

BATTERY REPLACEMENT

The instrument is powered by a 9-volt alkaline battery (supplied). The instrument will notify you when the battery is starting to get low. The meter will continue to operate, as this is just a warning that you will need to replace the battery in the near future. Once the battery has reached a level that is too low, the instrument will lock up the display with a "REPLACE BATTERY" message. To access the battery, remove the battery cover and replace with a new 9-volt alkaline battery. If the unit is going to be stored for more than a month without use, we recommend removing the battery during storage.

USE / MIS-USE

Do not tamper with the enclosure of the instrument. Opening the enclosure WILL affect the calibration of the instrument AND will void the warranty.

Do not apply excessive force to the switch. Doing so could affect the performance of the instrument, especially if excessive force is applied during testing.

The instrument has been calibrated for testing Guardian ShowerGuard and Guardian DiamondGuard coatings. Testing of materials other than those listed is not warranted to produce the correct test results. If you have a custom application, consult the factory to find out if the product is applicable.

WARRANTY

The manufacturer warrants the electronics included in all models of this prototype to be free from defects in material and workmanship under normal use and service as specified within the operator's manual. The manufacturer shall repair or replace the unit within twelve (12) months from the original date of shipment after the unit is returned to the manufacturer's factory, prepaid by the user, and the unit is disclosed to the manufacturer's satisfaction, to be thus defective. This warranty shall not apply to any unit that has been repaired or altered other than by the manufacturer. The aforementioned provisions do not extend the original warranty period of the unit which has been repaired or replaced by the manufacturer. Batteries, enclosures and lenses are not covered by warranty.

The manufacturer assumes no liability for the consequential damages of any kind through the use or misuse of this prototype product by the purchaser or others. No other obligations or liabilities are expressed or implied. All damage or liability claims will be limited to an amount equal to the sale price of the prototype, as established by the manufacturer.

OTHER PRODUCTS FROM EDTM, INC.



**Glass & Air Space
Laser Meters +
Identify Low E Type
(Model# GC3000)**



**Low E Coating
Detectors
(Model# AE1601)**



**Tin Side
Detectors
(Model# TS1320)**

DiamondGuard / ShowerGuard DIGITAL Coating Detector

MODEL# DS1670

MADE IN THE USA

OPERATOR'S MANUAL

The DiamondGuard / ShowerGuard Coating Detector allows the user to easily identify the coated side of a piece of ShowerGuard or DiamondGuard glass. The meter can test glass in the tempered or annealed state in production, and can also test the glass once it has been installed to confirm proper installation. Simply place the meter against the glass surface and push the corresponding button for the coating you are testing. For instance, you can NOT push the ShowerGuard button when testing for the DiamondGuard coating. The results will instantly be displayed on the LCD screen. Please note this device will only identify the presence of the coating, and will not differentiate a DiamondGuard coating from the ShowerGuard coating. The instrument includes a MENU button that allows the user to operate the meter in SINGLE TEST MODE or FREE RUNNING MODE (continual measurements). Once the MENU button has pressed the left and right selector buttons will scroll through all of the available options of the meter. Pressing the MENU button again will select the option.



FEATURES

- Identify the coated side of the glass
- SINGLE TEST mode or FREE RUN continual measurement operating mode
- Able to recalibrate the instrument in the field
- Backlit LCD display for testing in any light condition
- User-friendly LCD display operation with step-by-step directions on how to use
- "OPTO-CLEAN" error protection against dirty glass and dirty lens on the meter
- Powered by standard 9-volt alkaline battery (included)
- Automatic power-down feature to extend battery life
- Tactile membrane switches on the front panel



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OPERATION

To begin, make sure the glass you are testing is clean. Dirty glass or dust and dirt on the surface of the glass can affect the results of your test. Also make sure the lens on the back side of the meter is clean. To turn the instrument on, press the momentary power switch on the front of the meter. The display will direct you to place the meter on the glass you want to test. Place the meter FLAT against the glass. Push the button that corresponds to the coating you are testing. Your test results will appear on the LCD screen. Here are the various operating modes and features you can select with the MENU button:

“SINGLE TEST” MODE

Each push of each coating button will result in one test being done on the surface of glass you are touching. The meter will not test the opposite side of the glass, rather only the side you are in contact with. The meter will only test for the coating on the glass for which corresponding coating button the user pressed. The display will register a measurement of “SURFACE IS COATED” or “SURFACE IS UNCOATED”. Hold the instrument stationary while conducting the measurement. Single test mode is the most battery-efficient operating mode and the recommended mode of operation.

“FREE RUN” MODE

In this mode, the meter will continually take measurements for the selected coating. There is no need to continually push the coating button when you want to take a measurement, as the meter will be continually doing so. Measurements will be updated nearly every second. It should be noted that this operating mode will tend to shorten the life of the battery, as the electronics are powered for a much longer period of time, as opposed to single test mode.

CALIBRATE

If the coating you are testing has changed in chemistry, or if the warning message on the display has encouraged you to recalibrate, select this option. Before beginning, be sure to clean the back lens of the meter, and find a clean sample of the Guardian ShowerGuard or Guardian DiamondGuard coating. **IMPORTANT NOTE: YOU MUST USE A TEMPERED PIECE OF SHOWERGUARD OR DIAMONDGUARD GLASS FOR ANY CALIBRATION PROCEDURE.** Using an annealed piece of glass will cause an incorrect calibration to occur and the meter will not accurately identify the coated side of tempered ShowerGuard or DiamondGuard glass. To complete the calibration, follow the instructions on the display to take a measurement on both sides of the tempered Guardian ShowerGuard or Guardian DiamondGuard sample. The meter will indicate if the calibration was successful or not. If the calibration was not successful, the display will show you what error occurred during the calibration process. If an error occurs, check to see that the meter lens is clean, and that your tempered Guardian ShowerGuard or Guardian DiamondGuard sample is valid and clean.

USE PREV. CAL

If you do not like the new calibration that you performed, you can restore the previous calibration that was stored in the instrument.

USE FACTORY

If you want to return the meter to the calibration that was originally shipped in the meter as new from the factory, make this selection.

TEST RESULTS

“SURFACE IS”

One of the following screens will appear after a successful test of the corresponding button push of ShowerGuard or DiamondGuard coating:

SURFACE IS COATED: Surface 1 contains Guardian ShowerGuard/DiamondGuard coating
SURFACE IS UNCOATED: Surface 1 does not contain Guardian ShowerGuard/DiamondGuard coating

TEST RESULTS - continued

“PLEASE CLEAN BACK LENS”

This message will appear if the meter has determined that its back lens may be dirty. Simply use compressed air to blow off any dirt or dust from the back lens of the meter. This message is the first level of warning that your meter may need to be cleaned.

“MUST CLEAN BACK LENS”

This message is the second level of warning that indicates the meter has a back lens that needs to be cleaned. The validity of your test results could be affected soon. Clean the back lens of the meter.

“MUST CLEAN AND/OR RECAL”

If the meter has been neglected and the back lens has continually been degrading in cleanliness, this message will appear. Once this message appears, the validity of test results would be jeopardized, and the meter will NOT allow test results to be shown. Before any re-calibration is performed, it is pertinent that the back lens of the meter is cleaned first. This may be all that is needed to get the meter performing correctly again. Try cleaning the lens first and then test the meter again. If the same warning message appears, then it is necessary to recalibrate the instrument. Find a clean sample of **TEMPERED** ShowerGuard or DiamondGuard glass and choose RECALIBRATE in the MENU system. Before re-calibrating, make sure the glass sample is valid and clean.

“CLEAN & RE-TEST”

This result screen will show up if the measurement was not in the range anticipated by the meter. This typically happens when the glass is dirty. Clean the glass and test again. If this does not correct the problem, you may want to clean the back lens of the instrument by using compressed air to blow off the lens. If smudges still remain, use a lint-free cloth to wipe the smudges from the lens.

“KEEP METER FLAT ON GLASS DURING TEST”

If you pick up the meter or the instrument is not setting flat against the glass during the test, this error message will occur. The instrument is monitoring the measurement and if it determines that the meter has been pulled away from the surface of glass, it will display this message and ask you to start a new test.

MISCELLANEOUS

POWER

If the user wants to turn the power off manually, you need to press AND HOLD the power button for 2 seconds. After 2 seconds the powering-down screen will appear, and the meter will begin its countdown to shutting off. You must continue to hold the button down during the countdown to complete the powering off sequence. If you let up on the button too early, the instrument will resume operation.

The instrument also has a built-in timer that will automatically power down the product if no button presses occur for approximately 2 minutes. This energy conservation design helps to extend the life of the battery in the instrument in case the user forgets to turn it off. To turn the meter back on, simply push the button.

MAINTENANCE

You will want to occasionally inspect the cleanliness of the viewing window on the back side of the meter. If you see dust or dirt in the window, please use compressed air to blow it off. If you begin receiving a large number of error messages during your testing, this may be a sign that the back window needs cleaned. If there are smudges on the window that do not clean off with compressed air, use a soft lint-free cloth to wipe the lens. Always use compressed air first to remove any particles that may scratch the surface of the lens.