SPIRIT LEVELS

The spirit level is used for setting and measuring horizontal and vertical surfaces and for measuring the deviation from all surfaces. Surfaces are checked with a smooth bearing surface, cylindrical shapes and machine tool sleds with a prismatic recess. For this check, the spirit level body must be aligned vertically by means of a transverse spirit level.

ACCORDING TO THE METHOD OF USE, SPIRIT LEVELS ARE DIVIDED INTO:

- **Longitudinal Spirit Levels** – for general use
- **Short Cross Levels** – for measuring chips and crankshafts
- **Frame Spirit Levels** – for use in engineering in machine construction and in the inspection and levelling of horizontal and vertical planes

Level accuracy is dependent on the sensitivity of the mounted spirit level and expresses the inclination of the bedding plane in mm per 1 m of length when the air bubble is displaced by one part on the spirit level scale.
In the angular scale, an inclination of 0.01 mm/1 m corresponds to an angle of 2"

According to the degree of accuracy, spirit levels are divided into:

Accuracy Class	I	IV
Sensitivity value in mm/1 m per piece of spirit level	from 0,02	over 0,20
	from 0,05	up to 0,30

The allowable error (inaccuracy) for main spirit level is 1/4 part of the scale, for transverse spirit level 25 5737 is 1 part, for others 1/2 part. For frame spirit levels, when the spirit level is placed on the upper loading surface when measuring perpendicular surfaces, the permissible error is 1 part of the scale.

Material:
The body of the spirit level is made of grey cast iron 42 2421.
The unfinished surfaces are painted with a suitable varnish.

The faces of the spirit levels are ground and scraped to quality grade 2.

The classes of accuracy of the straight faces and the degrees of precision are given in the table:

Accuracy Class of spirit levels	I	II	III	IV	V
Accuracy of straight surfaces according to ČSN 25 5502	0	I	II	II	III