

CUSTOM CERAMIC MONOTONIC EQUIBIAXIAL FLEXURE FIXTURE



Specimen:	Length	Any length
	Width	Up to 170mm
	Thickness	Up to 1mm
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 threaded coupling
	Capacity	
	Weight	Approximately 28 lbs
	Dimensions	8" x 4.25" x 8.25"
	Standard	Manufactured in accordance with ASTM C1499

Model No. ASTM.C1499.25 - Ceramic Monotonic Equibiaxial Flexure Fixture

Fixutre can handle any specimens up to 170mm wide by any length and up to 1mm thick specimen. The fixture includes 15mm and 30mm diameter rings, both with a 0.725mm height radius. The sub-press consists of a rectangular base, four support columns, two linear bearings and a 1/2" diameter loading rod. Overall dimensions are 8" x 4.25" x 8.25" (with shaft and rings assembled). Includes (1) 12mm male clevis top adapter and (1) 1/2"-20 threaded coupling for lower adapter. The fixture is constructed from high strength steel with a protective black oxide oil finish in accordance with ASTM C1499.

MODEL NO. ASTM.C1499.25

ACCESSORIES

Model No. ACC.C1499.2502 - Extra Set of 9mm & 18mm Rings with 0.725 R

Model No. ACC.C1499.2506 - 12.5mm & 25mm Rings with 0.725 R 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

Model No. M12S21 - 12mm Male Clevis (Type O) to 1/2" -20 Threaded Stud

Model No. S36S21 - 1" -14 to 1/2" -20 Threaded Step Stud

Model No. LN21 - 1/2" -20 Threaded Locking Nut with Knurled OD

SPARE PARTS

SPA.C1499.2501 - Extra Set of (2) Bearings

SPA.C1499.2502 - Extra Set of (3) Springs

SPA.C1499.2503 - Extra Ball

SPA.C1499.2504 - Extra Collar

SPA.C1499.2505 - 12mm (Type O) Male Clevis Adapter

SPA.C1499.2501 - 15 & 30mm Rings with 0.725mm R

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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