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TF411 ELECTRONIC CROCKMETER



INSTRUCTION MANUAL

SAFETY INSTRUCTIONS

Due to the potential hazards associated with any electrical instrument it is important that the user is familiar with the instructions covering the capabilities, and the operation of the instrument. The user should ensure that all reasonable safety precautions are followed and if any doubt should seek professional advice before proceeding.

The instrument is designed for use by suitably trained, competent personnel in a controlled working environment and is intended for use as an electronic crockmeter only.

The instrument is intended to be used in a residential, commercial and light industrial environment as laid down in EN 50081-1.

TESTEX cannot be held responsible for any unauthorised modifications to this unit.

WARNING

This unit contains hazardous live voltages. Under no circumstance should the user try to prevent or restrict the movement of parts or gain access to the internal circuitry, either personally or with the aid of foreign bodies.

All ventilation slots must be kept clear.

PROVISION FOR LIFTING AND CARRYING

When unpacking or moving this unit extreme care is required, owing to its physical construction and weight.

It is recommended that accepted lifting and carrying procedures are employed and that personnel wear the appropriate protective equipment e.g. safety shoes.

If the unit is to be move an appreciable distance/height it is recommended that it is moved via a suitable vehicle e.g. a fork lift truck.

OPERATING ENVIRONMENT

This unit is intended to be used in a residential, commercial and light industrial environment as laid down in BSEN 50081-1 and BSEN 50082-1.

The following list gives examples of locations in which the instrument might be located; workshops, laboratories and service centres. Locations which are considered to be commercial or light industrial.

CLIMATIC ENVIRONMENT

The unit is intended to operate within the following conditions

- i) Temp 25+/-5 deg Celsius
- ii) Humidity 30-65% RH
- iii) Altitude <2000m above sea level.

And it is intended to be stored in a temp range of -25 - +25 deg Celsius.

ELECTRICAL INFORMATION

This unit complies with BSEN 61010-1 1993 safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use.

INSTALLATION CATEGORY AND POLLUTION DEGREE

Installation category III

Pollution Degree 2

ELECTRICAL / AIR SUPPLY

230 V / 50 Hz, 5A

WARNING LABELS

Number	Symbote	Publication	Description
1		IEC 417, No. 5031	Direct current
2		IEC 417, No. 5032	Alternating current
3		IEC 417, No. 5033	Both direct and alternating current
4		IEC 617-2, No. 02-02-06	Three-phase alternating current
5		IEC 417, No. 5017	Earth (ground) TERMINAL
6		IEC 417, No. 5019	PROTECTIVE CONDUCTOR TERMINAL
7		IEC 417, No. 5020	Frame or chassis TERMINAL
8		IEC 417, No. 5021	Equipotentiality
9		IEC 417, No. 5007	On (Supply)
10		IEC 417, No. 5008	Off (Supply)
11		IEC 417, No. 5172	Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION (equivalent to Class II of IEC 536 -see annex H)
12 (see note)	 Background colour - yellow; symbol and outline - black	ISO 3864, No. B.3.6	Caution, risk of electric shock
13	 Symbol under consideration		Easily-touched higher temperature parts
14 (see note)	 Background colour - yellow; symbol and outline - black	ISO 3864, No. B.3.1	Caution (refer to accompanying documents)

SECTION 1 Introduction

1.1 General

In textiles the rubbing fastness of both wet and dry fabrics is tested according to various standard specifications. The TF411 conforms to the following standards:

SFS-EN ISO 105-X12:2016

The purpose of these tests is to determine the color fastness to rubbing of all types of textile materials.

Normally the color fastness is expressed using grey scales

This apparatus is designed to remove any subjective influences as regards load and rub rate which could affect results.

1.2 Description of the apparatus

The standard rubbing finger is a 16mm diameter acrylic rod

1.3 Standards

This machine manufactured in accordance with but not limited to the following standards:

SFS-EN ISO 105-X12:2016

Section 2 Unpacking and Installation

2.1 Precaution

- Forbid untrained person to fix or unpack the machine in case of causing danger to person and damage to the machine.
- Untrained person is prohibited to operate the machine in case of causing any damage.

2.2 Carrying

The machine is a precision machine, be careful that do not hit in carrying and installation; the packaging should be water proof in long-distance transport, and should be placed in waterproof and dry environment of storage.

2.3 Unpacking

- Carefully remove the unit from the packaging and inspect for any damage which may have been caused in transit.
- The unlikely event of anything being damaged or missing please contact the Customer Service Dept. of TESTEX.

2.4 Installation

Installation of the machine

The instrument should be sited in an air conditioned room with the following conditions:

For testing to AATCC 128: $21 \pm 1^{\circ}\text{C}$ and $65 \pm 2\% \text{ RH}$.

For testing to ISO 9867: $20 \pm 2^{\circ}\text{C}$ and $65 \pm 2\% \text{ RH}$.

Note these are the conditions necessary for both conditioning and testing.

Section 3 Test Procedure

3.1 Sample Preparation

The fabrics used in this test must be allowed to come into condition as defined in ASTM D1776.

Crocking Cloth

This is a white unbleached, undyed cotton lawn material

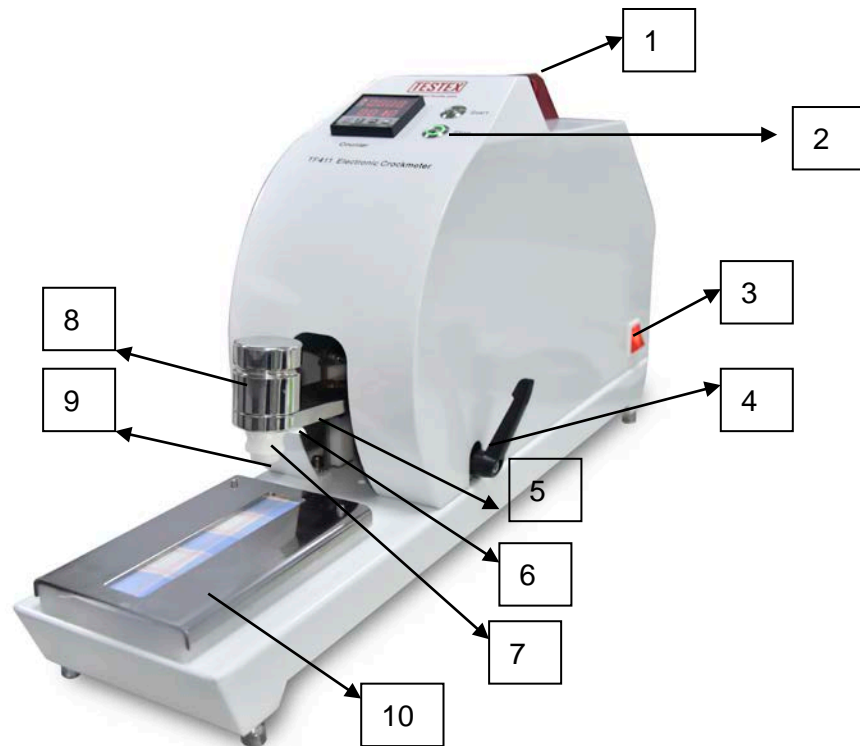
Fabric to be Tested

The sample need not be cut to any specific size as long as an increased portion covers the metallic mounting plate.

Two specimens are required for dry testing and two for wet testing.

The two specimens for each must be such that one is assessed with the long direction parallel to the warp and other parallel to the weft. The wet test must be made with fresh dry samples and crocking cloths which have been wetted with water and squeezed to 100% take up (i.e. 10 grams of fabric is increased to 20 gm's of fabric plus water).

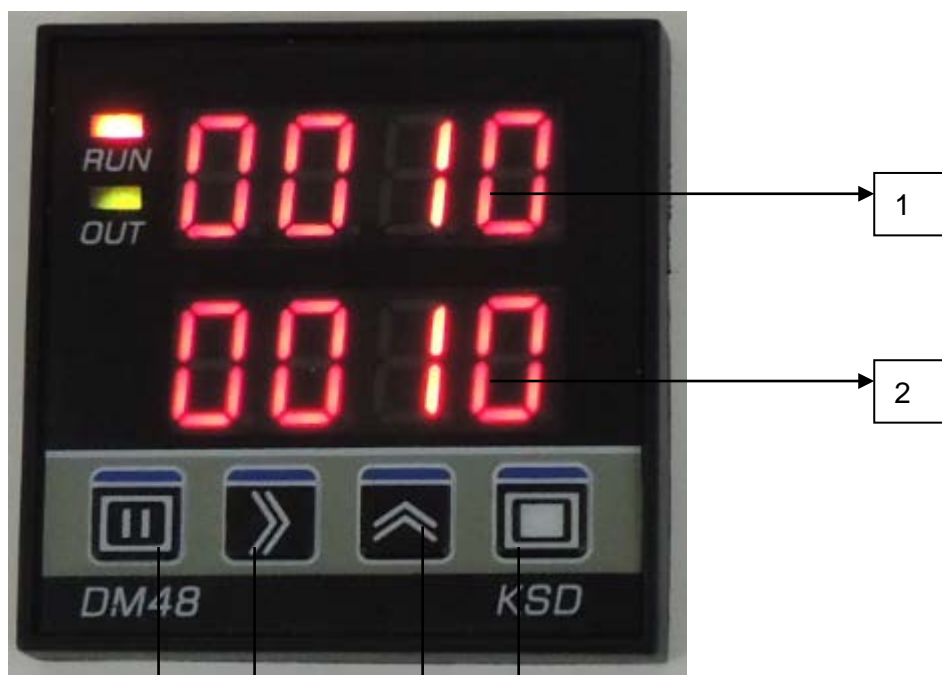
3.2 Introduction of the machine



1. Handle of machine
2. Controller and display
3. Power switch
4. Support rod
5. Rubbing Head
6. Testing fabric
7. Rubbing Finger
8. Load weight
9. Testing fabric holder
10. Sample Holder



1. LOGO of TESTEX
2. Counter(0-9999)
3. Start button
4. Stop button



1. Current Value
2. Preset Value
3. RST key: Zero or clear.
4. Increasing or Decrease
5. Move the position when setting.
6. Set key, press this key to enter the setting page.

3.3 Performing a test

1. Connect the machine with power by power wire provided and switch on both Power Connector and Power Switch
2. Hang the Loading Piece on the Hang Pin.
3. Mount one piece of crocking cloth onto the Rubbing Finger using the clip provided.
4. Mount the specimen on the base plate.
5. Press the start switch to start the test.

3.4 Emergency stopping of the test.

Turn off the circuit breaker switch beside the counter and the Crockmeter will shut off completely. The counter will reset your original stroke total and therefore you must start a new test with new materials.

Section 4 Troubleshooting

Troubles	Factors	Solutions
<ul style="list-style-type: none">• No power supply	<ul style="list-style-type: none">• Power is unconnected• Fuse is burnt	<ul style="list-style-type: none">• Connect with power or check the power supply• Replace the fuse
<ul style="list-style-type: none">• Machine does not run after pressing the start button	<ul style="list-style-type: none">• Counter has not been reset to zero	<ul style="list-style-type: none">• Reset counter to display zero
<ul style="list-style-type: none">• Big noise during running	<ul style="list-style-type: none">• Motor is broken.• Gear box is broken• Bearings are broken.	<ul style="list-style-type: none">• Repair or replace the motor• Replace the gear box.• Replace the broken bearings
<ul style="list-style-type: none">• Fuse burns regularly	<ul style="list-style-type: none">• Power volt is abnormal.• Motor is	<ul style="list-style-type: none">• Check the power supply• Fix or replace the motor

Section 5 Maintenance

1. The unit is virtually maintenance free. No lubrication is necessary. Be sure to keep the rubbing block, at the end of the weighted arm opposite the rubbing finger clean and free of contamination.
2. Oil all moving parts regularly, using a good grade of machine oil and occasionally replenish the oil in the gear box with a few drops of oil once or twice 3 months

Please kindly contact our after-sale-service engineers for help