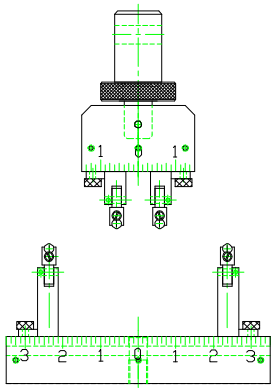
MODEL NO. ASTM.C1674.10
ASTM, CERAMIC, FLEX, COMPRESSION,

1" WIDE, 6" SPAN, FULLY ARTICULATING THREE & FOUR POINT FLEXURE FIXTURE (SS)



Specimen:	Width	Up to 1”
	Thickness	Up to 1/2”
	Length	Any length
Fixture:	Support Spans	Any span from 1/2” to 6”
	Supports	Articulating with 4.5mm cylindrical supports
	Construction	Stainless steel
	Temperature	-240 to 600°F (-152 to 318°C)
	Mounting	12mm male clevis top, 1/2”-20 coupling bottom
	Capacity	1,000 lbs (4.4 kN)
	Weight	10 lbs approximately
	Dimensions	Assembled - 8” x 2” x 8”
	Standard	Manufactured in accordance with ASTM C1161, C1211, C1674

Model No. ASTM.C1674.10. Fully Articulating Three & Four Point Flexure Fixture
Specimen support spans adjustable to 6” and four point loading span adjustable to 3”. The rolling and pivoting specimen loading pins are 4.5mm in diameter and accommodate specimens up to 1" wide. Capacity: 1,000 lbs (4.4 kN) at temperature ranges up to 600°F. Constructed from stainless steel in accordance with ASTM C1161, C1211, C1674.

Specimen supports: Incorporate free rolling loading pins of 4.5mm diameter. One of the 1.5” tall supports is free to pivot as much as 7° in either direction to provide complete seating and maximum specimen contact.

Lower Support Base: The support span is measured along a center finding scale located on the front surface of the 7” support base. The base may be used on a compression platen or mounted with the 1/2"-20 threaded coupling.

3 & 4 Point Loading Head: The support span is measured along a center finding scale located on the the front surface of the loading head. The head is pivoted and may be allowed to float freely or can be locked rigid with a locking nut. The loading head is supplied with 12mm (Type “O”) male clevis type adapter with 6mm diameter dowel pin hole. (Dowel pin not included.)

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ASTM, CERAMIC, FLEX, COMPRESSION,

ACCESSORIES

ACC.C1674.1001 - Extra Set of (4) 1/4" Diameter Loading Pins
ACC.C1674.1002 - Extra Set of (4) Rockers and 1 Fixed Support for 1/4" Pins
ACC.C1674.1003 - 1.25" Male Clevis for 4 Point Loading Head
ACC.C1674.1004 - 5/8" Male Clevis for 4 Point Loading Head
ACC.C1674.1005 - 1/2" Male Clevis for 4 Point Loading Head

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.C1674.1201 - Extra Set of (4) 4.5mm Diameter Loading Pins
SPA.C1674.1202 - Extra Set of (4) Rockers and 1 Fixed Support for 4.5mm Pins
SPA.C1674.1203 - Extra Set of (2) Anvil/Rocker/Roller Assemblies

REFERENCE DOCUMENT AND TEST METHOD SCOPE:

SCOPE: http://www.astm.org/Standards/C1674.htm
ASTM C1674-13ASTM C1674 - 11
Standard Test Method for Flexural Strength of Advanced Ceramics with Engineered Porosity (Honeycomb Cellular Channels) at Ambient Temperatures
1.1 This test method covers the determination of the flexural strength (modulus of rupture in bending) at ambient conditions of advanced ceramic structures with 2-dimensional honeycomb channel architectures.
1.2 The test method is focused on engineered ceramic components with longitudinal hollow channels, commonly called "honeycomb" channels. (See Fig. 1.) The components generally have 30 % or more porosity and the cross-sectional dimensions of the honeycomb channels are on the order of 1 millimeter or greater. Ceramics with these honeycomb structures are used in a wide range of applications (catalytic conversion supports (1), high temperature filters (2, 3), combustion burner plates (4), energy absorption and damping (5), etc.). The honeycomb ceramics can be made in a range of ceramic compositionsalumina, cordierite, zirconia, spinel, mullite, silicon carbide, silicon nitride, graphite, and carbon. The components are produced in a variety of geometries (blocks, plates, cylinders, rods, rings).
1.3 The test method describes two test specimen geometries for determining the flexural strength (modulus of rupture) for a porous honeycomb ceramic test specimen (see Fig. 2):
1.3.1 Test Method A—A 4-point or 3-point bending test with user-defined specimen geometries, and
1.3.2 Test Method B—A 4-point- ¼ point bending test with a defined rectangular specimen geometry (13 mm × 25 mm × > 116 mm) and a 90 mm outer support span geometry suitable for cordierite and silicon carbide honeycombs with small cell sizes.
1.4 The test specimens are stressed to failure and the breaking force value, specimen and cell dimensions, and loading geometry data are used to calculate a nominal beam strength, a wall fracture strength, and a honeycomb structure strength.
1.5 Test results are used for material and structural development, product characterization, design data, quality control, and engineering/production specifications.
1.6 The test method is meant for ceramic materials that are linear-elastic to failure in tension. The test method is not applicable to polymer or metallic porous structures that fail in an elastomeric or an elastic-ductile manner.