Grips and Fixtures

JACOBS CHUCKS
Jacobs Chuck fixtures are ideal for holding small cylindrical samples during tensile or compression testing. They are commonly used for testing wire samples.

GF-51 Sample size: 4mm (0.16 in) diameter
Capacity: 20 lbf (100N)
Thread: #10-32F

GF-52 Sample size: 6mm (0.25 in) diameter
Capacity: 20 lbf (100N)
Thread: #10-32F

Note: Both include a 1/4-28M to #10-32M adapter and #10-32M Set Screw

COMPRESSION PLATENS
Circular compression platens are made of aluminium and may be used for general purpose compression testing.

17109 Sample size: 50mm (2 in) diameter
Capacity: 225 lbf (1000N)
Thread: #10-32F

17012 Sample size: 75mm (3 in) diameter
Capacity: 550 lbf (2500N)
Thread: 5/16-18F

RECTANGULAR PLATENS
Provide more surface area and are ideal for testing foam, composites, metals, wood products, packaging materials, etc.

TG-37 Sample size: 175 x 115mm (7 x 4.5 in)
Capacity: 110 lbf (500N)
Thread: 5/8" eye end upper, 5/8" eye end bottom

Grip opening may vary depending on Grip Face thickness, see data sheets
WEDGE ACTION GRIPS

These miniature wedge action grips are ideal for tensile testing wire, filaments, fibers, cables, etc. Grips have serrated teeth for extra gripping power as tensile force is applied.

GF-11  
Sample size: 12mm (0.5 in)  
Capacity: 110 lbf (500N)  
Thread: #10-32 Male or 1/4”-28 Male

ML1700  
Sample size: 5.6mm (0.2 in)  
Capacity: 450 lbf (2000N)  
Thread: 5/16-18F

WEDGE GRIP WITHOUT FACES

A range of wedge action grips for general tension testing of metals and plastic. The wedge design of the grip means the grip tightens on the sample as the force increases, initial force can be applied by various methods such as side lever, capstan action wheel or screw action. Faces are interchangeable for different samples types and dimensions.

01/4644  
Sample size: 40x10x10mm (1.5x0.4x0.4 in)  
Capacity: 1100 lbf (5000N)  
Thread: 5/8” Female Eye End

LEVER ACTUATED

A range of wedge action grips for general tension testing of metals and plastic. The wedge design of the grip means the grip tightens on the sample as the force increases, initial force can be applied by various methods such as side lever, capstan action wheel or screw action. Faces are interchangeable for different samples types and dimensions.

01/4650  
Sample size: 34x40x9mm (1.3x1.5x0.3 in)  
Capacity: 2200 lbf (10KN)  
Thread: 5/8” Female Eye End
VICE GRIP, 0–8MM OPENING
A vice grips with manual tightening action by thumb screw grips are dual action. Ideal for paper, thin film and general tensile and peeling applications where forces are low.

01/4221  Sample size: 8x10x100mm (0.3x0.4x3x9 in)
Capacity: 22 lbf (100N)
Thread: 5mm Threaded Female

SMALL PINCER GRIP
A range of small vice action pincer grips, available as direct connect and options of a connecting chain for self alignment. Ideal for testing of small component parts where access is an issue such as electrical and electronic components

01/4191  Sample size: 10x25x25mm (0.4x1x1 in)
Capacity: 450 lbf (2000N)
Thread: 5/8” Female Eye End

VICE GRIP, 0–30MM OPENING
A vice grip with manual tightening action by T-bar, grip is dual action and allows for offset sample alignment for shear testing. Ideal for all types of samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal, foils, wood, fabrics and composites (depends on rating).

01/4265  Sample size: 30x30x100mm (1.1x1.1x3.9 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8” Female Eye End

Grip opening may vary depending on Grip Face thickness, see data sheets
VICE GRIPS

VICE ACTION GRIP
This lightweight, spring-loaded, rubber faced clamp grips very light loads. Ideal for paper, film, foils, etc.

TG-33 Sample size: 25mm (1 in) width, 2mm (0.08 in) thickness
Capacity: 1.1 lbf (5N)
Thread: 5/8”F eye end upper, 5/8”F eye end bottom

QUICK RELEASE TENSILE GRIP
Ideal for tensile testing paper, rubber, plastic, film textiles, etc. the grip is a general purpose tensile grip. It is supplied standard with 100mm x 50mm crosscut faces. Faces are interchangeable. A large thumbscrew is used to secure the sample. Optional jaw faces are available and may be ordered separately.

TG-26 Sample size: 150mm (6 in) width, 12mm (0.5 in) thickness
Capacity: 225 lbf (1000N)
Thread: 5/8”F eye end upper, 5/8”F eye end bottom

VICE GRIP, 0–15MM OPENING
A vice grip with manual tightening action either by thumb screw or T-bar, grips are dual action and allow for offset sample alignment for shear testing. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal, foils, wood, fabrics and composites (depends on rating).

01/4304 Sample size: 15x30x50mm (0.6x1.1x2 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8” Female Eye End

VICE GRIP, 0–10MM OPENING
A vice grip with manual tightening action either by thumb screw or T-bar, grips are dual action and allow for offset sample alignment for shear testing. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal, foils, wood, fabrics and composites (depends on rating).

01/4291 Sample size: 10x30x30mm (0.4x1.1x1.1 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8” Female Eye End

Grip opening may vary depending on Grip Face thickness, see data sheets
ECCENTRIC ROLLER GRIP, 50 MM
A self tightening eccentric roller grips, the grip tightens as the sample is pulled. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal and foils.

01/4184 Sample size: 7x50mm (0.3x2 in)
Capacity: 220 lbf (1000N)
Thread: 5/8” Female Eye End

ECCENTRIC ROLLER GRIP, 100 MM
A self tightening eccentric roller grips, the grip tightens as the sample is pulled. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal and foils.

01/4186 Sample size: 7x100mm (0.3x4 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8” Female Eye End

ECCENTRIC ROLLER GRIP, 50 MM
A self tightening eccentric roller grips, the grip tightens as the sample is pulled. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal and foils.

01/4187 Sample size: 7x50mm (0.3x2 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8” Female Eye End

ECCENTRIC ROLLER GRIP, 50 MM
A range of self tightening eccentric roller grips, the grip tightens as the sample is pulled. Ideal for all types of flat samples, rubber, plastic film, paper and cardboard.

01/4185 Sample size: 7x50mm (0.3x2 in) with plain roller & rubber lined surface
Capacity: 220 lbf (1000N)
Thread: 5/8” Female Eye End

Grip opening may vary depending on Grip Face thickness, see data sheets
3-POINT BEND Fixture
This low force bending jig is supplied as standard with a set of three anvils, one upper and two lower. Upper anvils have single radii and lower anvil sets are reversible with different radii on each side. Other anvil sets are also available as additional accessories.

01/4104 Sample size: 4-150mm (0.15-6 in)
Capacity: 560 lbf (2500N)
Thread: 5/8” Female Eye End

Circular Adhesive Fixture
Includes top and bottom fixture for general purpose compressive testing or adhesive determination. Top fixture is self aligning. Top and Bottom fixture may be ordered separately.

GF-8 Sample size: 75mm (3 in) diameter
Capacity: 550 lbf (2500N)
Thread: 1/4”-20 Male Upper; 3/8”-16 Female bottom with Gauge and tester coupling hardware included

Clevis Fixture
The GF-2 comes with an upper and lower fixture. The fixture has a concave diameter that centers the sample and secures the pins while under load. The throat clearance with pin installed is 12mm (0.5 in) at the centerline. Ideal for spring tensile testing. Top and Bottom fixture may be ordered separately.

GF-2 Sample size: 12mm (0.5 in) width
Capacity: 550 lbf (2500N)
Thread: 1/4”-20 Male Upper; 3/8”-16 Female bottom with Gauge and tester coupling hardware included

Bottle Top Torque
This single fixture is used with the STS torque sensor to determine bottle top torque results. A manual screw mechanism is used to affix to the bottle top.

B200309 Sample size: 38mm (1 1/2 in) min, 70mm (2 3/4 in) max
Capacity: 100 lbf-in (10N-m)
Thread: 1/4” Hex
PNEUMATIC VICE GRIP
A small pneumatic vice grip suitable for low force tensile and peeling applications. One side is closed with a thumb screw and the other is pneumatic. 1KN @ 7 bar, M5 pneumatic connector. All pneumatic grips are suitable for use with the foot and hand controls.

01/4421 Single Sided & 01/4422 Dual Sided
Sample size: 10x30x30mm (0.4x1.1x1.1 in)
Capacity: 220 lbf (1000N), Single Sided
Thread: 5/8” Female Eye End

PNEUMATIC VICE GRIP
A Pneumatic grip ideal for general purpose tensile testing up to 5KN, the grip has a manual adjust on one side and a pneumatic actuator on the other side, useful for shear testing where the sample requires an offset. Pneumatic pressure 2.6KN @ 7 bar, M5 pneumatic connector. All pneumatic grips are suitable for use with the foot and hand controls.

01/4435 Single Sided & 01/4436 Dual Sided
Sample size: 15x30x50mm (0.6x1.1x2 in)
Capacity: 1100 lbf (5000N), Single Sided
Thread: 5/8” Female Eye End

Grip opening may vary depending on Grip Face thickness, see data sheets.
CAM FIXTURE
This fixture is used for testing tensile strength on wire, filament, magnetic tape, etc. The sample is inserted between the holding block and secured by the cam. Cam and holding block may be separated for cleaning.

ML1821  Sample size: 6mm (0.25 in) width
Capacity: 30 lbf (130N)
Thread: #10-32F

WIRE CONNECTOR FIXTURE
Used to test wrapped wire connections and terminations. The fixture has a “L” shape that may be notched by the user to any desired dimension. During a test, the fixture is slipped over the terminal post below the wire wrap. When tension load is applied, the fixture engages the wrap and pulls it off the connection post.

ML4244  Capacity: 30 lbf (130N)
Thread: #10-32F

SPOOL FIXTURE
Ideal for difficult to handle samples such as very fine wires, medical wire, dental wire, etc. The sample is threaded into the locking groove and wrapped around the spool. A tension wire holds the specimen securely on the spool.

ML1949  Sample size: 6mm (0.25 in) width
Capacity: 30 lbf (130N)
Thread: #10-32F

WIRE & CORD FIXTURE
Used to test insulated wire, cord, stranded cable, etc. The sample is wrapped around the smaller semi-circular block and looped over the larger block. This is a single fixture. Use two for securing sample during tensile test, or combine with a suitable bottom grip, e.g. GF9-BOT.

ML1977  Sample size: 12mm (0.5 in) width
Capacity: 550 lbf (2500N)
Thread: 5/16-18F

Grip opening may vary depending on
Grip Face thickness, see data sheets
WIRE TURRET ASSEMBLY
This assembly is ideal for testing wire terminals, connectors and other end fittings. A rotating turret has 9 grooves to accept wire sizes from 28 gauge to 10 gauge. A ring stud behind the turret is supplied for ring-type terminals.

ML1785 Wire gauge size:ample size: From 0.06 up to 0.21 in
Capacity: 550 lbf (2500N)
Thread: 5/16-18F

TERMINAL TESTING FIXTURE
Specifically designed to test the ultimate strength of wire connectors and terminals. Upper fixture consists of a self aligning wheel with 9 equally spaced slots to accept standard terminal shank sizes. Ring terminals are secured with a pin. Bottom fixture has an eccentrically mounted, self-tightening knurled roller which accepts wire diameters up to 3mm (0.13 in).

GF-10 Sample size: From 0.8 to 6mm (0.03 to 0.25 in)
Capacity: 110 lbf (500N)
Thread: 1/4”-20 Male Upper; 3/8”-16 Female bottom with Gauge and tester coupling hardware included

WIRE & CORD LOCKING FIXTURE
Three non-locking pins designed for a “Figure 8” wrap help ensure a center break. Designed for fast installation and release. Throat clearance with pins installed and clearance between pins is 9.5mm (0.4 in). Top fixture is self aligning. Top and Bottom Fixtures may be ordered separately:

GF-5 Sample size: 9.5mm (0.4 in) diameter
Capacity: 550 lbf (2500N)
Thread: 1/4”-20 Male Upper; 3/8”-16 Female bottom with Gauge and tester coupling hardware included

BOLLARD GRIP
A thin rope, yarn and thread bollard grip, ideally it should be used with an extensometer to calculate true strain in the sample. Pneumatic versions are available. The 01/4625 is designed for the tensile strength of fibers, wires, yarns, threads and ropes it is fitted with a crosscut face as standard with no optional faces.

01/4625 Sample size: 5mm (0.2 in) diameter/15mm (0.6 in) width
Capacity: 1100 lbf (5000N)
Thread: 5/8” Female Eye End
SCREW ACTION GRIP
The Bollard grip is suitable for a wide range of samples such as fiber, yarn, thread, rope, string, and strapping tape. The grips are designed so that the sample can be wrapped around the bollard and clamped at one end, this helps reduce the sample suffering a jaw break and spreads the load around the bollard by introducing friction to the sample. Ideally it should be used with an extensometer to calculate true strain in the sample.

01/4623  Sample size: 5mm (0.2 in) diameter/8mm (0.3 in) width  
Capacity: 1100 lbf (5000N)  
Thread: 5/8” Female Eye End

GROOVED SNUBBER FIXTURE
Grooved snubber and post design ensures centerline breaks of flexible wires and cable up to 1.6mm (0.06 in) diameter. The 25mm (1 in) diameter snubber is mounted on a swiveling plate so that the sample aligns when force is applied. Top and Bottom fixture may be ordered separately.

GF-3  Sample size: 1.6mm (0.06 in) diameter  
Capacity: 225 lbf (1000N)  
Thread: 1/4”-20 Male Upper; 3/8”-16 Female bottom with Gauge and tester coupling hardware included

MINIATURE BOLLARD
Includes top and bottom fixture for lightweight loads. Ideal for extremely small wire and filament. Fixtures have a 11mm (0.4 in) diameter snuber which is part of a precision machined swivelling mechanism that ensures sample alignment. May order Top and Bottom fixtures separately.

GF-4  Sample size: 0.8mm (0.03 in) diameter  
Capacity: 55 lbf (250N)  
Thread: 1/4”-20 Male Upper; 3/8”-16 Female bottom with Gauge and tester coupling hardware included

Grip opening may vary depending on Grip Face thickness, see data sheets.
BALL PROBES
Used for a variety of texture analysis tests. Ideal for fruit, vegetable and confectionary product testing including ripeness. Provides a uniform compression force distributed at a normal angle to the surface area of the ball. Gives an averaging effect over the local area being tested.

FG/BA  Ball Diameter: From 2 to 10mm (0.25 to 1 in)
       Capacity: 110 lbf (500N)
       Thread: M6

CONE PROBES
Used for penetration testing on products including cosmetics, pharmaceuticals, pastes, ointments, sealants and mastics. Useful for determining the spreadability of dairy products including butter, margarine and cheese spreads.

FG/CO  Cone Angle: 15 to 90°
       Capacity: 110 lbf (500N)
       Thread: M6

CYLINDER PROBES
Used to determine the deformation characteristics of materials including gelatine, e.g. gel strength (Bloom Value) and gel elasticity. Cylinder probes are also useful for applying a shear force to a gel to determine break strength.

FG/CY  Cylinder Diameter: From 1 to 10mm (0.25 to 4.0 in)
       Capacity: 110 lbf (500N)
       Thread: M6

Grip opening may vary depending on Grip Face thickness, see data sheets
ABOUT AMETEK®

AMETEK Sensors, Test & Calibration
A business unit of AMETEK Measurement & Calibration Technologies offering the following industry leading brands for test and calibration instrumentation.

LLOYD Material Testing
Material Testing Solutions
Material testing machines and software from Lloyd guarantee the highest level of performance and capability for production testing, quality control, laboratory testing, research and education to provide expert materials testing solutions.

Davenport Polymer Test Equipment
Allows critical polymer parameters to be determined, including melt flow index and melt flow rate, intrinsic viscosity (IV) measurement of moisture-sensitive PET polymers and polymer density measurement.

Chatillon Force Measurement
Chatillon has been a hallmark in the industry since 1835. The handheld gauges and motorized testers have earned their reputation for quality, reliability and accuracy and they represent the de facto standard for force measurement.

Newage Hardness Testing
Newage offers a comprehensive range of hardness testers, durometers, optical systems and software for measurement, data acquisition and analysis.

JOFRA Calibration
The inventor of the portable high precision dry-block temperature calibrators. The calibration instruments program also covers precision thermometers and temperature baths, temperature sensors, handheld instruments for pressure calibration and process signal calibrators for easy control loop calibration, measurements and simulation.

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Digital pressure gauges and calibrators that are accurate, easy-to-use and reliable. Designed for use in the harshest environments; most products carry an IS, IP67 and DNV rating.

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Pneumatic floating-ball or hydraulic piston dead weight testers with accuracies to 0.015% of reading.

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