

HARDENED STEEL CUTTING DIE

Hardened Steel Cutting Die for ISO 37 Type 1A

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



OVERVIEW

Solid cutting die for cutting Dumbbell Type 1A 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)	100 mm
Width of ends	25.0 ± 1 mm
Length of narrow section	21 ± 1 mm
Width of narrow section	5.0 ± 0.1 mm
Transition radius (outer)	11 ± 1 mm
Gauge length	20.0 ± 0.5 mm
Recommended thickness	2.0 ± 0.2 mm

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

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 1A per ISO 37

APPLICATIONS

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

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 1A has a shorter narrow section and gives results comparable to Type 1 on a smaller sample.

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 1A 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-T1A