

Spirit levels - Technical data sheets

Term definition

The spirit level is a hollow body containing a fluid with a gas bubble which is used to control the horizontal levelling of any object.

The position of the gas bubble in the fluid shows the angle and the direction in which the object is inclined with respect to the horizontal surface.

Function

The hollow body contains the contrast fluid and the gas bubble always floats in the top of the highest point. Normally the top transparent surface carries a circular marking in the central position.

If the gas bubble is centered exactly within the marking, the object to be controlled is in a horizontal position.

Types of spirit levels

Spirit levels are available as "bull's eye levels" for bidirectional measurements or as "screw-on levels", cylindrically shaped, for unidirectional measurements

"Bull's eye levels" show simultaneously the angle of inclination and the angular position of a surface, whereas monodirectional "screw-on levels, cylindrically shaped, only show the angle of inclination in one direction along the axis of the level.

Sensitivity of the spirit level

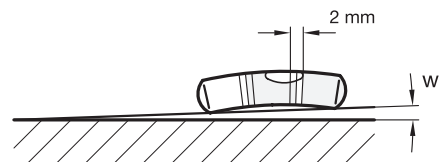
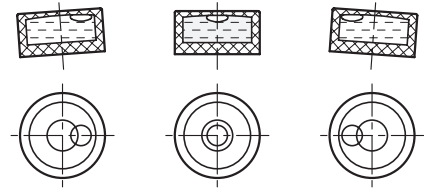
The sensitivity of the spirit levels is given as angle of inclination, e.g. 30 angle minutes or 0.5 degrees (W). This is the angle of inclination with which the level must be inclined to move by 2 mm.

Therefore a spirit level with a sensitivity of 6 angle minutes has superior sensitivity compared to one with a sensitivity of 30 angle minutes.

Angle of inclination and difference in level

Sometimes sensitivity is also given in millimeters per meter, ie as the difference in level per unit of length.

See reference table on the right.



Difference in level millimeters per meter	Angle w angle minutes	Decimal degree
0.3	1	0.0167
0.9	3	0.0500
1.7	6	0.1000
2.9	10	0.1667
5.8	20	0.3333
8.7	30	0.5000
11.6	40	0.6667
14.5	50	0.8333
17.5	60	1.0000