



*Ultra-Life* D623 Method A Die

CCSi manufactures these high quality *Ultra-Life* Specimen Cutting Dies for the comparison of the fatigue characteristics and rate of heat generation of rubber vulcanizates when subjected to dynamic compressive strains, as indicated in [ASTM D623](#) 'Standard Test Methods for Rubber Property - Heat Generation and Flexing Fatigue In Compression'.

ASTM D623 employs two distinct instruments, the Goodrich Flexometer in *Test Method A* and the Firestone Flexometer in *Test Method B*. The test specimens are also dramatically dissimilar. The *Method A* test specimen is prepared using a circular cutting die (shown on the left), although it is permissible to mold the specimen to the specific dimensions.

The *Method A* specimen is required to have a thickness of  $25 \pm 0.15$  mm ( $1.0 \pm 0.01$  inch). This requires that a test piece be molded prior to cutting with the specimen die. CCSi manufactures laboratory quality molds for this purpose and for molding the specimen directly.

While most CCSi cutting dies are available with mallet handles, arbor press mounts, or press adapters, the *Method A* specimen cutting die is equipped with a special integral 0.375 inch diameter shaft. This facilitates mounting in a drill press, or similar device, as it is necessary to rotate the die while cutting the specimen.

The *Method B* specimen is shaped as the 'frustrum of a rectangular pyramid' and therefore requires that it be molded (see below), for control purposes. CCSi manufactures molds for this application as well. Tests may also be conducted on specimens prepared from finished articles, requiring that they be roughly cut, then finished to the required dimensions by buffing or grinding.

CCSi features the [Emerson Type Rubber Buffer](#) and the [Hung Ta™ Par-Marton Type Specimen Adjuster](#), both of which are suitable for this application and comply with the requirements of [ASTM D3183](#) 'Standard Practice for Rubber – Preparation of Pieces for Test Purposes from Products'.

#### CCSi *Ultra-Life* Specimen Dies: Quality Manufacturing

CCSi *Ultra-Life* specimen cutting dies are manufactured from homogenous, solid, high carbon content A2 tool steel. Each undergoes multi-axis precision grinding and conventional, plunge, or wire EDM (Electrical Discharge Machining) processes ... producing a world-class, close tolerance die.

Precision grinding and EDM processes ensure true parallelism and multi-plane dimensional accuracy. The quality of materials, design, and engineering serve to provide the highest specimen quality possible, over an extended service life.

Where highly technical manufacturing techniques and processes end ... old-world craftsmanship begins!

CCSi *Ultra-Life* specimen cutting dies are individually serialized, hand-honed, and mirror polished. A protective coating of industrial enamel is applied to the non-cutting surfaces before undergoing a rigorous final inspection.

Each *Ultra-Life* specimen cutting die includes a detailed final report and certification to the applicable standard, traceable to NIST, and compliant with ISO 9001:2000 and ISO/IEC 17025. The specimen dies are placed in a plastic, blow-molded, 'clam shell' style case with a foam lining to protect the die during transport and storage.

## CCSi *Ultra-Life* Specimen Dies: Features

The CCSi Specimen Cutting Dies Feature:

- Exclusive *Ultra-Life* cutting edge technology;
- Designed with advanced 3D solid modeling;
- High carbon content A2 tool steel;
- Manufactured using computerized systems and techniques;
- EDM (Electrical Discharge Machining);
- CNC (Computer Numerical Control) 4 axis machining;
- Precision ground;
- Expertly honed;
- Finely polished;
- Protective industrial enamel coating;
- Plastic, foam lined, protective case;
- Traceability of dimensional measurement to NIST;
- Certification to ASTM D623 Method A;
- Compliance with ISO 9001:2000 and ISO/IEC 17025;
- Includes integral 0.375 inch Ø mounting device.

Available in:

- ASTM D623 Method A.



[D623-B \*Ultra-Life\* Mold](#)

## CCSi *Ultra-Life* ASTM D623 Method A Specimen Cutting Dies: Specifications & Pricing

Part Number	Description	Dimensions
CCSi-D623-An	D623 Die with integral spindle	17.78 ± 0.03 mm Ø (0.70 ± 0.001 inch Ø)
Please Request a <a href="#">Quotation</a> for current pricing and delivery.		

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