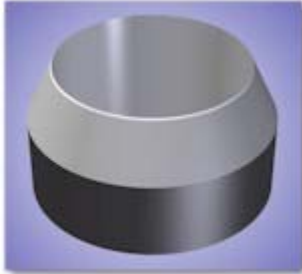


CCSi *Ultra-Life* Specimen Cutting Dies: ASTM D2084



Ultra-Life D2084 Specimen Die

CCSi manufactures these high quality Specimen Cutting Dies for determining certain vulcanization characteristics of vulcanizable rubber compounds using an oscillating disk cure meter (oscillating disk rheometer or ODR), as described in [ASTM D2084](#) 'Standard Test Method for Rubber Property-Vulcanization Using Oscillating Disk Cure Meter'.

The specimen is placed in a chamber, a cavity formed by two vertically opposed cylinders. The lower containing a rotor (biconical disc) which is oscillated through a specified degree of an arc, with $\pm 1^\circ$ being standard.

The chamber is heated to a specified temperature and closed under a force of 11 kN (2500 lbf), embedding the rotor in the specimen. The volume of the specimen is stipulated as 8 - 11 cm³, which may be calculated as a function of the mass, provided the relative density (specific gravity, SG) is known. A specimen with a specific gravity of 1.15 SG will have a mass of 13 g and a volume of 11 cm³, for example.

Therefore, it is necessary to first determine the density of the subject material, then adjust the mass accordingly after the specimens are die cut. The proper volume of the specimen will cause it to slightly overflow upon closure of the chamber, forming 'flash', a flattened circular bead, around the specimen. If the volume is too great (overfill), it may prevent proper closure and negatively effect temperature recovery, too little volume (underfill) may also result in erroneous results.

The CCSi D2084 specimen die is designed to cut a circular specimen from a test piece, slightly smaller than the diameter of the cavity. The die-cut specimen is weighed, and the mass adjusted according to the calculation using the predetermined specific gravity. The specimens may be plied, or trimmed, as necessary.

This represents a considerable savings in time over procedures where small pieces are 'stacked' to obtain the needed mass. It also improves test determinations by reducing the 'cold rotor' effect (the transference of heat from the rotor to a large mass of the specimen material 'stacked' atop it) and by reducing the occurrence of chamber 'overfill' or 'underfill'.

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 D2084;
- Compliance with ISO 9001:2000 and ISO/IEC 17025.

Available in:

- ASTM D2084 Standard Die.

CCSi *Ultra-Life* ASTM D2084 Specimen Cutting Dies: Specifications & Pricing

Part Number	Description	Dimensions
CCSi-D2084-An	D2084 Die without mounting device	41.91 -0.03 / +0.0 mm Ø (1.65 -0.002 / +0.0 inch)
CCSi-D2084-Aa	D2084 Die with arbor press mount	
CCSi-D2084-Ap	D2084 Die with press adapter	
CCSi-D2084-Am	D2084 Die with mallet handle	
Please Request a Quotation for current pricing and delivery.		

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