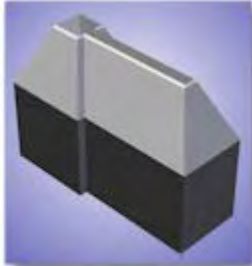


*Ultra-Life* D746 Type I Die

CCSi manufactures these high quality Specimen Cutting Dies for the determination of the temperature at which plastics and elastomers demonstrate failure when brittle, as described in [ASTM D746](#) "*Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.*"

ASTM D746 employs three cutting dies:

- Type I, for fixture Type A;
- Type II, for fixture Type A;
- Type III, for fixture Type B;



*Ultra-Life* D746 Type II Die

The brittleness temperature is determined by immersing the specimens (in the specimen holder) in a bath containing a heat transfer that is cooled, usually by liquid nitrogen, carbon dioxide, or powdered dry ice, to a predetermined temperature for a period of three minutes.

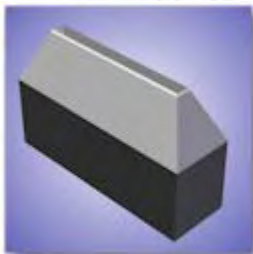
The specimens are then impacted by a device having a "striker" of a specific geometry, under defined conditions of velocity, distance, and energy. The test temperatures are varied over a range and the brittleness point is defined as that at which 50% of the specimens fail.

This test provides for the evaluation of long term effects, such as crystallization, or the incompatibility of material borne plasticizers when subjected to subnormal temperatures.

The results may be used to predict the behavior of plastic and elastomeric materials at low temperatures. However, this holds only under conditions in which the material is subjected to deformations similar to those imposed in the test.

It does not, necessarily, determine the lowest temperature at which the subject material may be used.

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



*Ultra-Life* D746 Type III Die

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 D746;
- Compliance with ISO 9001:2000 and ISO/IEC 17025.

Available in:

- ASTM D746 Type I;
- ASTM D746 Type II;
- ASTM D746 Type III.

## CCSi *Ultra-Life* ASTM D746 Specimen Cutting Dies: Specifications & Pricing

Part Number	Description	Dimensions
CCSi-D746-In	Type I Die without mounting device	31.75 ± 6.35
CCSi-D746-Ia	Type I Die with arbor press mount	x
CCSi-D746-Ip	Type I Die with press adapter	6.35 ± 0.51
CCSi-D746-Im	Type I Die with mallet handle	x
CCSi-D746-IlIn	Type II Die without mounting device	1.91 ± 0.1 mm
CCSi-D746-IIa	Type II Die with arbor press mount	25.4 ± 1.27 + [6.35 x 6.35 ± 0.51]
CCSi-D746-IIp	Type II Die with press adapter	x
CCSi-D746-IIIm	Type II Die with mallet handle	2.54 ± 0.25
CCSi-D746-IIIIn	Type III Die without mounting device	x
CCSi-D746-IIIIa	Type III Die with arbor press mount	20 ± 0.25
CCSi-D746-IIIIp	Type III Die with press adapter	x
CCSi-D746-IIIIIm	Type III Die with mallet handle	2.5 ± 0.05
		x
		1.60 ± 0.1 mm

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

Copyright © 2006 CCSi, Inc. • All Rights Reserved • Published February, 2006

Corporate Consulting, Service & Instruments, Incorporated  
 221 Beaver Street • Akron, Ohio 44304 USA  
 Telephone: 800.742.8535 / 330.376.3600 • Facsimile: 800.229.9329 / 330.376.8500  
 • [WWW.CCSI-INC.COM](http://WWW.CCSI-INC.COM) • [WWW.ORECOZONE.NET](http://WWW.ORECOZONE.NET) •