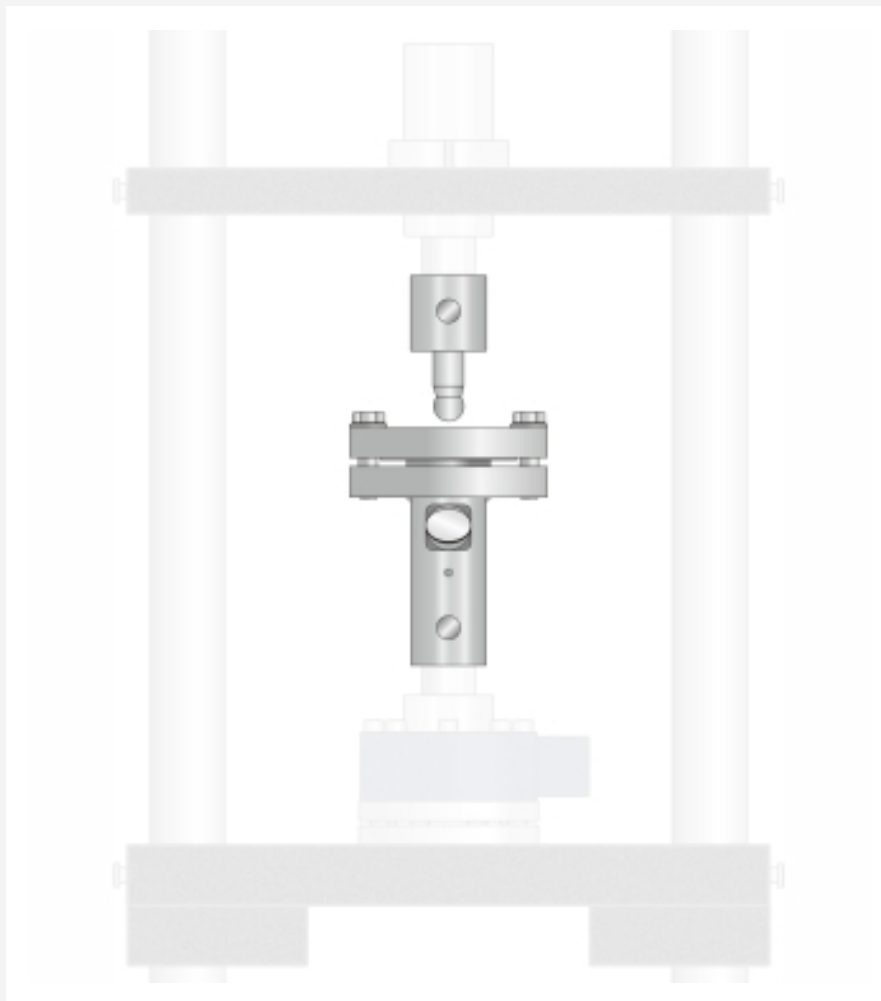


WP 310.10

Device for cupping tests



The illustration shows the accessory WP 310.10 mounted into the operating area of WP 310.

Description

- **investigation of the material properties of thin sheet metal**
- **cupping test based on DIN 50101 T1**

This accessory for WP 310 makes it possible to investigate the material properties of thin sheet metal. To do this, the specimens are deformed in practice-oriented cupping experiments and then examined.

The accessory contains a punch, a hold-down clamp, a die and a mirrored cylinder for analysing the specimen. The assembled test device is installed in the compression area of the WP 310 experimental unit, between bottom cross-bar and crosshead.

A thin sheet metal specimen is clamped between the die and the hold-down device.

The specimen is then deformed until it cracks by means of a spherical drawing punch. The mirror allows you to observe the specimen from below and to see exactly when the crack starts. Thin sheet metal with a thickness up to 2mm can be studied with the device.

The depth achieved in mm is defined as a standard of comparison for cold formability. In addition, the type of the rupture and the surface structure of the sagging area are analysed.

A set of specimens is included to carry out experiments. The set contains one specimen each of aluminium, copper, brass and steel.

Learning objectives/experiments

- determine the quality of thin sheet metal made of various materials

Specification

- [1] cupping test based on DIN 50101 T1 for quality assessment of thin sheet metal
- [2] 4 specimens of steel, aluminium, copper, brass
- [3] spherical drawing punch
- [4] mirror for analysing the underside of the specimen
- [5] accessory for WP 310

Technical data

1 specimen each of aluminium, copper, brass, steel

- specimen dimensions
 - ▶ 60x60x2mm

Drawing punch: sphere 20mm
Die diameter: Ø 27mm

LxWxH: 130x90x260mm
Weight: approx. 4kg

Scope of delivery

- 1 device for cupping tests
- 1 set of specimens (4 pieces)
- 1 set of accessories

WP 310.10

Device for cupping tests

Required accessories

WP 310 Materials testing, 50kN

Optional accessories

WP 300.41 Set of 5 cupping specimens, Al
WP 300.42 Set of 5 cupping specimens, Cu
WP 300.43 Set of 5 cupping specimens, St
WP 300.44 Set of 5 cupping specimens, CuZn