RIBBON STEEL CUTTING DIE

Ribbon 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

Representative ribbon steel die

OVERVIEW

Steel-rule style cutting die for cutting Dumbbell Die D specimens to ASTM D412. A precision-bent, hardened ribbon-steel rule is set into a laser-cut plywood base with a foam ejection pad, giving clean, repeatable cuts in rubber, elastomers and soft plastics from 0 to 3 mm thick.

KEY FEATURES

- Hardened ribbon-steel rule precision-bent to the ASTM D412 Die D profile
- Laser-cut multi-ply plywood base holds the rule rigidly in position
- Foam ejection pad pushes the specimen free after every stroke
- Ideal for rubber, elastomers, TPE, foam and soft plastics 0–3 mm thick
- Economical, fast-turnaround option for routine QC and lab testing

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	Ribbon-steel rule (steel-rule die) in plywood base
Cutting edge	Hardened steel rule, precision bent
Material thickness	0 – 3 mm
Recommended materials	Rubber, elastomers, TPE, foams, soft plastics & films
Specimen ejection	Closed-cell foam ejection pad
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: Hardened Steel version
Machined from one piece of hardened steel for harder plastics up to 5 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-CDR-D412-D