# PUNCTURE TEST FIXTURES

**Item no.:** THS145-45-ASTM-D4833


- **Load capacity:** 20 kN (with Af159 and Af20); 50 kN (with Af318)
- **Ring clamp attachment:** *Internal Ø*: 45 ± 0.025 mm [1.772 ± 0.001 in.], *External Ø*: 100 mm [3.937 in.]
- **Probe:** Ø 8 ± 0.1 mm [0.315 ± 0.004 in.]
- **Coupling:** Af159, Af20, or Af318. Further couplings on request.
- **Material:** Steel, nickel-plated. The probe is hardened.
- **Temperature range:** 0 … +70°C. Further temperature ranges on request.
- **Weight:** 3.3 kg ring clamp attachment incl. adapter; 0.68 kg probe
- **Scope of supply:** 1 fixture incl. probe.
Item no.: THS145-20-27-33

According to **DIN EN ISO 20482**: Metallic materials - Sheet and strip - Erichsen cupping test;

**DIN 50101-1**: Testing of metals; Erichsen cupping test on sheet and strip metal having a width of >= 90 mm;
Thickness range: 0.2 mm to 2 mm;

**GOST 10510-80-Fig.1.1**: Metallic materials - Sheet and strip - Erichsen cupping test.

- **Load capacity**: 20 kN
- **Specimen size**: 0.1-2 mm thick and ≥ 90 mm wide
- **Probe**: Ø 20 mm
- **Coupling**: Af159 or Af20. Further couplings on request.
- **Material**: Steel, nickel-plated. The probe is hardened.
- **Temperature range**: 0 … +70°C. Further temperature ranges on request.
- **Weight**: 8.8 kg ring clamp attachment incl. adapter; 0.57 kg probe
- **Scope of supply**: 1 fixture incl. probe
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According to **DIN EN ISO 20482**: Metallic materials - Sheet and strip - Erichsen cupping test;  
**DIN 50101-2**: Testing of metals; Erichsen cupping test on sheet and strip metal having a width of \( \geq 90 \) mm;  
Thickness range: over 2 mm up to 3 mm

| Load capacity:  | 20 kN         |
| Specimen size:  | 2-3 mm thick and \( \geq 90 \) mm wide |
| Probe:           | \( \varnothing \) 20 mm          |
| Coupling:        | Afi59 or Af20. Further couplings on request. |
| Material:        | Steel, nickel-plated. The probe is hardened. |
| Temperature range:| 0 ... +70°C. Further temperature ranges on request. |
| Weight:          | 8.8 kg ring clamp attachment incl. adapter; 0.57 kg probe |
| Scope of supply: | 1 fixture incl. probe |

![Diagram of THS145-20-40-33 fixture](image-url)
Examples for further modifications:

**THS145-5-25-2s**

according to **IEC 60903-Fig.5**: Live working - Gloves of insulating material. Resistance to mechanical puncture.


**THS145-22.2-25.4-25.4**

for samples with thickness less than 1.5 mm

**THS145-22.2-28.6-25.4**

for samples with thickness 1.5-2 mm
UNI 8279-11:1985 Nonwovens - Test Methods - Determination of Perforation Resistance By Ball Method

Nontessuti Determinazione della resistenza alla perforazione con il metodo della sfera (Italian standard)

For more puncture test fixtures please check [www.grip.de/G23/](http://www.grip.de/G23/)