Dumbbell Cutting Die for Rubber Tension Tests

Built to ASTM D412 — Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension



OVERVIEW

Dumbbell cutting die for preparing rubber and thermoplastic elastomer tensile specimens. The hardened, sharpened edge cuts the standard dumbbell profile from sheet in a single stroke, producing clean, accurately dimensioned specimens that break in the gage section for reliable tensile strength and elongation results.

KEY FEATURES

- Hardened cutting edge reproduces the ASTM D412 dumbbell profile
- Available in standard die profiles (e.g., Die C)
- Clean, burr-free edges minimize edge-initiated failures
- Use with manual, pneumatic or hydraulic cutting presses
- Resharpenable edge for long service life

TECHNICAL SPECIFICATIONS

Test method	Tension of rubber and TPE (specimen preparation)
Product type	Dumbbell specimen cutting die
Specimens	Dumbbell specimens per ASTM D412 die profiles
Material thickness	Rubber and TPE sheet per standard thickness range
Die material	Hardened tool steel
Cutting edge	Precision-ground, resharpenable
Press compatibility	Manual, pneumatic or hydraulic specimen cutting presses
Options	Other die profiles and press-mount versions on request

APPLICATIONS

- Rubber compounds and products
- Thermoplastic elastomers
- Seals, hoses and belting
- Laboratory specimen preparation

ABOUT THE STANDARD

ASTM D412 covers the tensile properties of vulcanized thermoset rubbers and thermoplastic elastomers, including tensile stress at given elongation, tensile strength and ultimate elongation. Method A uses dumbbell and straight specimens; Method B uses cut ring specimens. Several die profiles are defined, with Die C the most commonly used dumbbell.

Ordering & customization: Specify the die profile (e.g., Die C), material thickness and press type when ordering.

Specifications are typical and may vary by configuration; confirm at time of quote. Users should refer to the current edition of the standard for test procedures.
Part ref. UGC-D412-SC