

**HARDENED STEEL CUTTING DIE**

# Hardened Steel Cutting Die for ISO 37 Type 1

Dumbbell Type 1 · Tensile specimen — built to ISO 37: Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties


**OVERVIEW**

Solid cutting die for cutting Dumbbell Type 1 specimens to ISO 37. The die is machined from a single piece of steel, hardened and finished with a sharp, precision cutting edge, so it holds its profile when cutting harder plastics from 0 to 5 mm thick.

**KEY FEATURES**

- Machined from a single piece of steel — no joints or seams in the cutting edge
- Hardened, precision-finished edge for clean, square specimen sides
- Cuts harder plastics, filled compounds and sheet from 0–5 mm thick
- Integral ejector plate releases the specimen after cutting
- Long service life; cutting edge can be re-sharpened

**SPECIMEN PROFILE**

|                           |               |
|---------------------------|---------------|
| Overall length (min)      | 115 mm        |
| Width of ends             | 25.0 ± 1 mm   |
| Length of narrow section  | 33 ± 2 mm     |
| Width of narrow section   | 6.2 ± 0.2 mm  |
| Transition radius (outer) | 14 ± 1 mm     |
| Gauge length              | 25.0 ± 0.5 mm |
| Recommended thickness     | 2.0 ± 0.2 mm  |

Nominal values per ISO 37; die is cut to the standard's profile.

**APPLICATIONS**

- O-rings & seals
- Automotive hoses & belts
- Tire compounds
- Molded elastomer parts

**DIE SPECIFICATIONS**

|                       |                                                                     |
|-----------------------|---------------------------------------------------------------------|
| Die construction      | One-piece machined steel body                                       |
| Cutting edge          | Hardened, precision-finished                                        |
| Material thickness    | 0 – 5 mm                                                            |
| Recommended materials | Rigid & semi-rigid plastics, filled compounds, rubber, sheet & film |
| Specimen ejection     | Integral ejector plate                                              |
| Press compatibility   | Manual, pneumatic & hydraulic sample-cutting presses                |
| Cut profile           | Dumbbell Type 1 per ISO 37                                          |

**ABOUT THE STANDARD**

ISO 37 specifies how to determine tensile strength, elongation at break and stress at given elongations for vulcanized and thermoplastic rubbers using die-cut dumbbells or rings. Type 1 is the largest standard dumbbell and the default for general rubber tensile testing.

**Ordering & customization:** Specify the standard and specimen type, die style (ribbon steel or hardened steel), the material and thickness you cut, and your press make/model so we can match the mounting. Custom profiles, multi-cavity dies and nick/notch features are available on request.

**Also available: Ribbon Steel version**  
Economical steel-rule die for rubber, elastomers and soft plastics up to 3 mm thick — same ISO 37 Type 1 profile.

Specifications are typical and may vary by configuration; confirm at time of quote. Refer to the current edition of the standard for specimen tolerances and test procedures. Part ref. UGC-CDH-ISO37-T1