



Levels

Buying and Using Guide

How does a level tool work?

Levelling tools are in every tradesmen toolbox. These are handy for many jobs from carpentry jobs to bricklaying or laying a foundation. Daily levelling tasks are undertaken by site foreman, carpenters, construction companies, landscapers and others. Building or engineering surveyors require high accuracy levelling. It is a useful, inexpensive and easy to use tool. It is an essential for every builder and there is a broad selection of levels available on the market.

A level indicates the horizontal plane. It is used to measure the grade of the area or to take a correct measurement of walls, elevation, floor, etc. Building works require a significant amount of precision when it comes to measuring. A level is used to measure the area accurately. Measurements can be done horizontally, vertically or at an angle.

Levels have a vial or more of them depending on the level's size so it can measure a vertical plumb. The gravity and the features of gases and liquids allow the level to function. Builders typically use longer scales. This tool is quite straightforward in operation. Place the level's frame on the object to be levelled or plumbed. Move the level until the bubble is in the centre of the vial. Maintain the level properly to ensure the vial is not damaged. Usually, levels have a hole so they can be hung for protection.

Levelling is getting more precise and quicker with digital levels but also modern typical measurement precision tools will give horizontal angles with precision.

We can distinguish between levels for external works and interior works. Exterior tasks often require larger sizes of levels or laser levels. For internal jobs, spirit levels are usually chosen.

During the external works, builders use levels to determine the site layout for a new foundation. Here the carpenter level is required for measurement based on structural plans and a laser level to shoot the grade for a footer, foundation, excavation and drainage. A laser level helps to determine the degree of slope and allows to lay the drainage so the excess water will be channelled properly.

Other examples of levels use in external works include the facade works, sewage layout or bricklaying. Interior jobs that require the use of levelling tools include floor installation, dry lining, door and window installation, plastering and others.

Types of levels

Depending on the application's requirements there are available levels with various cross sections and wall thicknesses. The spirit level is mostly powder coated, painted or anodised. Below are some of the most common level measurement tools:

Anodised levels - made from an aluminium profile of section, with highly impact-resistant plastic plugs and acrylic indicators.



Painted levels - made from an aluminium profile of section, powder painted surface in orange, high-

ly impact resistant plastic plugs. Weight 650g/m. Accuracy: $0,017=0,3$ mm/m for instance:

Slowik Level 'Atena' - stronger profile, height 50mm, used mainly for tiling, dry lining and other light construction jobs. It had the restricted slide thanks to pattern surface. Accuracy $0,3$ mm/m and grade 2%.



Slowik Level 'Herkules' - stronger profile, height 60mm, used mainly for levelling footers and foundation works (for lengths of 200cm and 240cm), for measuring of patios, terraces, pathways, bricklaying and other general building works.



Electronic levels - made of aluminium profile of section, highly impact resistant plugs, acrylic indicators, silver colour anodised surface, Weight Accuracy: $0,017=0,3$ mm/m



Traversing rules - made of an aluminium profile of section, highly impact-resistant plastic plugs. Accuracy: $0,057=1,0$ mm/m, weight 911 g/m

It is used in various construction and surveying works. Different models are available. Some of the rectangular cross-section or with an integrated one or two vials, horizontal and vertical, so it is also possible to use the tool as a level.



Folding traversing rules - made of an aluminium profile with highly impact-resistant plastic plugs. Weight: 911 g/m, Accuracy: 0,057=1,0 mm/m. Used for skin coat levelling.



Trapezoid floating rules - made of an aluminium profile highly impact-resistant plastic plugs. Weight: 840 g/m or 1070 g/m. Used for skin coat levelling, designed for smoothing gypsum plasters.



H-type floating rules - made of an aluminium profile highly impact-resistant plastic plugs. Weight: 972 g/m or 700g/m. With the H-shaped cross section. Used for skin coat levelling, designed for smoothing gypsum plasters.



Angle Gauges - made of an aluminium profile highly impact-resistant plastic plugs. With acrylic indicators, some models with integrated voids. Accuracy: 0,0057=1,0 mm/m. Used to check the angles (bricklaying, plastering, tiling, dry lining, etc.)



Angle gauges twist - place the indicator in position, rotate the arms into view, and the angle will then be accurate. With integrated voids. Cross-level-used to level the surface correctly.

Road building angle gauge - made of an aluminium profile highly impact-resistant plastic plugs. Silver colour anodised surface. Used for construction of pathways, driveways, patios, etc.

Levelling T-bar - made of an aluminium profile highly impact-resistant plastic plugs. Silver colour anodised surface. Used for checking and measuring the angle (walls, floors, corners, etc.)

Optical surveyor's level with tripod - land surveyor kit

Telescopic measurement rule - a telescopic rule is designed for measuring the widths and heights of openings. Easy to use- place the telescopic rule in position, pull out the extending sections and read the measurement.



Distance meter laser - used to measure distance and estimate an area, quickly measure challenging to access areas, like high ceilings, can be used outdoors and indoors, LCD for measurements. Allow measurement with millimetre accuracy.

For interior works level with a highly visible beam is recommended while outside works require a laser level detector as green laser will be invisible in daylight.

Spirit level - Vials allow defining slopes (for pipes), horizontal and vertical levels. Spirit levels are one of the oldest tools used in construction. Vial consists of a barrelled glass or plastic tube, with two marking lines, containing a transparent liquid. When the level is correct, the bubble will come to

rest between the two marked lines. There are several types of the vial to measure exact horizontal, vertical and different angles. Available in compact sizes can be used to measuring fence posts, plumbing pipes.



Tool for string line level (PDM31) - designed to easier and quicker installation of string line level. It saves time (within year it saves up to nine working days in comparison to traditional method when string level is tied to the wooden stake).

