

CCSi *Ultra-Life* Specimen Mold: ASTM D4482



D4482 *Ultra-Life* Test-Piece Mold

CCSi manufactures these *test-piece* molds for the determination of fatigue life of rubber compounds undergoing a tensile-strain cycle, as described in [ASTM D4482](#) “*Standard Test Method for Rubber Property – Extension Cycling Fatigue.*”

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

The D4482 mold is designed specifically to produce a *test-piece*, from which die cut *test specimens* are obtained. The *test-piece* mold has beaded edges (6.35 Ø mm) which include delineations acting as guides for the CCSi [D4482 Specimen Cutting Die](#).

ASTM D4482 describes a procedure in which a test specimen is cyclically strained, at a fixed frequency, over a series of maximum extensions (flexing). The flexing causes cracks, usually initiated by a naturally occurring flaw, to grow and cause complete rupture of the test specimen (failure). The number of cycles required to cause failure is recorded as fatigue life.

The test is also referred to as the “fatigue-to-failure”, or FTF test, as a function of the popular instrument used to perform the test.

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. The durable, hard chrome finish resists the corrosive and adhesive effects of most compounds, greatly improving overall durability and ease of maintenance.

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!

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.

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: Features

The CCSi ASTM D4482 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 D4482 *Ultra-Life* 2 Cavity Mold.

CCSi *Ultra-Life* ASTM D4482 Specimen Molds: Specifications & Pricing

Part Number	Mold Configuration	Test—Piece Size
CCS-MD4482-2	D4482 2 Cavity, 2 Plate Specimen Mold	254 x 78.54 x 1.4 mm (10.0 x 3.09 x 0.55 inch)
Please Request a Quotation for current pricing and delivery.		

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