



Paul N. Gardner Company

# QUADRACYCLE DRYING TIME RECORDER

## DRYING TIME AND UV CURING

Instructions for using the  
GARDCO Quadracycle Drying  
Time Recorder.



# Quadracycle Drying Time Recorder



The GARDCO Quadracycle Drying Time Recorder measures and records the drying time of coatings, adhesives, and similar materials by moving a weighted Teflon ball stylus through a freshly applied film in a circular path. The resulting track is then evaluated with the supplied time template to determine drying stages in accordance with ASTM D5895, ASTM D1640, and ISO 9117-4 standards.

The Drying Time Recorder consists of a stepper motor mounted on a rubber tipped tripod. The arm and ball assembly has a counter-poised vertical stylus consisting of a Teflon 3/8-inch (10 mm) ball stylus and a counterweight to adjust to zero. The Teflon® stylus typically under a 12g load (weight supplied) is moved in a 360-degree arc at a pre-selected fixed speed. A shaft arm with the Teflon ball scribe produces a 2 in. (50.8 mm) diameter circular path. Drying time is observed and recorded as the ball penetrates the film and produces a circular groove over a period of time.

After drying is completed, a clear plastic time template is placed over the area so that the drying time record can be converted into minutes or hours. The new display design is easier to read and is positioned at an angle to make viewing easier.

## Operating Controls

**On/Off Button** - Turns the Quadracycle On/Off.



When the On/Off button is pressed and the green LED is illuminated, the instrument is ready for testing.

If the On/Off button is held down for two seconds while the instrument is testing, the current test will be terminated and the red LED will illuminate.

**Time Buttons** - Selects the test duration and starts the cycle immediately.



When the green LED is energized, the Quadracycle is ready for testing. Select the desired test time by pressing one of the four time-cycle buttons. Testing will start immediately after the selected cycle is pressed.

The selected time and "Testing" will be displayed on the LCD. The Quadracycle will stop upon completion of the selected time cycle and display "Test Complete" on the LCD.

If there is a power interruption, the red LED will energize and the LCD will display "Test Interrupted." To reset, press the On/Off button.

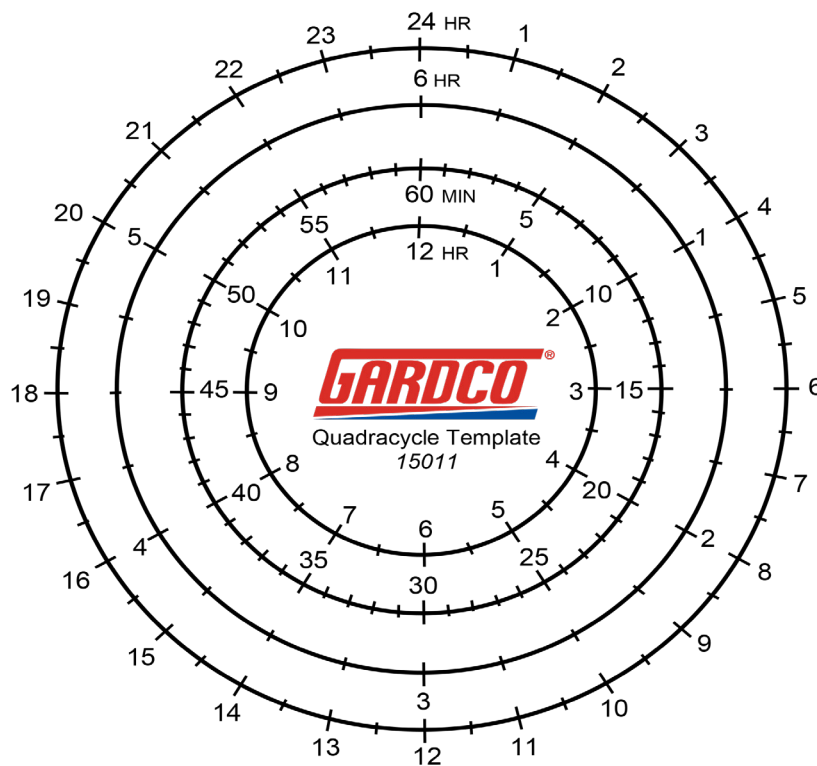


## Instructions for Use

1. Attach the arm and ball assembly to the motor shaft using the hex screw. Once tightened in the desired position, do not force the arm to move without loosening it first, as this can damage the gearbox assembly.
2. Adjust the rear counterweight to balance the arm before placing the 12 g weight on the ball shaft.
3. Apply the coating to the test panel using a suitable wet film applicator, such as a Gardco [Microm Film Applicator](#) or equivalent. Begin the test immediately after application so the full drying cycle is recorded.
4. Place the recorder on the test panel and gently lower the clean 3/8 in. (10 mm) weighted Teflon stylus into contact with the wet film (see ASTM D5895).
5. Turn the instrument on and select the desired test cycle. The recorder will begin the selected drying-time cycle and trace a circular path through the coating film.
6. Allow the instrument to finish the selected cycle. If the test is interrupted, reset the instrument before repeating the test.
7. Lift the recorder from the panel and place the clear time template over the circular track left by the stylus. Align the zero mark with the point where the test began, then read the corresponding minutes or hours at the point that matches the observed drying stage.
8. Record the drying time results and, when relevant, also note the wet film thickness, temperature, and relative humidity, since these conditions can influence drying behavior.

## Time Template

1, 6, 12, & 24 hour Cycles



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## Technical Specifications

<b>Time Cycles</b>	Four Presets (1, 6, 12 and 24 hours)
<b>Hemispherical Stylus Size</b>	3/8"
<b>Time Template for Evaluation</b>	Yes
<b>Automatic Stop</b>	Yes (upon completion)
<b>Power Failure Indicator</b>	Yes
<b>Compatibility</b>	Yes (with any flat substrate)
<b>CE Compliant</b>	Yes (with universal power supply)
<b>LCD Display</b>	Yes