Tensile Adhesion Test Apparatus

LT-CE0101 | Test apparatus for mortar, render and tile adhesives

5 kN load cell • Perpendicular pull-off • Interchangeable plates



5 kN

LOAD CELL CAPACITY

Ø50 mm

CIRCULAR PLATE DIAMETER

EN 1015-12 • EN 12004-2 • 50 × 50 mm and Ø50 mm plate options

LT-CE0101

Photographs and Test Components

Load cell, pull connection and specimen holder in the testing machine

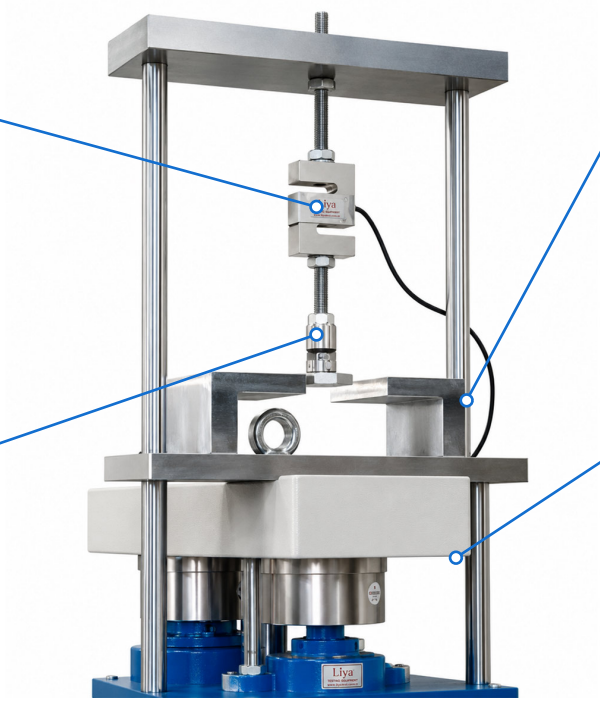
LT-CE0101 is a 5 kN tensile adhesion attachment for compatible LİYA testing machines. It applies a perpendicular force through a plate bonded to the specimen surface. Plate and ring options support testing of mortar, render and cementitious tile adhesives.

LOAD CELL

5 kN measuring element. Monitors the tensile force transmitted through the pull connection.

PULL CONNECTION

Connection between the load cell and pull plate. Transmits force normal to the specimen surface.



SPECIMEN HOLDER

Supports the substrate during testing. The photograph shows the machine-mounted arrangement.

MACHINE INTEGRATION

Used in a compatible compression or compression/tension machine. Verify mechanical fit during installation.



5 kN load cell and connecting elements



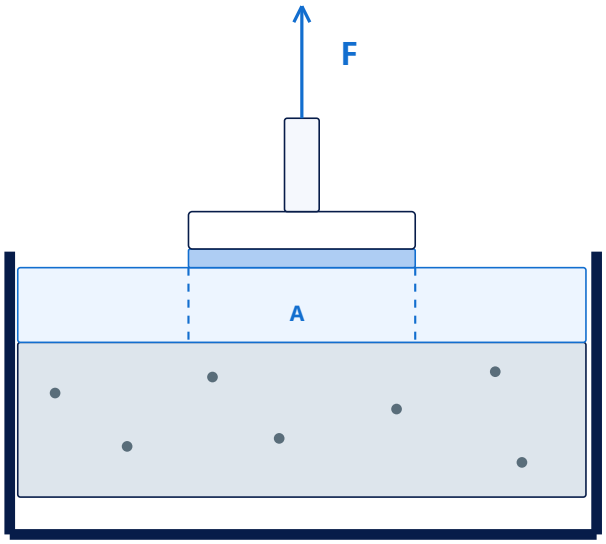
Specimen, pull plate and holding arrangement

LT-CE0101

Perpendicular Pull-Off Principle

Prepare area • Bond plate • Apply perpendicular load • Evaluate failure force

PULL PLATE • MORTAR • SUBSTRATE



F: N A: mm² f: MPa

PERPENDICULAR TENSION OVER A DEFINED AREA

f = F / A | N/mm² = MPa

OPERATING PRINCIPLE • SCHEMATIC VIEW • NOT TO SCALE

Prepare the Test Area

Prepare specimen and area for the test method. Select a square or circular pull-head plate.

Bond the Plate

Bond the plate with a suitable adhesive. After curing, connect it axially to the pulling head.

Pull and Record

Apply controlled perpendicular tension. Record maximum force and the observed failure type.

Adhesion strength is calculated by dividing the failure force by the defined test area. Using force F in N and area A in mm² gives the result in MPa. Assess the material or interface in which failure occurs together with the numerical result.

Plate Geometry and Test Area

LT-CE0102 contains six metal pull-head plates measuring 50 × 50 × 10 mm. The nominal square plate area is 2500 mm².

LT-CE0103 contains six stainless steel pull-head plates measuring Ø50 × 20 mm. The nominal area of a Ø50 mm circle is approximately 1963.5 mm². Use the actual test area defined by the method for the calculation.

Specimen Preparation and Failure Type

Check plate bonding and adhesive curing. LT-CE0104 is a Ø50 mm stainless steel frusto-conical ring supporting test area preparation.

Record specimen identification, curing conditions, test area and maximum force. Identify failure within mortar, substrate or interface. Record failure in the plate-bonding adhesive separately.

Technical Specifications and Workflow

LT-CE0101–LT-CE0104 • Mortar and tile adhesive test equipment

Product Code	Apparatus / Accessory	Technical Information
LT-CE0101	Tensile Adhesion Test Apparatus	5 kN load cell
LT-CE0102	Pull-Headed Plate Set	6 pcs; 50 × 50 × 10 mm
LT-CE0103	Pull-Headed Plate Set	6 pcs; Ø50 × 20 mm; stainless steel
LT-CE0104	Frusto-Conical Shaped Ring	Ø50 mm; stainless steel

Specification	Technical Information
Loading Direction	Tension perpendicular to the specimen surface
Application	Mortar, render and cementitious tile adhesives
Machine Compatibility	Suitable LİYA compression or compression/tension machine
Load Cell Installation	Factory mechanical integration and fit verification
Mortar / Render Testing	EN 1015-12
Tile Adhesive Testing	EN 12004-2; former method reference EN 1348

Machine Compatibility and Test Area

Verify mechanical compatibility with the testing machine. Select the plate and test area for the method; the load cell capacity is 5 kN.

From Preparation to Adhesion Strength

01
Prepare
Prepare specimen and defined test area.

02
Bond
Bond the plate and allow it to cure.

03
Pull
Apply perpendicular load; record failure force.

04
Calculate
Calculate F/A and report the failure type.

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