

2716-028/030

Precision Manual Wedge Grips

The Instron® 2716-028/030 Series precision manual wedge grips deliver dependable performance and precise alignment for tensile testing across a broad spectrum of materials - including composites, metals, and other rigid specimens. Designed to meet the stringent alignment requirements of Nadcap AC7122 and AC7101, these grips ensure consistent and repeatable results¹.

PRINCIPLE OF OPERATION

These manual, self-centering wedge grips utilize a moving body design to provide secure and symmetrical clamping. Initial gripping force is applied manually via a ratchet handle, and as the test load increases, the wedge mechanism increases the gripping force proportionally. A worm gear drive enables smooth, synchronized jaw movement, ensuring accurate specimen alignment throughout the test.

The grips are engineered for ease of use and enhanced productivity. Jaw faces can be swapped in seconds without tools, and “piggyback” adapters allow for quick integration of fixtures for compression or flex tests - without removing the grips from the system.

FEATURES

- Capacities of 100 and 250 kN (22,481 and 56,202 lbf)
- Safe, ergonomic ratchet handle for manual operation
- Self-centering moving body design ensures precise alignment compliant with Nadcap requirements
- Tool-free jaw face replacement for fast setup changes
- Wide operating temperature range: -80 to +250 °C (-112 to +482 °F) without part or lubricant changes
- Adjustable specimen stop for consistent positioning
- Robust gripping performance with repeatable results
- Enclosed design protects against dirt and debris
- Multiple jaw face sizes and surface options available
- Piggyback adapters enable fixture installation without grip removal



Notes:

1. New 6800 Series systems with factory fitted grips meet the alignment specifications in the current Nadcap checklists. Achievement of Nadcap alignment specifications is critically dependent on the total testing system configuration and cannot be guaranteed, solely, by using 2716-028/-030 grips. If you require Nadcap certification, then this must be discussed directly with Instron to ensure the suitability of your testing system.

APPLICATION RANGE

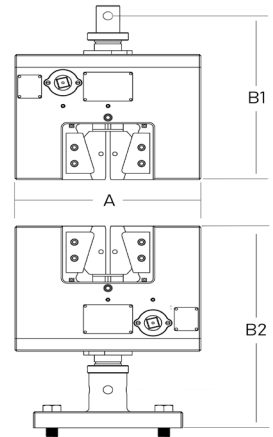
- Static tensile tests on a variety of materials including composites, metals, and plastics over a range of temperatures
- Type of loading: Tensile, static, and tension-tension cyclic tests; not suitable for high-cycle dynamic fatigue tests
- Specimen shapes: Flat and round
- Compatible with a variety of composite test fixtures via piggyback adapters

SPECIFICATIONS

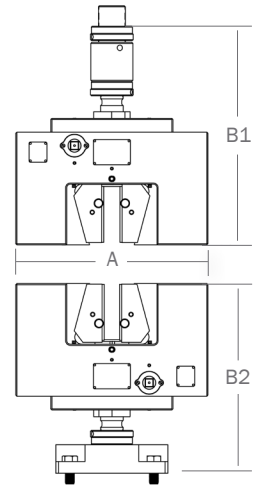
		2716-028	2716-030
Maximum Force Capacity	kN	100	250
	lbf	22,481	56,202
Maximum Specimen Thickness ¹	mm	25	30
	in	0.98	1.18
Maximum Specimen Diameter ¹	mm	15	34
	in	0.59	1.34
Upper Fitting		0.5 in Clevis (Type Dm)	M48 LH Male (Type 2)
Lower Fitting		4 off M16	4 off M16
Overall Width (A)	mm	249	343
	in	9.8	13.5
Effective Length Upper (B1)	mm	255	389
	in	10.04	15.32
Effective Length Lower (B2)	mm	314	341
	in	12.36	13.43
Single Grip Weight (Less Faces)	kg	47	102
	lb	104	225
Temperature Range	°C	-80 to +250	-80 to +250
	°F	-112 to +482	-112 to +482

Notes:

1. Maximum specimen thickness depends on jaw face selection. See Jaw Faces table on page 4.



2716-028 Grip Dimensions



2716-030 Grip Dimensions



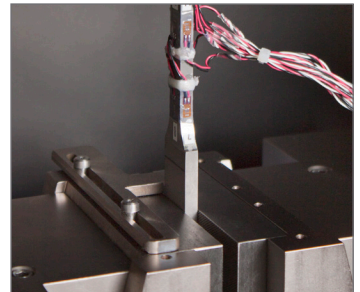
Alignment Meets Nadcap AC7101 and AC7122 Specifications



Grip Operation via a Safe and Easy-to-Use Ratchet Handle



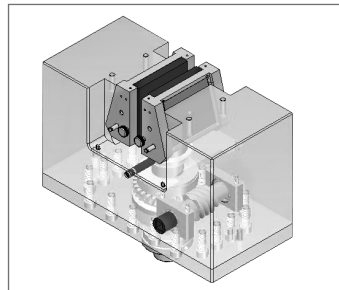
Open Front/Back Allows for Easy Specimen Loading



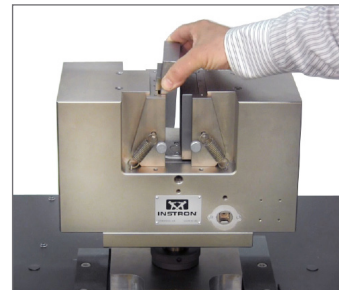
Specimen Centering Stops



Piggyback Adapters Allow Fixtures to Be Installed Without the Need to Remove the Grips from the Machine



Enclosed Mechanism Resists Dirt and Debris



Jaw Face Changes Require No Tools or Pins



Compatible with a Wide Range of Testing Accessories

OPTIONAL ACCESSORIES FOR IMPROVED PRODUCTIVITY, EASE OF USE, AND REPEATABILITY

SPECIMEN CENTERING STOPS

Fitted to both the upper and lower grip, the optional specimen alignment device ensures that the specimen is positioned consistently for every test.

PULL RODS

Pull rod extenders allow the grips to be used inside a temperature chamber.

Note: An AlignPRO fixture is needed to meet the Nadcap AC7101 and AC7102 alignment specifications when using the grips with extenders.

PIGGYBACK COMPRESSION PLATENS AND ADAPTERS

Compression platens and adapters allow the testing machine to be configured for compression and other testing without having to remove the grips.

OPTIONAL ITEMS FOR USE WITH 2716-028

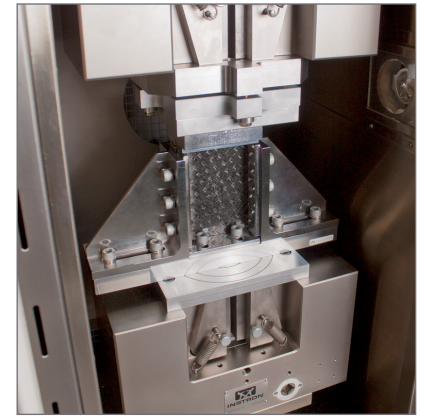
2701-231	Specimen Centering Stops
2501-700	Type D Adapter Plates for Piggyback Fixtures
2501-704	Fixed Compression Platen for Lower Grip with LVDT Mountings
2501-705	Compression Platen with Lockable Spherical Seat and LVDT Mountings

OPTIONAL ITEMS FOR USE WITH 2716-030

2701-230	Specimen Centering Stops
2501-700	Type D Adapter Plate for Piggyback Fixtures
2501-702	Type 2 (M48) Adapter Plate for Piggyback Fixtures
2501-704	Fixed Compression Platen for Lower Grip with LVDT Mountings
2501-705	Compression Platen with Lockable Spherical Seat and LVDT Mountings
3119-317	250 kN Pull Rods for Use with CP110128 Chamber and Extra-Height (E2) 598X and 68FM Load Frames



Low-Force Load Cell Located in
2501-700 Adapter



Compression After Impact Fixture Located
Between 2501-704 and 2501-705
Compression Platens



Compression Platens - 2501-705 with
Spherical Seat and 2501-704 Fixed



Adapters - 2501-700 Type D Adapter and
2501-702 Type 2 (M48) Adapter

JAW FACES FOR 2716-028 100 KN GRIPS

Catalog Number	Type	Surface	W × H		Specimen Thickness/Diameter Range	
			mm	in	mm	in
2703-363	Flat	Diamond Serrated 25 TPI	60 × 75	2.36 × 2.95	0 - 10	0 - 0.39
2703-364	Flat	Diamond Serrated 25 TPI	60 × 75	2.36 × 2.95	5 - 15	0.2 - 0.59
2703-365	Flat	Diamond Serrated 25 TPI	60 × 75	2.36 × 2.95	15 - 25	0.59 - 0.98
2703-366	Flat	Carbide Coated	60 × 75	2.36 × 2.95	0 - 10	0 - 0.39
2703-367	Flat	Carbide Coated	60 × 75	2.36 × 2.95	5 - 15	0.2 - 0.59
2703-368	Flat	Carbide Coated	60 × 75	2.36 × 2.95	15 - 25	0.59 - 0.98
2703-369	Vee (for Round)	V-Serrated 25 TPI	60 × 75	2.36 × 2.95	3 - 8	0.12 - 0.31
2703-370	Vee (for Round)	V-Serrated 25 TPI	60 × 75	2.36 × 2.95	8 - 15	0.31 - 0.59

Note: Catalog number provides four faces

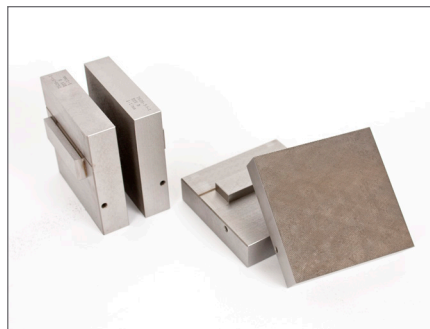
JAW FACES FOR 2716-030 250 KN GRIPS

Catalog Number	Type	Surface	W × H		Thickness	
			mm	in	mm	in
2703-340	Flat	Diamond Serrated 25 TPI	100 × 100	3.94 × 3.94	0 - 10	0 - 0.39
2703-341	Flat	Diamond Serrated 25 TPI	100 × 100	3.94 × 3.94	10 - 20	0.39 - 0.79
2703-342	Flat	Diamond Serrated 25 TPI	100 × 100	3.94 × 3.94	20 - 30	0.79 - 1.18
2703-343	Flat	Carbide Coated	100 × 100	3.94 × 3.94	0 - 10	0 - 0.39
2703-344	Flat	Carbide Coated	100 × 100	3.94 × 3.94	10 - 20	0.39 - 0.79
2703-345	Flat	Carbide Coated	100 × 100	3.94 × 3.94	20 - 30	0.79 - 1.18
2703-346	Vee (for round)	V-Serrated	100 × 100	3.94 × 3.94	5 - 10	0.2 - 0.39
2703-347	Vee (for round)	V-Serrated	100 × 100	3.94 × 3.94	10 - 16	0.39 - 0.62
2703-348	Vee (for round)	V-Serrated	100 × 100	3.94 × 3.94	16 - 22	0.62 - 0.87
2703-349	Vee (for round)	V-Serrated	100 × 100	3.94 × 3.94	22 - 28	0.87 - 1.1
2703-350	Vee (for round)	V-Serrated	100 × 100	3.94 × 3.94	28 - 34	1.1 - 1.34

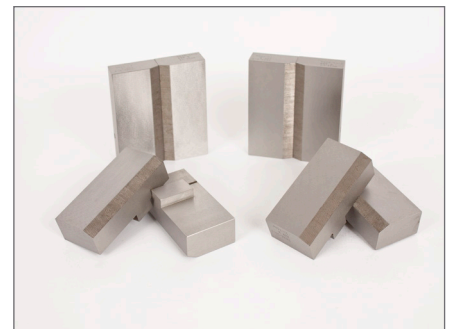
Note: Catalog number provides four faces



Flat Faces for 2716-028 Grips



Flat Faces for 2716-030 Grips



Vee Faces for 2716-030 Grips

www.instron.com



Worldwide Headquarters
825 University Ave, Norwood, MA 02062-2643, USA
Tel: +1 800 564 8378 or +1 781 575 5000

European Headquarters
Coronation Road, High Wycombe, Bucks HP12 3SY, UK
Tel: +44 1494 464646