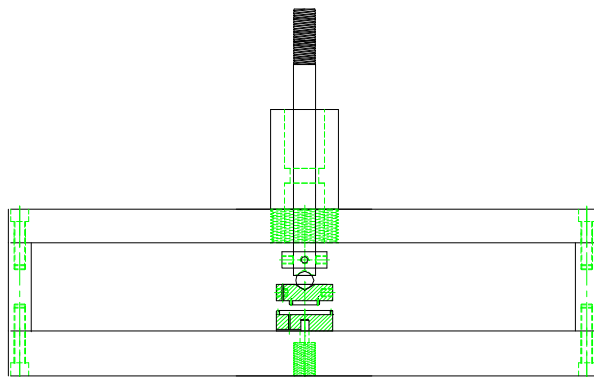
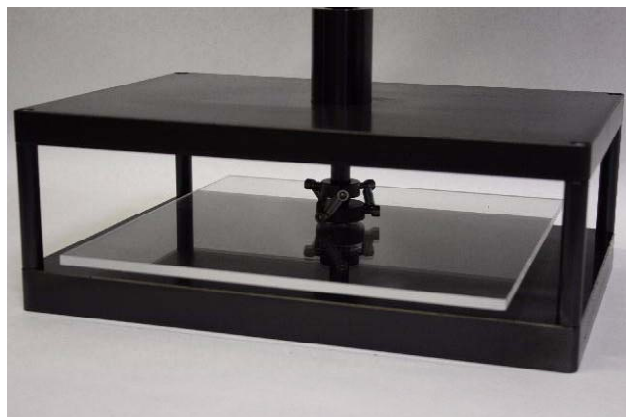


## MONOTONIC EQUIBIAXIAL FLEXURAL STRENGTH (RING-ON-RING) TEST FIXTURE (CS)



Specimen:	Length	Up to 200mm
	Width	Up to 300mm
	Thickness	Up to 1.5mm thick
Fixture:	Construction	High strength steel with protective black oxide finish
	Temperature	-120 to 250°F (-85 to 122°C)
	Mounting	Top: 12mm male clevis
		Bottom: 1/2"-20 coupling
	Capacity	1,000 lbs (4.4 kN)
	Weight	Approximately 75 lbs
	Dimensions	4" x 4" x 15"
	Standard	Manufactured in accordance with ASTM C1499

### Model No. ASTM.C1499.18 - Ceramic Monotonic Equibiaxial Flexure Fixture

Ceramic Monotonic Equibiaxial Flexure loading rings for specimens up to 200mm x 300mm x up to 1.5mm thick. The fixture includes 15mm and 30mm diameter rings, both with a 0.725mm height radius. The sub-press consists of a square base, four support columns, two linear bearings, and a 1/2" diameter loading rod. The fixture is constructed from high strength heat treated steel with a protective black oxide oil finish in accordance with ASTM C1499. Specimen Clearance between posts: 3"

The sub-press consists of a rectangular base, four support columns, two linear bearings, and a 1/2" diameter loading rod. The fixture is constructed from high strength steel with a protective black oxide oil finish in accordance with ASTM C1499.

# **MODEL NO. ASTM.C1499.18**

## **ASTM, MONOTONIC, EQUIBIAXIAL, FLEX,**

### **ACCESSORIES**

Model No. ACC.C1499.1801 - 5 & 8mm Rings with 0.7mm R  
Model No. ACC.C1499.1802 - 8 & 40mm Rings with 2.5mm R  
Model No. ACC.C1499.1803 - 10.4 & 19.26mm Rings with 0.725mm R  
Model No. ACC.C1499.1804 - 12.5 & 25mm Rings with 1.6mm R  
Model No. ACC.C1499.1805 - 15 & 30mm Rings with 0.75mm R

Model No. ACC.C1499.1806 - 18.32 & 91.6mm Rings with 1.0mm R  
Model No. ACC.C1499.1807 - Any Size Rings with Shaft and Collar Assembly  
Model No. ACC.C1499.1808 - 12.5 & 25mm Rings with 0.725mm R  
Model No. ACC.C1499.1810 - 200mm & 300mm with 0.725mm R  
Model No. ACC.C1499.1811 - 15 & 30mm Rings with 1.27mm R

Model No. ACC.C1499.1812 - 15 & 30mm Rings with 1.6mm R  
Model No. ACC.C1499.1813 - 30 & 60mm Rings with 0.725mm R  
Model No. ACC.C1499.1814 - 74 & 148mm Rings with 0.725mm R  
Model No. ACC.C1499.1820 - Add 0.15" Hole Drilled at an Angle on Bottom Rings Only (Apple)  
Model No. ACC.C1499.1821 - 7 & 14mm Rings with 0.725mm R

Model No. ACC.C1499.1850 - 15 & 30mm Rings with 0.725mm R and 5mm ring height  
Model No. ACC.C1499.1852 - 10 & 20mm Rings with 0.725mm R and 5mm ring height  
Model No. ACC.C1499.1854 - 25 & 50mm Rings with 0.725mm R and 5mm ring height

#### **Lower fixture attachment is supplied with 1/2" -20 female coupling (Common adapter sizes include):**

Model No. M01S21 - 1/2" Male Clevis (Type B) to 1/2" -20 Threaded Stud  
Model No. M02S21 - 5/8" Male Clevis (Type C) to 1/2" -20 Threaded Stud  
Model No. M03S21 - 1 25" Male Clevis (Type D) to 1/2" -20 Threaded Stud

### **SPARE PARTS**

SPA.C1499.1801 - Extra Set of (2) Bearings  
SPA.C1499.1802 - Extra Set of (3) Springs  
SPA.C1499.1803 - Extra Ball  
SPA.C1499.1804 - Extra Collar  
ACC.C1499.1805 - 12mm (Type O) Male Clevis Adapter

### **REFERENCE DOCUMENT AND TEST METHOD SCOPE:**

<http://www.astm.org/Standards/C1499.htm>

ASTM C1499-15

Standard Test Method for Monotonic Equibiaxial Flexural Strength of Advanced Ceramics at Ambient Temperature

1.1 This test method covers the determination of the equibiaxial strength of advanced ceramics at ambient temperature via concentric ring configurations under monotonic uniaxial loading. In addition, test specimen fabrication methods, testing modes, testing rates, allowable deflection, and data collection and reporting procedures are addressed. Two types of test specimens are considered: machined test specimens and as-fired test specimens exhibiting a limited degree of warpage. Strength as used in this test method refers to the maximum strength obtained under monotonic application of load. Monotonic loading refers to a test conducted at a constant rate in a continuous fashion, with no reversals from test initiation to final fracture.

1.2 This test method is intended primarily for use with advanced ceramics that macroscopically exhibit isotropic, homogeneous, continuous behavior. While this test method is intended for use on monolithic advanced ceramics, certain whisker- or particle-reinforced composite ceramics as well as certain discontinuous fiber-reinforced composite ceramics may also meet these macroscopic behavior assumptions. Generally, continuous fiber ceramic composites do not macroscopically exhibit isotropic, homogeneous, continuous behavior, and the application of this test method to these materials is not recommended.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

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