

Measure what you see.

byko-test Lite Film Thickness Gage



Manual



Film Thickness Gage

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**CAUTION!**

Read Instruction Manual before using this instrument.

**WARNING!**

This manual cannot address all of the safety considerations associated with its use. It is the responsibility of the user to consult this manual and establish appropriate safety practices for use with this equipment and the individual material being tested.

**WARNING!**

The byko-test Lite Dry Film Thickness Gage is designed and intended for the use described in this manual. Using the Dry Film Thickness Gage for other purposes for which it was not designed may reduce or eliminate the protection offered by the features of the instrument. Serious injury may result.

**WARNING!**

Ultimate disposal of this product should be handled according to all national laws and regulations.

Please note the following points:

- Familiarize yourself with the layout and operation of the controls.

2 Preparations

Unpack the unit being careful to check all packaging for items. Some accessories required for specific tests may be found in a separate box within the main box.

Within the package are the following standard items:

Quantity	Description
1	byko-test Lite Film Thickness Gage
2	AA alkaline batteries
1	Wrist strap
1	Fe zero plate
1	NFe zero plate
1	Plastic calibration shim (100 um)

To install the batteries, remove the battery cover using a #1 Philips screwdriver. Install the batteries taking note of the + and - indications inside the battery compartment. Reinstall the cover and tighten the screw. The instrument is powered by 2 AA size alkaline batteries. Rechargeable batteries may be used but do not mix battery types.

Power on the unit using the Menu/Power  button.





The battery cover screw is near the bottom of the cover

3 System Description

The byko-test Film Thickness Gage is a small, hand-held instrument used for measuring the thickness of coatings on metallic substrates. It is powered by 2 AA size alkaline batteries.

A ruby tipped probe is at the bottom of the instrument. It is spring-loaded and takes a reading every time it is placed on a sample.



Four buttons on the front control all of the functions. They are Menu/Power , Enter , Up , Down 

On the left side is a USB port that allows downloading of data to an external device. No battery charging provision has been made and the USB port will not power the instrument.

The sides are made from a soft-textured material to aid the user in holding the instrument.



4 Set Up

The byko-test Lite is customizable for your needs through an easy-to-use menu system. Familiarize yourself with the menu prior to use so you may get maximum benefit from the features and options available. Power on the instrument by pushing the Menu/Power   button.

Each button has multiple functions which depend on the current mode.

The Menu/Power button:

- Pressing once turns on the power.
- Holding for 3 seconds turns the power off.
- Once the power is on, pressing brings up the menu.
- Within the menu, pressing brings you back one level.

The Enter button:

- Within a menu item, pressing selects that item.
- In measurement mode, pressing deletes the last reading.





The Up button:

- Within the menus, pressing moves the selection area up.
- Within a number selection screen, pressing moves the number up.
- In measurement mode, pressing displays the next reading in an average set.

The Down button:

- Within the menus, pressing moves the selection area down.
- Within a number selection screen, pressing moves the number down.
- In measurement mode, pressing displays the previous reading in an average set.

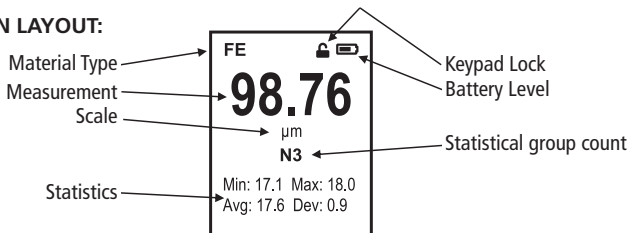
BUTTON DISABLE FUNCTION:

- The buttons may be disabled to allow the instrument to be used in tight quarters or fast moving situations without concern of accidentally deleting a reading.
- Press both the Menu/Power   and Down  buttons for more than 5 seconds.
- A Lock icon  will appear in the upper right corner of the screen next to the battery icon.
- Now short presses of the buttons will not be recognized, the normal functionality of the buttons may be restored by pressing

both the Menu/Power \equiv $\text{\textcircled{P}}$ and Down \blacktriangledown buttons for more than 5 seconds.

- Power off may be accomplished by a long press of the Menu/Power \equiv $\text{\textcircled{P}}$ button.

SCREEN LAYOUT:



Once the instrument is powered on, press the Menu/Power \equiv $\text{\textcircled{P}}$ button. This brings up the Settings Menu where the following selections are available:

Units | Fe/NFe | Environment | System Settings | Statistics | Calibration | Limits

Move the green selection bar up and down with the \wedge and \blacktriangledown buttons and press Enter \leftarrow to select that setting. The options for each selection are described below.

UNITS: Microns | Mills

Move the green selection bar and press Enter \leftarrow to select. After selection press Menu/Power \equiv $\text{\textcircled{P}}$ to return to the Main screen.

FE/NFE: Fe | NFe | Both

Move the green selection bar and press Enter \leftarrow to select. After selection press Menu/Power \equiv $\text{\textcircled{P}}$ to return to the Main screen.

SYSTEM SETTINGS

Each System Settings selection brings up a sub-menu to choose from.

Rotation on/off

- Turn automatic screen rotation on or off.

Key Beep on/off

- Turns the beeper off and on.

4 Set Up

Stability Test on/off

- Turns off stability testing for use on moving vehicles. Stability mode is indicated by the letter S in the display. This setting is overridden when Continuous Mode is selected.

Sleep Timer

Select between:

- 30 seconds | 1 minute | 5 minutes | Disable sleep

Brightness

- Use the Up or Down arrows to change the brightness, 1 is backlight off, 10 is brightest.

Language

- Choose between English, German, French, Spanish, Italian, Portuguese, Chinese or Japanese

About

- Information screen, shows current software version and copyright information

STATISTICS

Statistics on/off

- On – Standard statistics mode is on, calculations are based on Number of Readings to Average setting. (see below)
- Off – All statistics turned off.

Number of Readings to Average

- Standard Mode – Use Up and Down arrow buttons to set the number of readings to use for statistics calculations.

Clear Memory

- Clears the statistics memory.

CALIBRATION

Zero only

- Calibration on the zero plate only. Take one or more readings on a zero plate. When finished press the Enter button to save.

Reset to Factory Values

- Resets the instrument to the factory programmed calibration.

Grip the instrument in your hand with your thumb on the ribbed section between the buttons and your other fingers on the back.

Press the Menu/Power \equiv P button to power on the instrument.

To calibrate, select the Zero Calibration then press the instrument to the calibration surface and remove. For each reading, place the instrument on the surface and remove by at least 25 mm for each reading. Press the Enter \leftarrow button to complete the calibration after removing the instrument from the calibration surface.



Press the instrument probe firmly against the surface to be measured. Remove from the surface and read the measurement directly on the screen. The backlight will turn off in 15 seconds, to restore the backlight simply press either the Up \wedge or Down \vee arrow buttons.

Statistics are shown on the lower area of the screen. The reading number in the statistics count is shown above the stats preceded by the letter N.

6 Maintenance and Repair

CLEANING AND ROUTINE MAINTENANCE

Care should be taken to avoid dropping the instrument. Do not immerse in water or any other liquid. If the instrument case becomes dirty, clean the covers with mild soap and water as soon as practical. Avoid using solvents to clean the instrument as it may be seriously damaged by strong solvents.

TROUBLESHOOTING

If an error occurs, first remove the batteries and replace with a new set. Use of high quality alkaline batteries are preferred however, rechargeable batteries may be used. The instrument has no provision to charge rechargeable batteries so they must be recharged using a separate charger (not included). Do not mix battery types. If the instrument is going to be stored for more than 30 days, remove the batteries to prevent discharge and subsequent leakage. If new batteries do not restore use, contact your local BYK-Gardner office for assistance.

SERVICE AND SPARE PARTS

For all service and spare parts requirements, please contact your local BYK-Gardner office.

Components

Ordering Information

Part Number	Description
3791	byko-test Lite Film Thickness Gage
180503791	byko-test Lite Film Thickness Gage (Certified calibration)

Recommended Accessories

Part Number	Description
3798	byko-test Connect Software
3799	USB connection cable
0470	BYK t200 IR Thermometer (for surface temperature measurements)

7 Technical Data

Weight	5.6 oz	160 g
Height	4.53 inches	115 mm
Width	2.65 inches	67 mm
Depth	1.75 inches	44 mm
Measurement Range	0-79 mils	0-2000 microns
Accuracy	± 0.078 mils + 3% of measured value	± 2 microns + 3% of measured value
Min Substrate Thickness	FE – 0.008 in NFE – 0.002 in	FE – 0.2 mm NFE – 0.05 mm
Minimum Curvature	Convex 0.2 in Concave 1.2 in	Convex 5 mm Concave 30 mm
Temperature - Storage	0° – 150° F	-18° – 66° C
Temperature - Operating	32° – 140° F	0° – 60° C
Power	2 AA 1.5v Alkaline batteries	

All technical data is subject to change.

EC – Declaration of Conformity



We BYK-Gardner USA
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herewith declare the product:

Type: **byko-test Ne/NFe, byko-test Lite Coating Thickness Tester**

comply with the requirements of the following EC directives:

Electromagnetic Compatibility 2014/30/EU

The following harmonized standards were applied:

EN 61326-1:2013
EN 61326-2-1:2013

Columbia, MD, August 30, 2019

Technical documentation is available

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