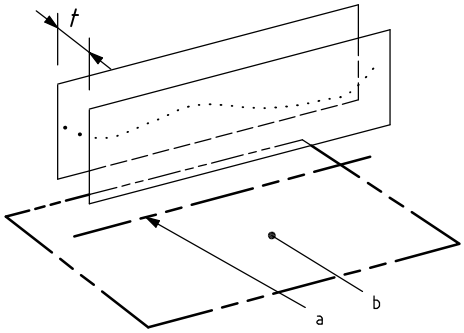
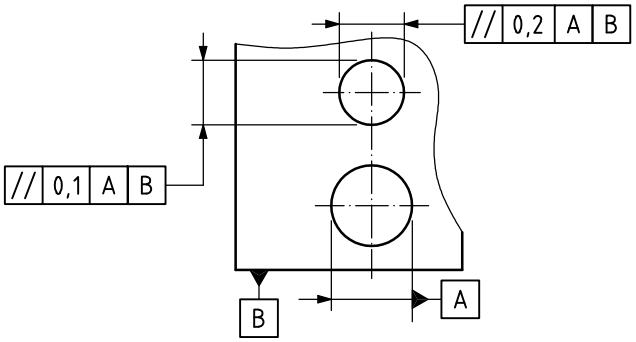
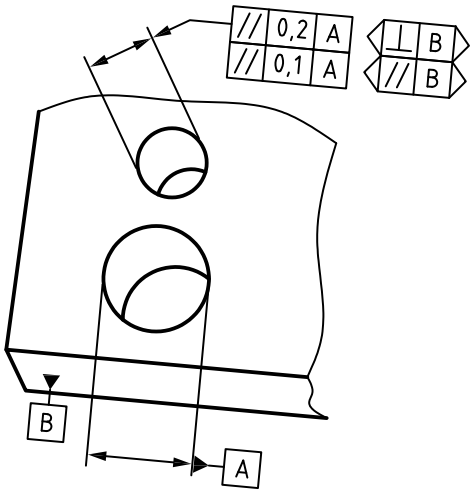
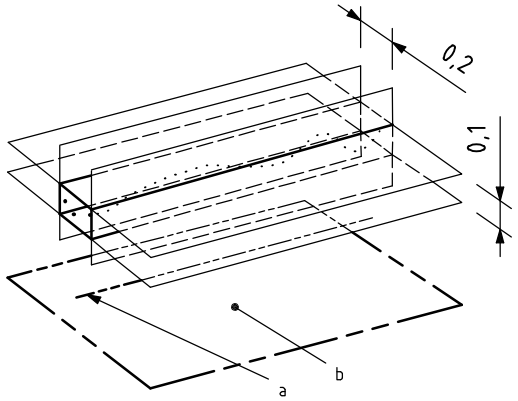
Dimensions in millimetres

Symbol	Indication and explanation
//	The extracted (actual) median line shall be contained between two parallel planes 0,1 apart, which are parallel to datum axis A. The planes limiting the tolerance zone are perpendicular to datum plane B as specified by the direction of the leader line and the secondary datum (2D) or the orientation plane indicator (3D) (the direction of the width of the tolerance zone is parallel to datum plane B).  **a) 2D**  **b) 3D** **Figure 95**
	Definition of the tolerance zone  a Datum A. b Datum B. **Figure 96**

Dimensions in millimetres

Symbol	Indication and explanation
//	The extracted (actual) median line shall be contained between two pairs of parallel planes, which are parallel to datum axis A, and positioned 0,1 and 0,2 apart respectively. The direction of the width of the tolerance zones is specified with respect to datum plane B by the direction of the leader lines and the secondary datum (2D) or the orientation plane indicators (3D).  a) 2D  b) 3D **Figure 97**
	Definition of the tolerance zone
	The extracted (actual) median line shall be contained between two pairs of parallel planes, which are parallel to the datum axis A, and positioned 0,1 and 0,2 apart respectively. The orientations of the tolerance zones specified with respect to datum plane B by the orientation plane indicators: — the planes limiting the tolerance zone of 0,2 mm are perpendicular to the orientation plane B as specified by the orientation plane indicator; — the planes limiting the tolerance zone of 0,1 mm are parallel to the orientation plane B as specified by the orientation plane indicator.

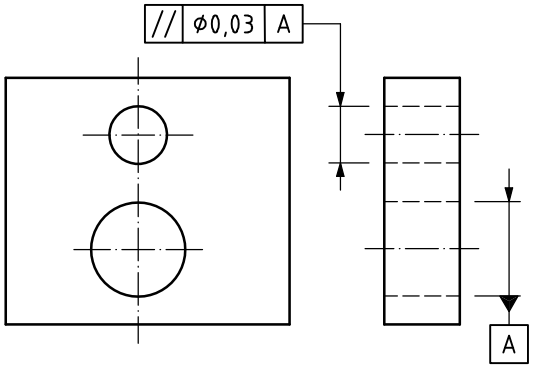
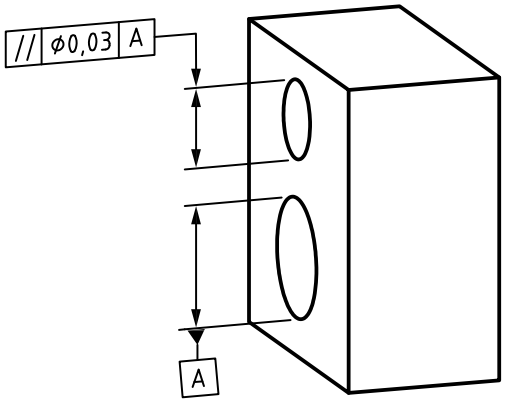
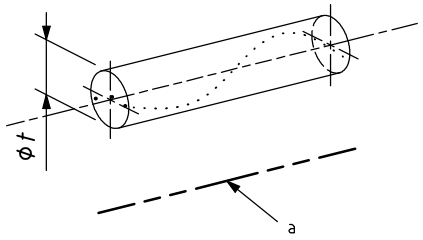


a Datum A.
b Datum B.

Figure 98

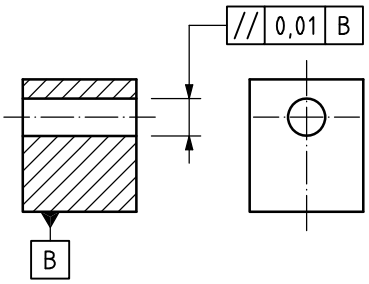
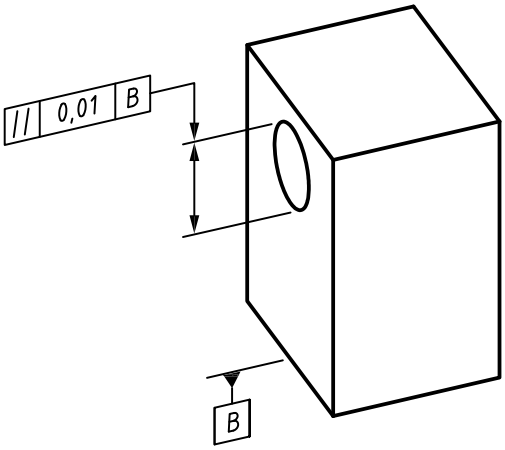
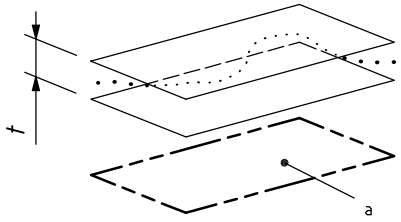
18.9.2 Parallelism tolerance of a line related to a datum line

Dimensions in millimetres

Symbol	Indication and explanation
//	The extracted (actual) median line shall be within a cylindrical zone of diameter 0,03, parallel to datum axis A.  **a) 2D**  **b) 3D** **Figure 99**
	Definition of the tolerance zone
	The tolerance zone is limited by a cylinder of diameter t, parallel to the datum, if the tolerance value is preceded by the symbol ⌀.  a Datum A. **Figure 100**

18.9.3 Parallelism tolerance of a line related to a datum plane

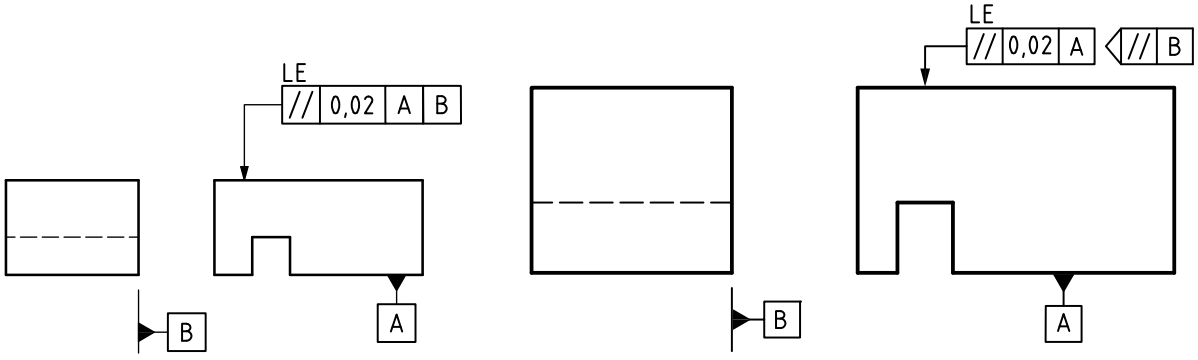
Dimensions in millimetres

Symbol	Indication and explanation
//	The extracted (actual) median line shall be contained between two parallel planes 0,01 apart, which are parallel to datum plane B.  **a) 2D**  **b) 3D** **Figure 101**
	Definition of the tolerance zone The tolerance zone is limited by two parallel planes a distance t apart and parallel to the datum.  a Datum B. **Figure 102**

18.9.4 Parallelism tolerance of a surface related to a datum plane

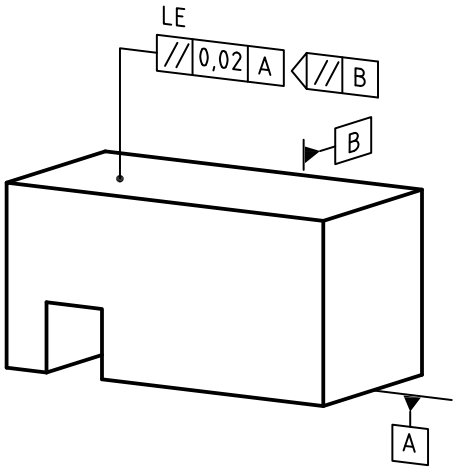
Dimensions in millimetres

Symbol	Indication and explanation
//	Each extracted (actual) line, parallel to datum plane B as specified by the intersection plane indicator, shall be contained between two parallel lines 0,02 apart, which are parallel to datum plane A.



a) 2D using a secondary datum

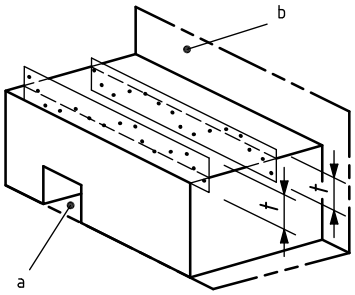
b) 2D using an intersection plane indicator



c) 3D

Figure 103

Definition of the tolerance zone
The tolerance zone is limited by two parallel lines a distance t apart and oriented parallel to datum plane A, the lines lying in a plane parallel to datum plane B.



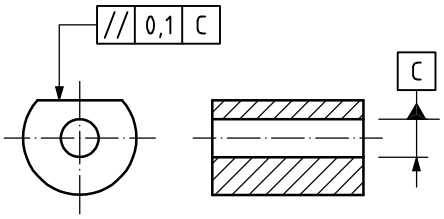
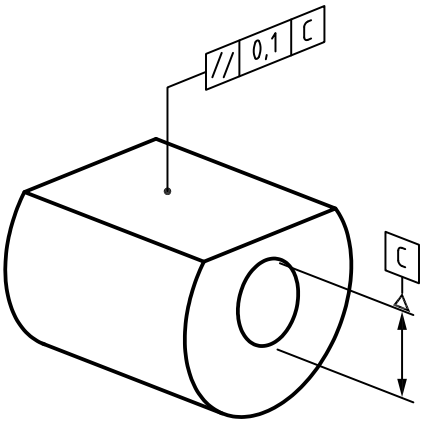
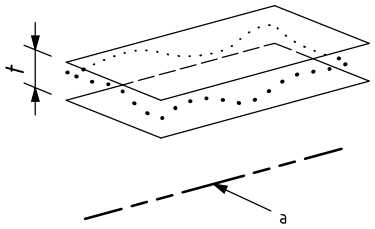
a Datum A.

b Datum B.

Figure 104

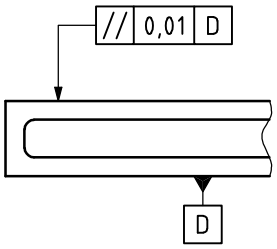
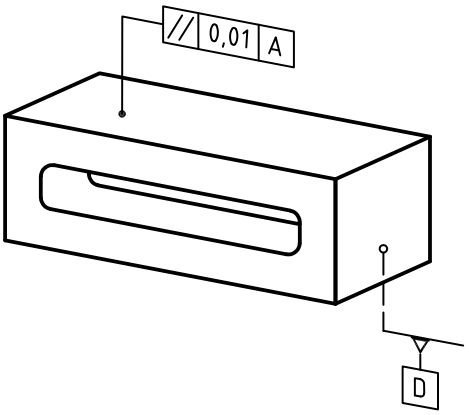
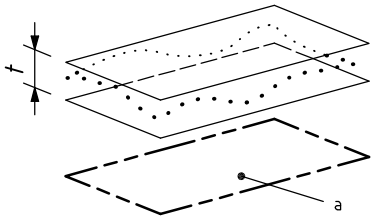
18.9.5 Parallelism tolerance of a surface related to a datum line

Dimensions in millimetres

Symbol	Indication and explanation
//	The extracted (actual) surface shall be contained between two parallel planes 0,1 apart, which are parallel to datum axis C.  **a) 2D**  **b) 3D** **Figure 105**
	Definition of the tolerance zone The tolerance zone is limited by two parallel planes a distance t apart and parallel to the datum.  a Datum C. **Figure 106**

18.9.6 Parallelism tolerance of a surface related to a datum plane

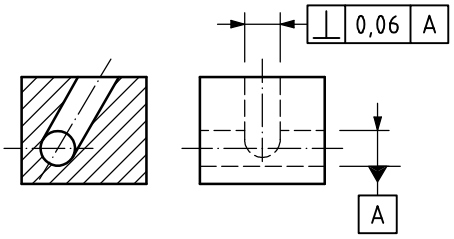
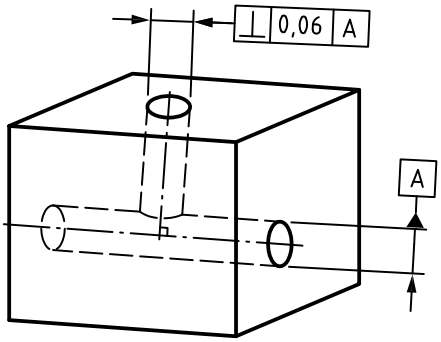
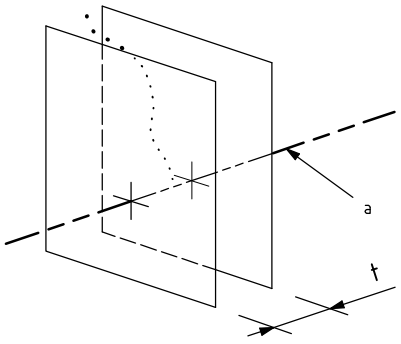
Dimensions in millimetres

Symbol	Indication and explanation
//	The extracted (actual) surface shall be contained between two parallel planes 0,01 apart, which are parallel to datum plane D.  **a) 2D**  **b) 3D** **Figure 107**
	Definition of the tolerance zone The tolerance zone is limited by two parallel planes a distance t apart and parallel to the datum plane.  a Datum D. **Figure 108**

18.10 Perpendicularity tolerance

18.10.1 Perpendicularity tolerance of a line related to a datum line

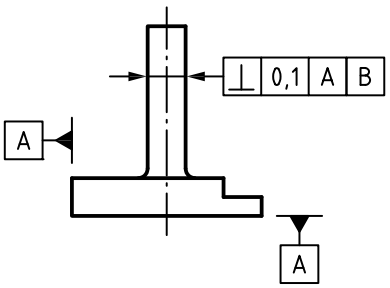
Dimensions in millimetres

Symbol	Indication and explanation
⊥	The extracted (actual) median line shall be contained between two parallel planes 0,06 apart, which are perpendicular to datum axis A.  **a) 2D**  **b) 3D** **Figure 109**
	Definition of the tolerance zone The tolerance zone is limited by two parallel planes a distance t apart and perpendicular to the datum.  a Datum A. **Figure 110**

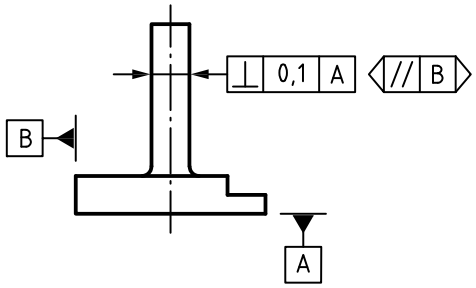
18.10.2 Perpendicularity tolerance of a line related to a datum system

Dimensions in millimetres

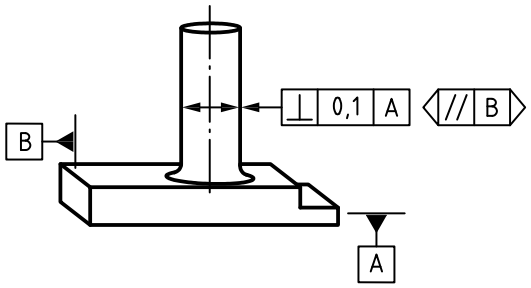
Symbol	Indication and explanation
⊥	The extracted (actual) median line of the cylinder shall be contained between two parallel planes 0,1 apart, which are perpendicular to datum plane A and in the orientation specified with respect to datum plane B.



a) 2D using Datum B as a secondary datum



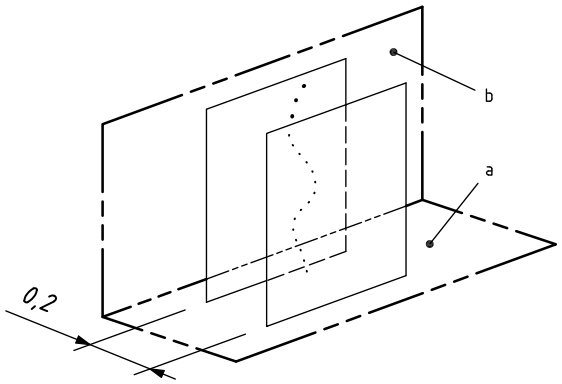
b) 2D using an orientation plane indicator



c) 3D

Figure 111

Definition of the tolerance zone
The tolerance zone is limited by two parallel planes a distance t apart. The planes are perpendicular to datum A and parallel to datum B.



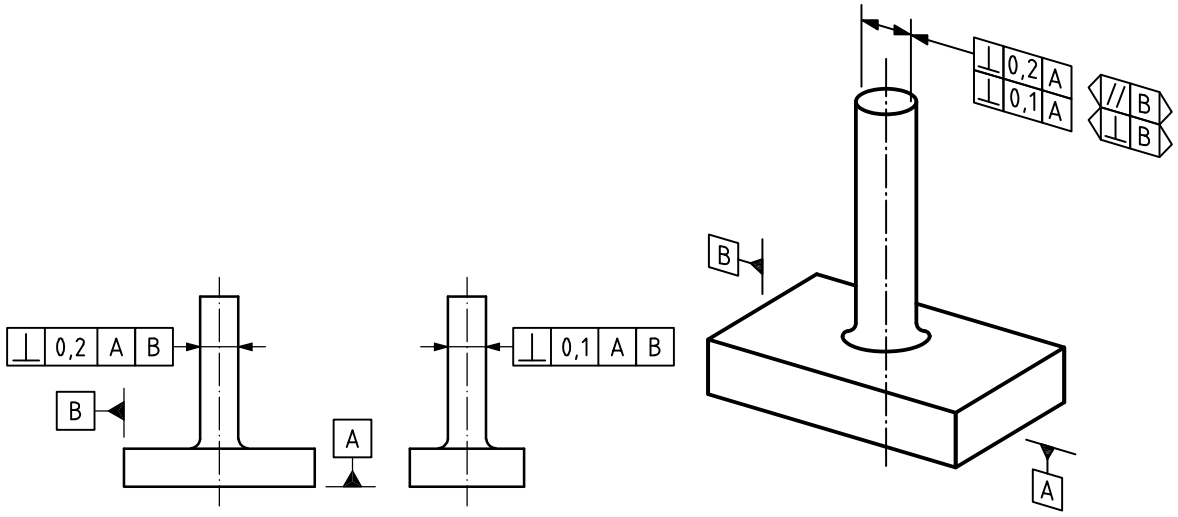
a Datum A.

b Datum B.

Figure 112

Dimensions in millimetres

Symbol	Indication and explanation
⊥	The extracted (actual) median line of the cylinder shall be contained between two pairs of parallel planes, perpendicular to datum plane A, and positioned 0,1 and 0,2 apart respectively. The direction of the width of the tolerance zones is specified with respect to datum plane B by the plane of projection (2D) or the orientation plane indicators (3D).

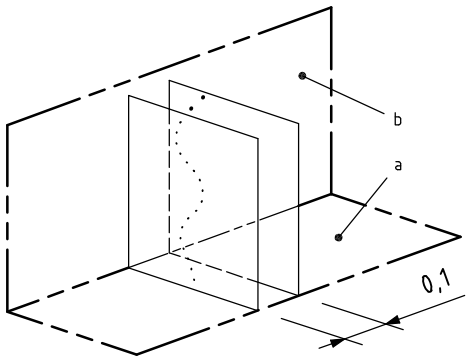


a) 2D b) 3D

Figure 113

Definition of the tolerance zone

The tolerance zone is limited by two pairs of parallel planes a distance 0,1 and 0,2 apart and perpendicular to each other. Both planes are perpendicular to the datum A, one pair of planes being parallel to datum B (see Figure 115), the other pair being perpendicular to datum B (see Figure 114).



a Datum A.
b Datum B.

Figure 114

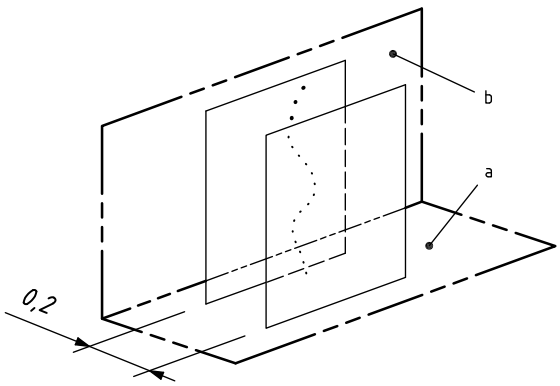


Figure 115