

Tinius Olsen

Gripping Solutions



Tensile - Wedge



Tinius Olsen's versatile testing machines can perform many materials test routines that meet ASTM, ISO and other international specifications, including tensile, compressive, tear, peel, flexural, puncture, shear and frictional resistance tests at a wide range of loads. All these machines are available with a huge selection of tooling and grips to hold the sample; without this ability the machines become useless. One the most popular types of

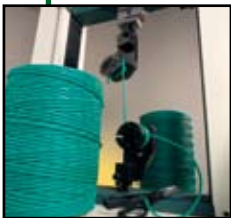
grip is the self tightening wedge grip. These can be both external grips or in-head types of wedges (depending on the type of machine they are to fit), the key being that they are a self tightening design. For some of the larger wedges, a hydraulic lift assist is available.

Tensile - Vice grips



With these types of grip, the sample is secured and held in a hand tightened vice. A variety of different jaws and faces are available at differing loading capacities.

Tensile - Bollard



The bollard grip design allows specimens such as wire, yarn, rope, filaments etc. to be wrapped around a bollard(s) and finally clamped. The advantage in doing this is that the load is distributed evenly around the specimen and no localised stress is applied to the sample, which could cause a premature break.

Tensile - Roller

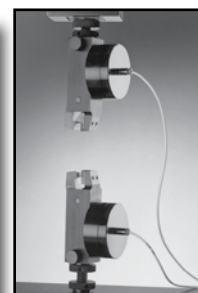
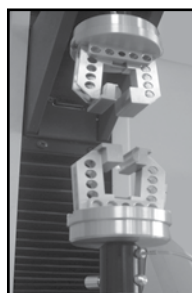
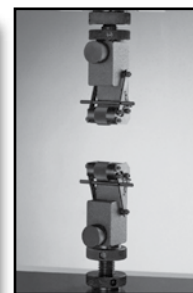
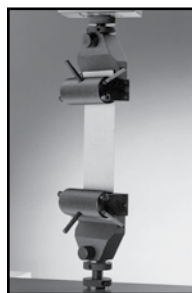
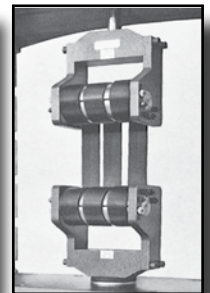
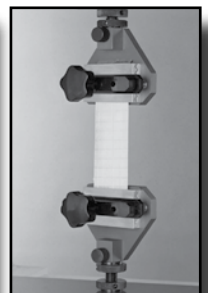
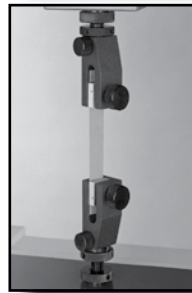
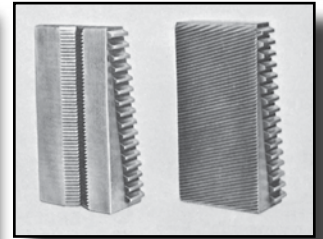
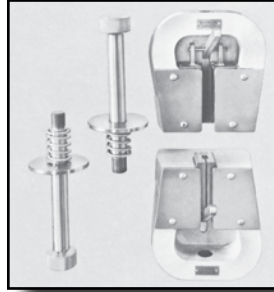
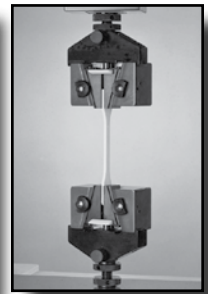


Designed for quick low force testing, these eccentric rollers tighten further as the load increases. On higher capacity models a post is added to the roller to make opening the roller easier.

Tensile - Pneumatic



Designed for rapid low force testing, these grips are actuated and operated using standard laboratory compressed air. The jaws can be opened by manual or foot switches and all use a pneumatic control box to guarantee safe operation.



Tensile



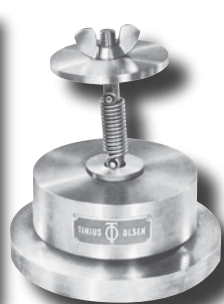
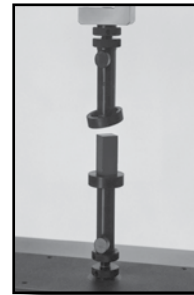
Some of the grips we manufacture are dedicated to a unique application, such as cement briquette grips in which the concrete specimen is molded; or headed grips that are designed to accommodate specimens of defined dimensions.



Compression



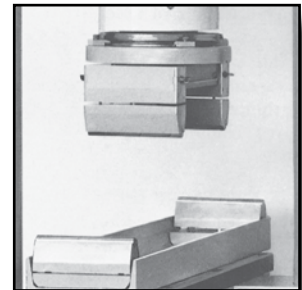
All Tinius Olsen machines work to 100% machine capacity in both tension and compression modes. We have numerous options available to effect direct or indirect compression loading at all levels of loading capacity. These compression platens can be supplied in all sizes and with 'floating' heads to accommodate specimen parallelism irregularities.



Flexural



A modification of the compression test is the flexure test where a specimen is subjected to bending moments. These can be in the form of either three point bends or four point bends. In some cases, notably our high capacity cold bend jigs for steel, the fixtures can be supplied with interchangeable rollers of different diameters.



Burst or Puncture



Tinius Olsen can also supply burst testing or puncture testing fixtures with variety of different shaped and sized probes at a variety of testing loads.



Peel



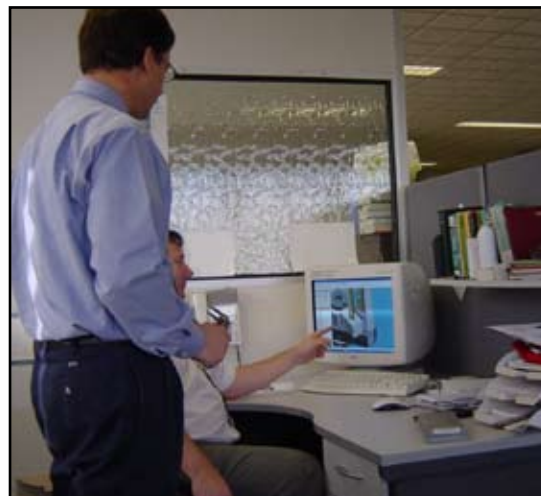
Tinius Olsen can supply a variety of test fixtures designed to perform tear and peel tests. These can range from a straightforward 180 degree peel test to a motorised 90 degree peel fixture that can be programmed to run at the same speed as the pull-off test speed - typically used for very low load peel test where the peeling strength could be higher than the material tensile strength.



The gripping system is an integral part of a successful test and credible repeatable test data. The process of setting up a test should be fast and easy to achieve, the specimen must be held firmly and consistently for every test, and the system should be safe. Tinius Olsen's standard range of gripping systems meet all these criteria and are designed to test materials such as sheet metal, rebar, concrete, composites, wood, paper, board, rubber, textiles, non-wovens and filter materials, insulation, leather, adhesives and many more, as well as finished components as diverse as bearings, automotive clutch plates, fasteners, keyboards, electronic devices and printed circuit boards, zips, contact lenses and even food stuffs such as ice cream, fruit and vegetables.

Using Tinius Olsen grips it is possible to apply forces in tension, shear, compression, flexure (bend), puncture (burst), friction, insertion and extraction. Beyond the standard Gripping range, a specialist engineering team at Tinius Olsen work closely with international standards organisations such as ISO, ASTM, EN and industrial standards bodies, to continually develop new gripping solutions in support of customers as they develop tests for new materials and components. The Tinius Olsen team is proud of the fact that they have never been seriously challenged by a material or component which could not be held and supported for a successful test.

Tinius Olsen can put together a series of recommendations of grips and fixtures according to materials and standards that being used. Shown here is just a sampler of our standard range of gripping solutions and technology; if there is a gripping system you require, please contact Tinius Olsen immediately and put us to the test!



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