# Computer Controlled Electromechanical Universal Testing Machine

## ELE 36-2415/05, ELE 36-2416/05, ELE 36-2417/05, ELE 36-2423/05, ELE 36-2424/05, ELE 36-2418/05




New

## Computer Controlled Electromechanical Universal Testing Machine

www.ele.com

ELE INTERNATIONAL

# Computer Controlled Electromechanical Universal Testing Machine

**Ref. Standard:** EN 1348, EN 12004, EN 12003, BS 5980, BIS 15477, ANSI 118.1, EN 1348, EN 1324, EN 1308, EN 1346, EN 1308, ASTM C348, ASTM C349, EN 1306, ISO13007-2, ISO13007-4, ASTM C307, ASTM D4632, ASTM D4833, ASTM D6241, ASTM D4533, ASTM D4595

## Overview

The Computer Controlled Electromechanical Universal Testing Machine is a high-precision device designed and manufactured in compliance with BS, EN, ASTM, ISO, DIN, and other standards. It is ideal for conducting tension, compression, bending, and shearing tests on a wide range of materials. This versatile machine can also perform tests such as peeling and tearing on metals, non-metals, and composite materials with precision and efficiency. Managed by a computer with a modular program design, it ensures automatic data storage, analysis, and report generation. Equipped with a PC system and printer, it offers real-time graphing, test result display, programmable test control, and data processing, making it indispensable in industrial settings, educational institutions, and research facilities.

## Machine supplied with following standard fixtures:

- Metal tensile test fixture
- Compression test fixture

## Features:

- **Remote Control Box:** Adjust the crossbeam speed easily and switch freely.
- **Automatic Return Function:** Returns to the original position quickly and efficiently.
- **Safety Protections:** Includes limit protection for any working position, over-voltage, and over-current protections.
- **Data Handling:** Strong test data management allows saving, querying, and retrieving test data at any time.
- **Multiple Control Modes:** Constant speed control for force, stress, deformation, strain, stroke, load, elongation, displacement, and low cycle with user self-programming control.
- **Versatile Test Curves:** Switch among stress-strain, load-deformation, load-displacement, load-time, deformation-time, displacement-time, load-strain curves, and more for detailed analysis.
- **Automatic Speed Adjusting:** The machine allows for preset test speeds to be maintained throughout the test process.
- **Accurate Calibration and Auto Limit Protection:** Features precise calibration capabilities and automatic protection limits to ensure safe and reliable testing.
- **High-Precision Components:** Equipped with a high-precision load cell, rotary encoder & ball screws.
- Automatically saves data upon test completion to prevent data loss due to unexpected power failures.
- Calculates various test parameters including maximum loading force, tensile strength, loading for constant elongation, and more.

## Detailed Design and Components:

- **Load Frame:** Aluminium alloy cover with streamlined design. High-intensity testing machine structure and crosshead. High stiffness to assure accuracy.
- **Precise Ball Bearing Screws:** Ensure smooth and accurate movement during testing.
- **Drive System:** Equipped with an AC servo motor and drive system for reliable performance.
- **Hand-Held Controller:** Allows control of the crosshead movement for inching and gap adjustment without needing to operate from the PC.
- **Precise Load Cell:** Delivers very accurate readings for all measurements.
- **Computer Control Software:** Provides a versatile testing range and detailed analysis.

## Ordering Information:

| Product Code | Product Name |
|---|---|
| ELE 36-2423/05 | Computer Controlled Electromechanical Universal Testing Machine, **50kN Capacity** |
| ELE 36-2416/05 | Computer Controlled Electromechanical Universal Testing Machine, **20kN Capacity** |
| ELE 36-2417/05 | Computer Controlled Electromechanical Universal Testing Machine, **30kN Capacity** |
| ELE 36-2415/05 | Computer Controlled Electromechanical Universal Testing Machine, **3kN/5 kN Capacity** |
| ELE 36-2424/05 | Computer Controlled Electromechanical Universal Testing Machine, **100kN Capacity** |
| ELE 36-2418/05 | Computer Controlled Electromechanical Universal Testing Machine, **300kN Capacity** |

## Accessories/ Attachments for Geotextile Testing (Optional):

- CBR Puncture. Rubber Tensile Fixture. Tear Fixture. Wide with Tensile. Grab Test Fixture
- Geo-Grid Tensile Test Fixture. Large Deformation

# Computer Controlled Electromechanical Universal Testing Machine



CBR Puncture



Tear Fixture



Wide with Tensile



Grab Test Fixture



Geo-Grid Tensile Test Fixture

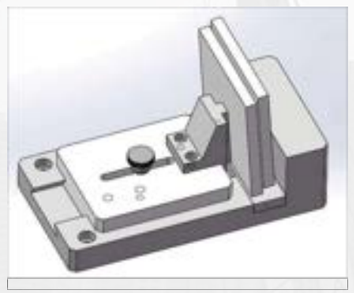
## Accessories/ Attachments for-Tile/Grout Testing (Optional):



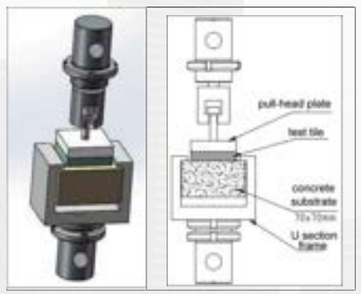
Compression Shear adhesion strength jig for adhesives (ISO13007-2)



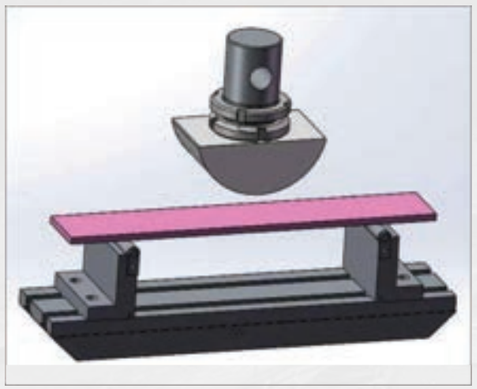
3-point flexure fixture for grouts (ISO13007-4)



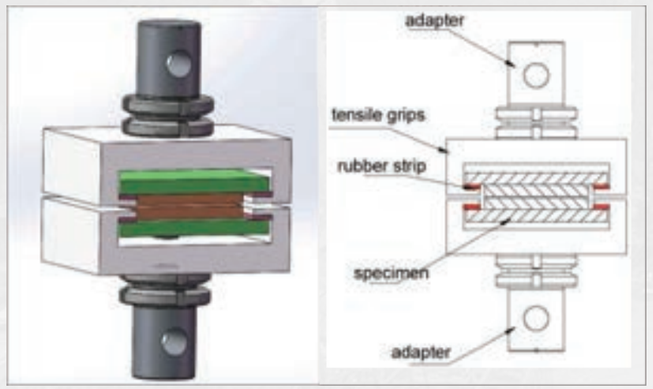
Compression fixture for grouts (ISO13007-4)



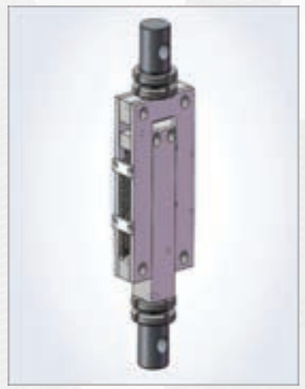

Tensile adhesion strength pull-head plate for adhesives (ISO13007-2)



Transverse deformation fixture (ISO13007-2)



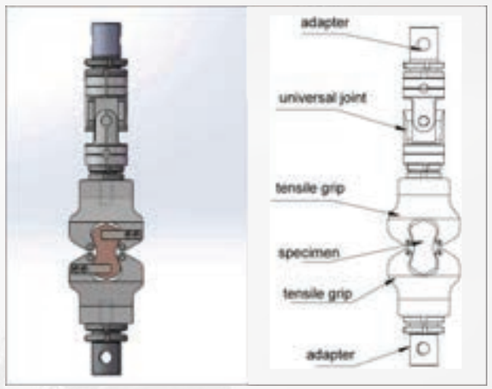

Tensile adhesion strength jig for adhesives (BS5980)



Shear adhesion strength jig for adhesives (BS5980)



Compression platen




ASTM C307 Tensile grips, The upper part adopts a universal joint, which automatically aligned during tensile test.

# Computer Controlled Electromechanical Universal Testing Machine Model Available

ELE INTERNATIONAL

## Specifications

| MODEL NO | | ELE 36-2415/05 | ELE 36-2416/05 | ELE 36-2417/05 | ELE 36-2423/05 | ELE 36-2424/05 | ELE 36-2418/05 |
|---|---|---|---|---|---|---|---|
| Max. loading capacity | | 3 kN/5 kN | 20 kN | 30 kN | 50kN | 100kN | 300 kN |
| Testing grade | | | class 1 | class 1 | class 1 | class 1 | class 1 |
| Loading measuring range | | 0.4% -100% | 0.4% -100%F.S | 0.4% -100%F.S | 0.4% -100%F.S | 0.4% -100%F.S | 0.4%~100%F. S |
| Loading measuring | | better than ± 0.5% | better than ± 0.5% | better than ± 0.5% | better than ± 0.5% | better than ± 0.5% | better than ± 0.5% |
| Load Display Resolution | | 0.001N | 0.001N | 0.001N | 0.001N | 0.001N | 0.001N |
| Load Control Range | | 0.005-5%FS/S | 0.005-5%FS/S | 0.005-5%FS/S | 0.005-5%FS/S | 0.005-5%FS/S | 0.005-5%FS/S |
| Load Control Accuracy | | within ±0.5% | within ±0.5% | within ±0.5% | within ±0.5% | within ±0.5% | within ±0.5% |
| Displacement resolution | | 0.001mm | 0.001mm | 0.001mm | 0.001mm | 0.001mm | 0.001mm |
| Displacement measurement accuracy | | better than ± 0.5% | better than ± 0.5% | better than ± 0.5% | better than ± 0.5% | better than ± 0.5% | better than ± 0.5% |
| Test speed range | | 0.01-500mm/ min | 0.01-500mm/ min | 0.01-500mm/ min | 0.01-500mm/ min | 0.01-350mm/ min900mm | 0.01-260mm/min |
| Vertical tensile space | | 800mm(excluding | 900mm (excluding | 900mm (excluding | 900mm (excluding | 900mm(excluding fixture) | 800mm (excluding |
| Test width | | / | 400mm | 400mm | 400mm | 400mm | 540mm |
| Compression plate diameter | | 100mm | 120mm | 120mm | 120mm | 150mm | 150mm |
| Tensile grips | Round | / | / | / | 4-9mm | 4-9mm | 4-9mm/9-14mm |
| | Flat Jaws | wave type | 0-7mm | 0-7mm | 0-7mm | 0-7mm | 0-9mm |
| Motor | | servo motor | Servo motor | Servo motor | Servo motor | Servo motor | Servo motor |
| Motor Power | | 400W | 400W | 750W | 1.2KW | 1.5KW | 3.6KW/4.6KW |
| Load Sensor | | S type | S type | Spoke type | Spoke type | Spoke type | Spoke type |
| Control Method | | Computer Control | Computer Control | Computer control | Computer Control | Computer Control | Computer Control |
| Main unit size | | Around 580×400x1450 mml | Around 760×580×1870 mm | Around 760×580×1870 mm | 760×580x1900mm | Around 760×600x1950 mm | Around 1000×680x1000×680 |
| Weight | | 100KG | 180KG | 220KG | 260KG | 400KG | 800KG |
| Power supply | | 220VAC 50HZ | 220VAC 50HZ | 220VAC 50HZ | 220VAC 50HZ | 220VAC 50HZ | 220VAC 50HZ |

**Note:**
The 5kN EUTM is a single-column type; all other capacity EUTMs are twin-column types.
Machine supplied with NABL accredited calibration certificate of force (Compression) parameter.
Machine supplied with computer system and installed control software.
As a universal testing system, the EUTM is highly versatile. in addition to the listed standards, custom attachments and fixtures can be designed and supplied upon request to accommodate a wide range of material testing applications.

Tel: +44(0)20 7193 6027