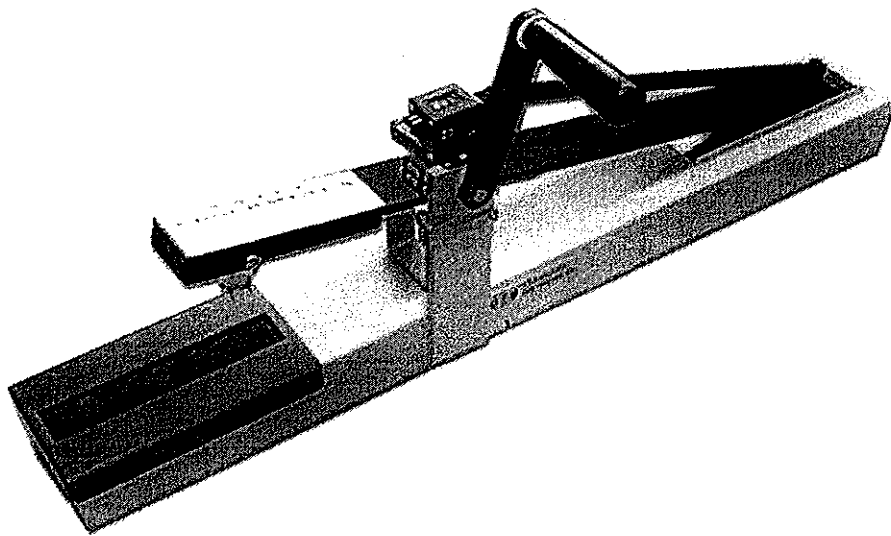


Operation Manual

# AATCC Crockmeter

Model: CM-1



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## **UNPACKING & INSPECTION**

Thanks for using our company products. Our company is pleasure to provide a high quality and reliable products with after sale service.

The unit should be carefully unpacked and inspected. In the unlikely event of anything being damaged or missing, please contact the Customer Service.

In order to ensure the personal safety and integrity of the instrument, please see the operation manual details before using.

Please follow the instructions to check the requirements of the design, installation, debugging of this instrument.

Any comments as using this instrument, please do not hesitate to contact us.

## **1) Function**

The AATCC Crockmeter is the official instrument of the American Association of Textile Chemists and Colorists. The Crockmeter tests the transference of color from the surface of one material to another by either wet or dry rubbing. In addition to color transference tests, the Crockmeter performs scuffing, wet/dry abrasion, flexing, powdering, dry-cleaning, ink abrasiveness, and other tests. Test conditions are controlled and reproducible through the use of standard pressure and motion.

### **Models CM-1:**

AATCC Method 8

AATCC Method 165

ASTM 1319

DIN 54021

ISO 105 Part X12

ISO 105 Part D02

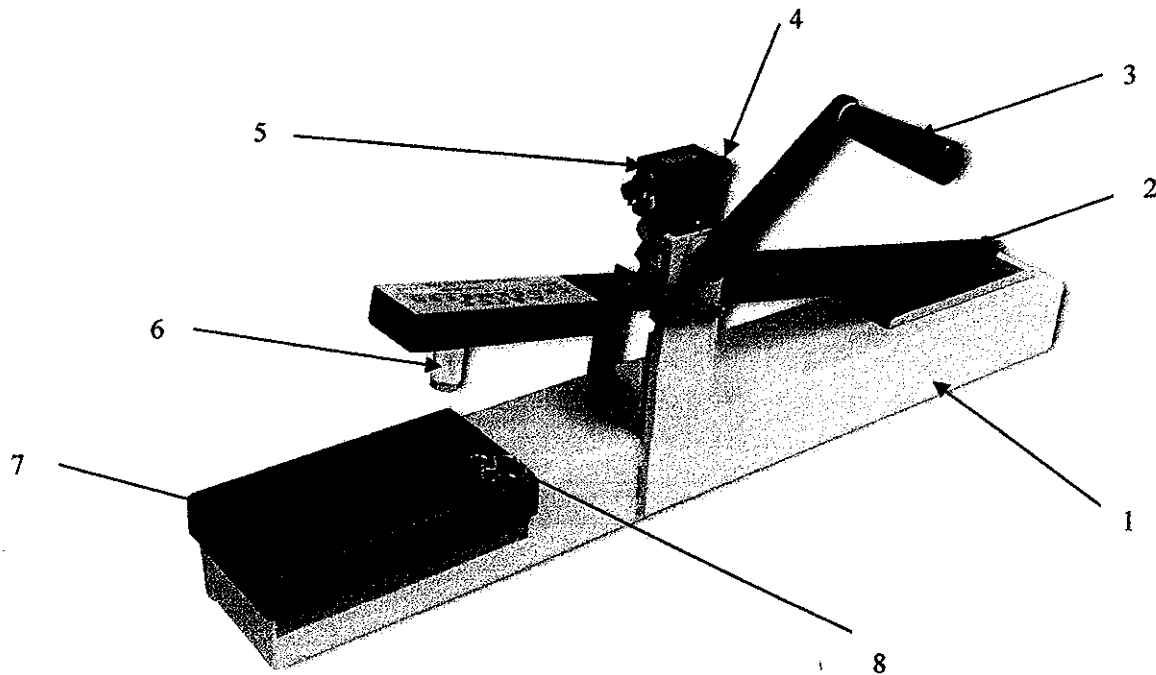
JIS K 6328

JIS L 0815

JIS L 1084

## 2) Construction & Specification

### 2.1 AATCC Crockmeter, CM-1



### 2.2 Feature & Function

- 1) Crockmeter base
- 2) Arm
- 3) Handle
- 4) Reset to zero knob
- 5) Counter
- 6) Finger
- 7) Specimen Holder
- 8) Spring Clip

### 2.3 Specification

- 1) Length: 60 cm (23.6 in)
- 2) Width: 16.5 cm (6.5 in)
- 3) Height: 20.3 cm (8 in)
- 4) Shipping Weight: 6 kg (13 lb)

### 3) Installation

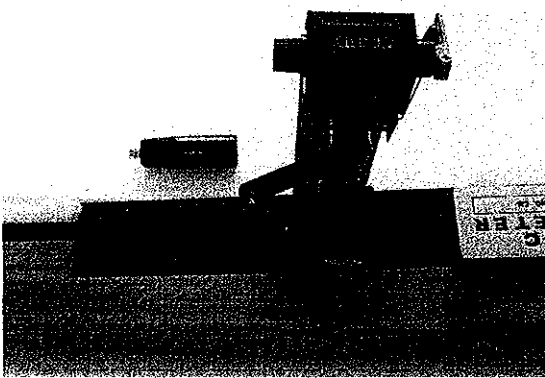
#### 3.1 Unpacking the Instrument.

When you receive your Crockmeter inspect the carton for damage that may have occurred during shipping. Carefully unpack the equipment and thoroughly inspect the instrument components for any damage or shortages.

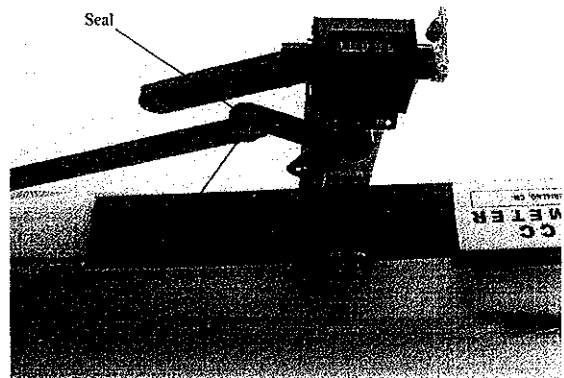
#### 3.2 Setup

After unpacking the Crockmeter, place the instrument on a smooth, level surface in a room with steady temperature and humidity. The constant motion of the arm requires a study workspace.

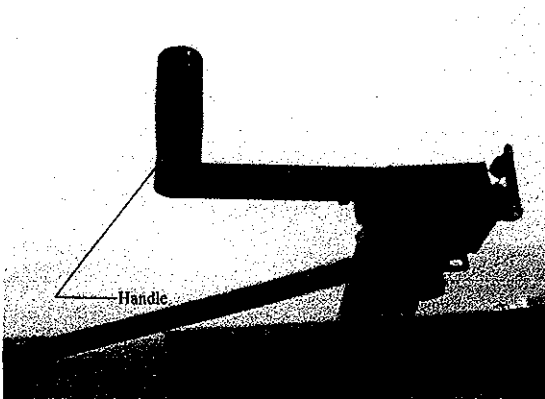
a) Unpack the Crockmeter



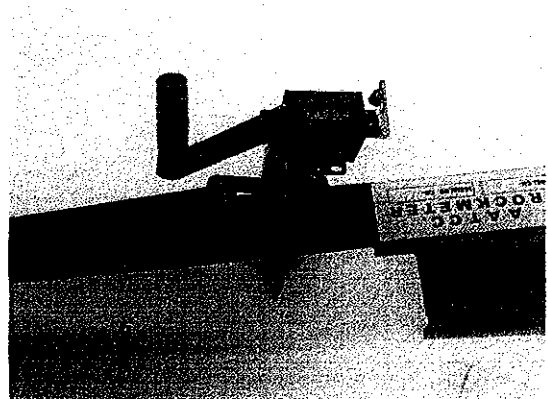
b) Install the Seal & Screw on the arm



c) Install a handle



d) Complete the setup



## 4) Operation

The CM-1 is the hand-operated AATCC Crockmeter and is suited for short-run tests. It has a re-settable 0 to 9999 stroke counter that counts the number of times the meter handle is cranked.

Before performing a test, the operator covers the instrument's base with abrasive paper to keep the test specimen from sliding. The specimen is then clamped atop the paper to the base with the specimen holder. Test cloth is fastened to the rubbing finger with a spring clip. Beginning with the finger resting on the specimen at the base's front end, the operator cranks the meter handle for the specified number of strokes. The finger, which rests on the specimen with a force of 9 N, traverses a pre-set path of 100 mm (4 in). The stroke length can be adjusted to 50 or 76mm (2 or 3 in) depending on the specimen's size. The test cloth is removed after the specified number of strokes and the circular image is evaluated according to the test method.

### 4.1 Mounting the Specimen and Test Cloth

1. Attach the rubbing arm to the hook on the drive arm above so that the finger no longer rests on the base of the instrument.
2. Center a piece of abrasive paper, abrasive side up, on the base of the crockmeter. The paper's long dimension should be in the direction of the rubbing. With the paper's short edge meeting the base's front edge, tape the paper's long sides to the base.
3. Place the specimen flat and face-up on the abrasive paper. The specimen long dimension should be in the direction of the rubbing with the finger centered and resting on test area.
4. To secure the specimen, center the specimen holder over the instrument's base with the holder's enclosed end flush with the base's front edge. Push the holder down firmly over the base until it lies directly on the specimen.
5. Center a piece of the test cloth over the finger so that the weave is parallel with the direction of rubbing. Wrap the sides of the cloth evenly around the finger, making sure the cloth is smooth and taut over the finger's rubbing area.
6. With the spring clip's loops facing upward, secure the cloth by squeezing the loops together and pushing the spring clip onto the finger. Lower the covered finger onto the test specimen.

### 4.2 Adjusting the Stroke Length

The path, or stroke length, traversed by the rubbing finger may be adjusted to 50, 76 or 100 mm (2, 3 or 4 in) to accommodate the specimen's size. To adjust the stroke length, use a flat screwdriver to loosen the screw securing the driver arm to the crank arm. Note the orientation of the washer for the proper spacing between the arms. Move the drive arm to the desired setting and tighten the screw.

#### 4.3 Resetting the Cycle Counter

The cycle counter is located on the shaft between the crank handle and drive arm. To reset the counter, turn the knob until counter reads "0000"

#### 4.4 Testing a Specimen

1. Make sure your specimen and test cloth are properly mounted.
2. Reset the cycle counter.
3. Position the finger on the specimen at the base's front end turn the handle the number of strokes specified by the test method. (Each back and forth motion of the arm equals one stroke. For accuracy, note the change on the stroke counter.)
4. When the desired number of strokes is reached, remove the specimen and evaluate it according to the test criteria.

### 5) CM-1 Option

The most commonly used fingers and arms are listed below.

#### 5.1 Replacing the Finger

1. Remove the screw located above the finger on the side of the rubbing arm.
2. Pull the finger straight down out of the hole in the underside of the arm.
3. Insert the replacement finger into the hole and tighten the screw. If the finger has a flattened edge, the flat side should face the screw.

#### 5.2 Acrylic Finger

The standard rubbing finger for the CM-1 is a 16mm (0.639in) diameter acrylic rod

#### 5.3 Wet Test Finger

An optional hollow nylon finger is available for wet and solvent crocking tests. The nylon finger has the same dimensions as the standard finger but offers increased chemical resistance. It has a side-loading hole for applying measured amounts of liquid to be evenly bled into the test cloth by four feeder holes. When filled with a solvent such as MEK (methyl ethyl ketone), for example, it can be used to evaluate the degree of curing and sensitivity to abrasion of ultraviolet-cured printing inks. The fingers are secured with a screw on the side of the arm.

## 6. Maintenance

All AATCC Crockmeter models are virtually maintenance free. To ensure long bearing life of the connecting shaft between the drive handle and the drive linkage in the CM-1. In general, keep the AATCC Crockmeter clean and free from oil and dirt, which may damage small components over time. Replace worn parts as necessary.