

Side-Loading Wedge Grips

BIA West Side-Loading Wedge Grips clamp your specimen repeatably for consistent test results. Superior alignment and constant gripping force minimize the bending strains and slippage that could negatively affect testing results. The BIA West side-loading design and adjustable guides make specimen insertion simple and repeatable.

BIA West Manufacturing grips can be used for testing a variety of materials, including plastics, composites, and ceramics. Adjustable gripping force controls prevents damage to the specimen from excessive grip force. A pre-load chamber locks all the moving grip parts in position to eliminate both backlash when cycling between tension and compression, and grip force variations during cyclic loading.

BIA West Grips can be mounted in environmental chambers. Equipped with external pull rod assemblies the oil is kept out of the environmental chamber precluding the need for high temperature seals and special oil.

Hydraulic grip pressure is supplied by a standard 3,000 psi (210 bar) HPS (the same one used for the test frame) precluding the need to purchase a costly, external, high-pressure supply just for the grips.

Features

- Grip chamber designed to accept competitive inserts
- Wedge inserts available in flat, round or V-shaped with various surface treatments
- Zero backlash, constant clamp force during test
- Axial torsion on all grips
- 4140 Alloy steel construction on all grip bodies, aluminum available on Model 351.022

Benefits

- Grip control to facilitate specimen gripping and adjustable grip force
- Uses 3000 psi (210 bar), no need for high pressure intensifier or external supply
- Ease of specimen loading side insertion
- 100% wedge compatibility with other suppliers
- Precise alignment using accurate piloted connections



Grip components (below) and wedge grip assembly (above)

A variety of wedge inserts are available and sold separately. The bore Western grips are both axial and torsional. Grips can be mounted on screw machine frames when used with an optional, stand-alone hydraulic pump and control valve assembly.

Options

- High temperature option using extension tube design to keep the oil and seals out of the hostile environment
- Water cooled wedges available in all sizes
- Alignment fixture to assure accurate alignment
- 280 bar system pressures available
- Adapter fixtures for all commercial frames on request



Grips mounted in load frame.



Grip assemblies in load-frame mounted high-temperature test chamber.

Model No.	Grip Capacity		Wedge Width	insertion Depth	Weight Each	Dimension Dia/Height
	Dynamic	Static				
351.006	5.5 kip (25 kN)	7.0 kip (31 kN)	1 inch / 2 inch (25 mm / 50 mm)	1.5 inch (38 mm)	22 lbs (10 Kg)	5.75 inch / 6.8 inch (146 mm / 173 mm)
351.022	22 Kip (100 kN)	27 kip (120 kN)	1.75 inch / 3 inch (45 mm / 76 mm)	2.5 inch (63 mm)	66 lbs (30 Kg)	8 inch / 7.8 inch (200 mm / 198 mm)
351.055	55 kip (250 kN)	75 kip (333 kN)	2.0 inch / 4.0 inch (50 mm / 200 mm)	3.5 inch (89 mm)	180 lbs (80 kg)	12 inch / 10 inch (304 mm / 254 mm)
351.110	110 kip (500 kN)	120 kip (540 kN)	4.0 inch (200 mm)	3.5 inch (89 mm)	330 lbs (150 Kg)	13 inch / 11.8 inch (330 mm / 300 mm)
351.220	220 kip (1000 kN)	264 kip (1200 kN)	5.0 inch (127 mm)	5.0 inch (127 mm)	900 lbs (410 Kg)	19 inch / 17 inch (482 mm / 431 mm)

Specifications subject to change without notice. August, 2009 Rev.#1