

BEND TEST FIXTURES FOR WOOD

2820-04x

Bend tests provide a quick and simple way to determine the strength and deformation properties of wood and timber products. The test is also particularly relevant in this application because wood is frequently used in the form of beams where resistance to bending is an important parameter.

A range of fixtures is available to cater for various specimen sizes and strengths. All fixtures can be equipped with a range of optional support rollers some of which feature articulation to cater for warped specimens. The range of fixtures is ideal for tests on MDF and fiberboard as well as natural timber.

PRINCIPLE OF OPERATION

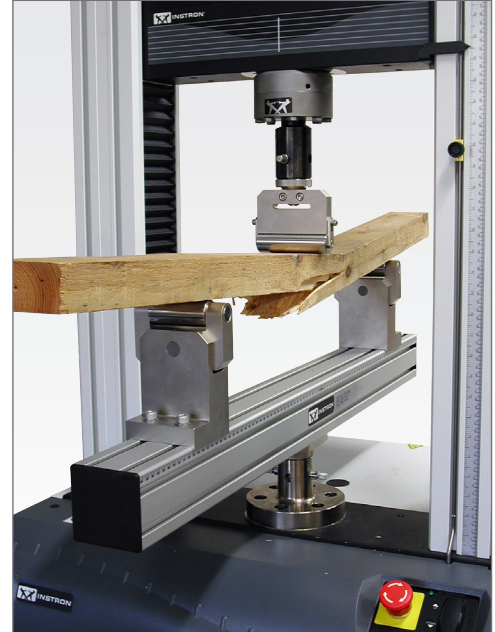
2820-04x Series bend fixtures are designed for static bend/flexure testing on a range of wood and timber products according to common International Standards. The beam attaches to the test instrument using simple mechanical interfaces which allows it to be removed when not in use. A range of optional support anvils and four-point conversion kits allow the fixtures to be configured to meet a wide range of standards.

Specimens of the required size are supported by two anvils attached to a base beam. Force is applied either at the center (three point bend) or at two points between the supporting rollers (four point bend).

Deflection of the specimen can be measured using the optional deflection measurement yoke and a suitable extensometer.

FEATURES

- Two capacities 10 kN (1,000 kgf, 2,250 lbf) and 50 kN (5,000 kgf, 11,250 lbf)
- Choice of 800 mm and 1200 mm maximum span lower beams
- Three and four point loading options
- Wide range of support anvils according to common International Standards including articulating types to compensate for warped specimens
- Ideal for MDF and fiberboard
- Optional deflection measurement yoke
- Graduated scale for accurate support anvil positioning
- Compliant with ASTM, BS, EN, ISO, JAS and JIS standards



2820-040 10 kN (1000 kgf, 2250 lbf) bend fixture with 2820-052 rollers

APPLICATION RANGE

- Static bending tests on a wide range of wood and timber specimens including MDF and fiberboard at ambient temperatures
- Type of Loading: Static flexure. Not suitable for high cycle dynamic fatigue tests
- Specimen shapes: Rectangular

SPECIFICATIONS

BASE BEAMS

Catalog Number		2820-040	2820-041	2820-042
Maximum Load	kN	10	50	50
Maximum Span	mm	800	800	1200
	in	31.5	31.5	47.2
Temperature Range		Ambient Only	Ambient Only	Ambient Only
Fixture Interface (Lower)		0.5 in Clevis (Type Dm)	4 × M10 Bolts	4 × M10 Bolts
	mm	-	90 × 280	90 × 280
Weight	kg	7.6	36.6	50.6
	lb	16.8	80.1	111.6

FOUR POINT UPPER BEAMS

Catalog Number		2820-043	2820-044
Maximum Load	kN	10	50
Maximum Span	mm	300	610
	in	11.8	24.0
Temperature Range		Ambient Only	Ambient Only
Fixture Interface (Lower)		6 mm Clevis (Type Om, swivel)	0.5 in Clevis (Type Dm, swivel)

YOKE DEFLECTOMETER

Catalog Number		2820-057
Stroke	mm	33
Maximum Span	mm	1200
	in	47.2
Required Extensometer		2630-113



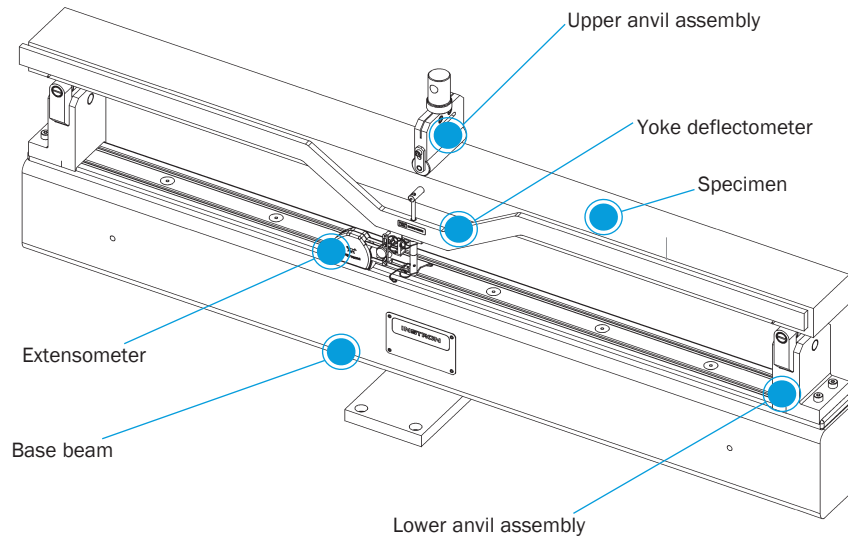
2820-057 yoke deflectometer with extensometer

		Max Load (kN)	Max Span (mm)	Upper diameter (mm)	Lower Diameter (mm)	Max Width (mm)
2820-040	10 kN Wood Bend Fixture Base Beam	10	800			
2820-041	50 kN Wood Bend Fixture Base Beam	50	800			
2820-042	50 kN Wood Bend Fixture Base Beam	50	1200			
2820-043	10 kN Four-Point Upper Beam	10	300			
2820-044	50 kN Four-Point Upper Beam	50	610			
2820-045	Three Point Rigid Anvil Set	50*		20	20	100
2820-046	Three Point Rigid Anvil Set	50*		30	15	100
2820-047	Three Point Rigid Anvil Set	50*		76	76	100
2820-048	Three Point Rigid Anvil Set	50*		60	60	100
2820-050	Three Point Articulating & Rolling Anvil Set	50*		**	30	70
2820-051	Three Point Articulating & Rolling Anvil Set	50*		60	30	70
2820-052	Three Point Articulating & Rolling Anvil Set	50*		30	30	70
2820-054	Three Point Articulating & Rolling Anvil Set	50*		30	30	300
2820-056	Three Point Articulating & Rolling Anvil Set	50*		**	***	80
2820-049	Four Point Rigid Anvil Set	50		60		100
2820-053	Four Point Upper Articulating and Rolling Anvil Set	50		30		70
2820-055	Four Point Upper Articulating and Rolling Anvil Set	50		30		300

*Maximum load capacity 50 kN with 0.5 in clevis and 10 kN with 6mm clevis attachments ** Rigid Wood Block *** Bearing Plate

Notes:

1. Maximum load capacity 50 kN with 0.5 in clevis and 10 kN with 6 mm clevis attachments
2. All three point anvils supplied with 0.5 in and 6 mm clevis adaptors



50 kN bend fixture with optional articulating rollers, yoke deflectometer and extensometer

WOOD BEND FIXTURES CONFIGURATION MATRIX

	THREE-POINT BEND TEST													FOUR-POINT BEND TEST				
	JIS A 5905	JIS A 5906	JIS A 5908	BS 5669	BS EN 310	ASTM D 1037 ²	ISO 3133	BS 373 (2in standard)	BS 373 (2cm standard)	JAS 112	JAS 601	EN 789	ASTM D 3043	ASTM D 143	ISO 3349	JAS 112	JAS 601	EN 789
2820-040																		
2820-041	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
2820-042																		
2820-043																		
2820-044															◆	◆	◆	◆
2820-045	●	●	●	●														
2820-046				●														
2820-047					●													
2820-048							●								●			
2820-050								●								■		
2820-051									●									
2820-052										●						■		
2820-054											●	●					●	●
2820-056													●	●				
2820-049															●			
2820-053																●		
2820-055																	●	●

● Required ■ Select one based on requirements ◆ Select one based on max span and load

Notes: 1. If multiple configurations are purchased, duplicates are not required. 2. Meets ASTM D1037 for specimens between 4-25 mm thick.

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