

HARDENED STEEL CUTTING DIE

Hardened Steel Cutting Die for ASTM D638 Type I

Dumbbell Type I · Tensile specimen — built to ASTM D638: Standard Test Method for Tensile Properties of Plastics



OVERVIEW

Solid cutting die for cutting Dumbbell Type I specimens to ASTM D638. 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)	165 mm
Width of narrow section	13 ± 0.5 mm
Length of narrow section	57 ± 0.5 mm
Width of ends	19 ± 6.4 mm
Gauge length	50 ± 0.25 mm
Radius of fillet	76 ± 1 mm
Thickness	3.2 ± 0.4 mm (≤7 mm)

Nominal values per ASTM D638; die is cut to the standard's profile.

APPLICATIONS

- Molded plastic parts
- Extruded sheet
- Reinforced composites
- Material qualification & QC

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 I per ASTM D638

ABOUT THE STANDARD

ASTM D638 covers tensile strength, modulus and elongation of unreinforced and reinforced plastics using dumbbell specimens. The Type I profile is the preferred specimen for rigid and semi-rigid plastics up to 7 mm thick.

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 ASTM D638 Type I 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-D638-TI