EXTECH INSTRUMENTS

User Guide

Pin Free Moisture Meter

Model MO280

Introduction

Congratulations on your purchase of the Extech MO280 Moisture Meter. This device non-invasively measures and displays relative moisture content in wood, building products, and other materials. The MO280 can also detect moisture behind ceramic tiles or behind and under various floor or wall coverings, on fabric/cloth and on paper products. This professional meter, with proper care, will provide years of safe reliable service.

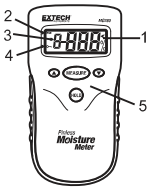
Theory of Operation

The square sensor on the rear of the instrument sends and receives a low power electromagnetic signal through the material under test. The LCD shows the average relative moisture content (in %) of the material under test to a max. depth of 20mm. Moisture that is closer to the surface of the material under test has a greater effect on the average than moisture deeper in the material. The MO280 is an auto-calibration device; no user calibration is needed.

Description

1. Moisture reading
2. Low battery icon
3. Material group number 0-9
4. Data Hold icon
5. Keypad

Note: Sensor, battery compartment, and ON/OFF switch on reverse side of meter



Operation

1. Slide the rear power switch to the ON position
2. IMPORTANT: Hold the meter up so that the rear sensor is not covered by your hand or any surface or object. If the meter emits chirping tones, the sensor is entirely or partially covered
3. Momentarily press the MEASURE button to activate the sensor (the LCD display will switch on)
4. Press and hold the UP or DOWN button to select a material group 0 to 9 (see table below). When the desired group is displayed, release the button. The meter will briefly chirp
5. Firmly press the meter to a smooth flat surface with the sensor side of the meter (back) touching the material under test and wait for the display to stabilize; Note the value on the LCD.
6. The meter's audible tones will sound as the reading changes. A blinking reading with an urgent chirping sound indicates that the measurement is out of the range of the instrument's capability. Try another range by selecting another material group (see material group & range tables below)
7. Press the HOLD button to freeze a displayed reading. To unfreeze, press the HOLD button again.
8. If the meter goes into sleep mode, press the MEASURE button to wake it up. If the meter does not wake or if the low battery icon appears on the LCD, replace the 9V battery located in the rear battery compartment
9. Turn the rear power switch to OFF when meter is not in use. This will optimize the battery life

Measurement Considerations

The thickness of the sample under test must be at least 3/4" (20mm). If the sample is thinner, use a stack of samples to measure. Also, the measurement area of the sample should be larger than the MO280 sensor area which is 1.6 x 1.6" (40 x 40mm).

General Specifications

Max. Measurement depth:	20mm (0.75")
Sensor area	40 x 40mm (1.6" x 1.6")
Battery type:	9V (rear compartment)
Display:	LCD with sleep mode
Operating conditions:	0°C to 50°C (32°F to 122°F) 0 to 60%RH (non-condensing)
Meter Dimensions:	70 x 133 x 25.4mm (2.75x 5.25x 1.0")
Weight:	160g (5.6 oz) with battery

Battery Replacement

You, as the end user, are legally bound (Battery ordinance) to return all used batteries and accumulators; disposal in the household garbage is prohibited!
You can hand over your used batteries / accumulators, gratuitously, at the collection points for our branches in your community or wherever batteries / accumulators are sold!
Disposal: Follow the valid legal stipulations in respect of the disposal of the device at the end of its lifecycle

Cautions

- This device is not a toy and must not reach children's hands. It contains hazardous objects as well as small parts that the children could swallow. In case a child swallows any of them, please contact a physician immediately
- Do not leave the battery and packing material lying around unattended; they can be dangerous for children if they use them as toys
- In case the device is going to be unused for an extended period of time, remove the battery to prevent them from draining
- Expired or damaged batteries can cause cauterization on contact with the skin. Always, therefore, use suitable hand gloves in such cases
- See that the battery is not short-circuited. Do not throw the battery into a fire.

Wood and Material Group Numbers

Measurement at 73°F (23°C)

No.	Name	No.	Name
4	Abachi	4	Mahogany
5	Abura	5	Maple, Bigleaf
6	Afrormosia	5	Maple, Red
5	Agba	6	Maple, Sugar
4	Alder	6	Meranti
5	Ash	6	Oak Red
4	Aspen	7	Oak, White
4	Basswood	7	Pecan
6	Beech	4	Pine Eastern White
6	Birch	4	Ponderosa
4	Cedar, Eastern	5	Red
3	Cedar, Western	4	Southern Yellow
5	Cherry	4	Poplar
4	Chestnut	5	Ramin
3	Cottonwood	4	Redwood
4	Cypress	8	Rosewood
7	Dogwood	5	Sassafras
5	Douglas Fir	4	Spruce
5	Elm	5	Sycamore
5	Gum, Red	5	Teak
4	Hemlock	6	Walnut, Black
7	Hickory	4	Willow
5	Koa	3	Cloth
5	Lauan, White	3	Cotton
3	Lauan, Red	9	Dry wall
5	Larch	3	Fabric
4	Limba	9	Paper
6	Locust, Black	5	Plywood/Particle board

Group No.	Range
0	23.4 to 79.9%
1	33.4 to 89.9%
2	43.4 to 99.9%
3	6.8 to 63.3%
4	6.7 to 63.2%
5	5.4 to 61.9%
6	3.4 to 59.9%
7	1.6 to 58.1%
8	0.4 to 56.9%
9	0.0 to 56.5%