

CCSi Ultra-Life Specimen Molds: ASTM D429



D429 Method B Ultra-Life Mold

CCSi *Ultra-Life* molds are designed, engineered, and manufactured to produce high quality specimens, over an extended service life!

CCSi manufactures these specimen molds for the determination of the static adhesional strength of rubber to rigid materials, generally metal, as indicated in [ASTM D429](#) 'Standard Test Methods for Rubber Property - Adhesion to Rigid Substrates'.

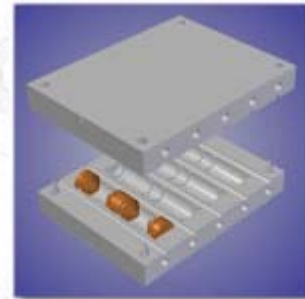
The ASTM D429 consists of 7 individual procedures, *Methods A through G*, and are summarized as follows:

- *Method A*: rubber part assembled between two parallel metal plates;
- *Method B*: 90° stripping test – rubber part assembled to one metal plate;
- *Method C*: measuring adhesion of rubber to metal with a conical specimen;
- *Method D*: adhesion test – post-vulcanization (PV) bonding of rubber to metal;
- *Method E*: 90° stripping test – rubber tank lining assembled to one metal plate;
- *Method F*: rubber part assembled between two parallel convex-shaped metal plates;
- *Method G*: measuring bond durability for rubber-to-metal bonded components with a double shear cylindrical specimen.

CCSi Ultra-Life Specimen Molds: Quality Manufacturing

CCSi *Ultra-Life* molds are manufactured from homogenous, solid, high carbon content A2 mold steel. Each undergoes precision grinding and CNC (Computer Numerical Control) machining to exacting requirements. The mold cavities are expertly honed and hand polished, after which the mold is industrial chrome plated.

Precision grinding ensures a parallel surface profile of the platens and CNC machining provides ultra-close dimensional tolerances, while the honing and polishing processes guarantee smooth, true specimen cavities.



D429 Method C Ultra-Life Mold

The durable, hard chrome finish resists the corrosive and adhesive effects of most compounds, greatly improving overall durability and ease of maintenance. Optional finishes and cavity coatings are available.

The CCSi *Ultra-Life* mold platens are thicker than standard molds, providing superior heat and pressure distribution, as well as extending the mold's useful life by resisting distortion. This also allows the overflow recesses to be deeper, reducing problems associated overfill. The platens are positively positioned with precision guide pins and receivers ... assuring precise closure!

CCSi Ultra-Life Specimen Molds: Innovative Design

CCSi *Ultra-Life* molds feature a unique cam-action hinge design which improves the critical distribution of pressure. Typical 'fixed-hinge' designs cause material to flow, outwardly, from this constraining point. This uneven application of pressure may cause excessive overfill, or cavity voids. The cam-action hinge design has all of the advantages of 'stacked plate' molds, combined with the convenience of 'fixed-hinge' designs! **NOTE-1**

The handles are manufactured from 304 stainless steel (a chromium - nickel austenitic alloy) and contain integral support pins. This allows the handles to rotate, which facilitates opening the mold. The handles are ergonomically positioned to ease placement and removal from the heated laboratory press. **NOTE-1**

Large triangular pry slots are located at the corners, opposite the cam-action hinges. These further facilitate mold opening and reduce the occurrence of cavity damage from improperly positioned tools.

CCSi Ultra-Life Specimen Molds: Unique Trident Configuration

The *Trident* features a tertiary, centrally positioned, side-mounted platen, which precisely mold-forms the specimen between two 90° opposed plates. It opens to expose both horizontal specimen surfaces, greatly easing specimen removal.

Thicker specimens, which are prepared in dual platen laboratory molds, are often subject to damage caused by the difficulty of extraction. Specimen damage may go unnoticed, adversely affecting the repeatability and reproducibility of test determinations.

The CCSi *Ultra-Life Trident* configuration virtually eliminates the potential for specimen deformation caused by extraction, reducing the need for repeat testing and improving test results!

The CCSi ASTM D429 Specimen Molds Feature:

- Exclusive *Ultra-Life* engineering;
- Designed with advanced 3D solid modeling;
- Manufactured using computerized systems and techniques;
- CNC (Computer Numerical Control) 4 axis machining;
- Precision ground;
- Expertly honed;
- Finely polished;
- High carbon content A2 mold steel;
- Thicker plates resist warping, distribute heat and pressure evenly;
- Cam action hinges prevent uneven closure;
- Industrial chrome plate finish;
- 304 stainless steel rotating handles ease opening, closing and handling;
- Deep overflow recesses (flash pockets) reduce overflow problems;
- Precision locator pins & receivers assure positive alignment;
- High strength fasteners resist the effects of strain and stress;
- Temperature probe orifices may be added for profiling;
- Optional finishes are available for highly corrosive compounds.

Available in:

- ASTM D429 Method A mold with fixtures;
- ASTM D429 Method B mold with metal strip inserts;
- ASTM D429 Method C conical mold with inserts;
- ASTM D429 Method D fixture (uses A specimens) **NOTE-2**;
- ASTM D429 Method E plate with die (not shown);
- ASTM D429 Method F mold with fixtures;
- ASTM D429 Method G mold with connectors (not shown);
- ASTM D429 Tensile Grips for molded parts;
- ASTM D429 Tensile Fixture for production parts (not shown).



D429 Method A



D429 Tensile Grips



D429 Method D



D429 Method F

NOTE-1 handles and hinges are not offered in all D429 designs.

NOTE-2 D429 Method D requires low carbon content steel.

CCSi Ultra-Life ASTM D429 Specimen Molds: Specifications & Pricing

Part Number	Mold Configuration	Specimen Size
CCS-MD429-A-4	04 Cavity - 2 Plate - with inserts	39.9 ± 0.1 Ø x 3.2 ± 0.1 mm (1.597 ± 0.004 Ø x 0.125 ± 0.004 inch)
CCS-MD429-B-6	06 Cavity - 2 Plate - with strips	125 x 25.0 ± 0.05 x 6.3 ± 0.1 mm (4.92 x 0.98 ± 0.002 x 0.25 ± 0.004 inch)
CCS-MD429-C-4	04 Cavity - 2 Plate - conical	23.4 ± 0.5 x 25.0 ± 0.05 Ø x 11.5 ± 1.2 mm (0.92 ± 0.02 x 0.98 ± 0.002 Ø x 0.45 ± 0.047 inch)
CCS-MD429-D-6	06 Cavity - 3 Plate - fixture	39.9 ± 0.1 Ø x 3.2 ± 0.1 mm (1.597 ± 0.004 Ø x 0.125 ± 0.004 inch)
CCS-MD429-E-1	01 Cavity - 1 Plate - plate & die	152.4 x 25.0 ± 0.05 x 6.3 ± .05 x mm (6.0 x 0.98 ± 0.002 x 0.25 ± 0.002 inch)
CCS-MD429-F-4	04 Cavity - 3 Plate - with inserts	28.7 ± 0.76 Ø x 25.0 ± 0.76 x 41.3 ± 0.25 R mm (1.13 ± 0.03 Ø x 0.98 ± 0.03 x 1.626 ± 0.0098 R inch)
CCS-MD429-G-1	01 Cavity - 2 Plate - connectors	23.0 ± 0.1 Ø x 10 ± 0.1 mm (0.91 ± 0.004 Ø x 0.39 ± 0.004 inch)

Please Request a [Quotation](#) for current pricing and delivery.

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