

HARDENED STEEL CUTTING DIE

Hardened Steel Cutting Die for ASTM D412 Die D

Dumbbell Die D · Tensile specimen — built to ASTM D412: Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension



OVERVIEW

Solid cutting die for cutting Dumbbell Die D specimens to ASTM D412. 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 narrow section	3 ± 0.05 mm
Length of narrow section	33 ± 2 mm
Width of ends	16 ± 1 mm
Transition radius (inner)	14 ± 1 mm
Recommended thickness	2.0 ± 0.2 mm

Nominal values per ASTM D412; 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 Die D per ASTM D412

APPLICATIONS

- Seals & O-rings
- Hoses & belts
- Tires & automotive rubber
- TPE molded parts

ABOUT THE STANDARD

ASTM D412 determines tensile strength, elongation and modulus of vulcanized rubber and thermoplastic elastomers using die-cut dumbbells pulled at 500 mm/min. Die D is one of the standard straight-section dumbbell profiles cut from sheet stock.

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 D412 Die D 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-D412-D