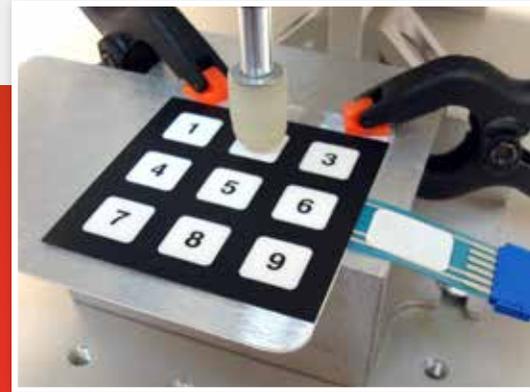
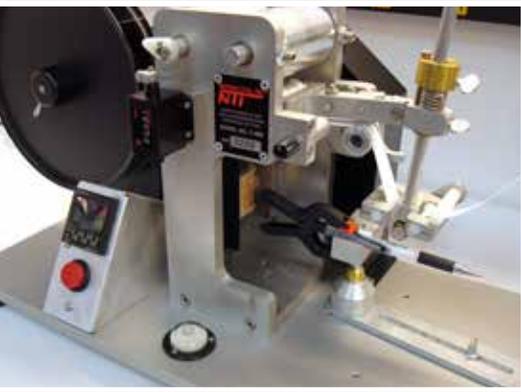




NORMAN TOOL

TEST EQUIPMENT & SUPPLIES

A Global Leader Since 1964



Since 1964, Norman Tool has been a leader in abrasion wear test equipment, button and keypad testing equipment, testing services, and the calibration and repair services for those machines. We have a selection of quality products that can exceed your testing needs, or customize our products to fit our customers world-wide.

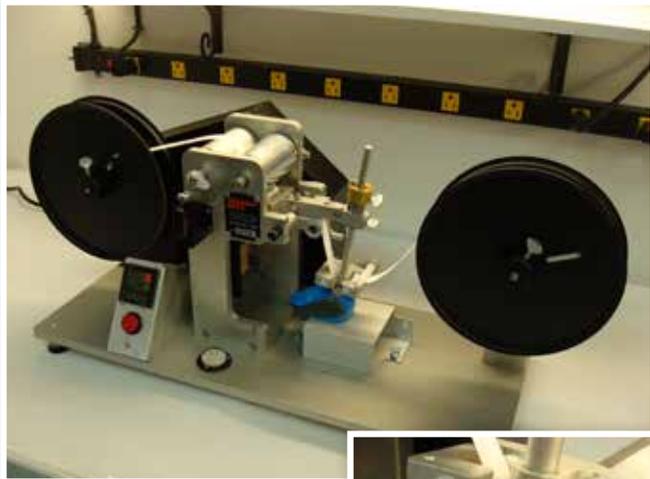
*Your world-wide leader in
abrasion wear test equipment.*

Abrasion Wear Testers

Abrasion wear testers are needed for inks and coatings as well as general cosmetic surfaces of other types. The abrasive test is an accurately repeatable way to determine abrasion wear characteristics of these surfaces. Because of the small spot tested by the RCA Abraser Tester, surfaces that are non-flat, or with small lettering or graphics can be tested easily and accurately. The Wet Abrader offers a method to abrade a wetted surface.

RCA Abrasion Wear Tester 7-IBB

Test Method Reference:
ASTM F2357-10



OVERVIEW: The RCA Abrasion Wear Tester is used to test surfaces for resistance to abrasion and wear. Typically used on painted or plated organic finishes, foil, and inked key pad lettering. This tester is widely used as a standard for many silicone key pad and membrane switch manufacturers. This abrader is used as a standard to the auto, appliance, cell phone, plastics, and coating industries. It uses an inexpensive roll of throw away abrasive paper. All build-up error is eliminated and consistent readings are easily obtained.

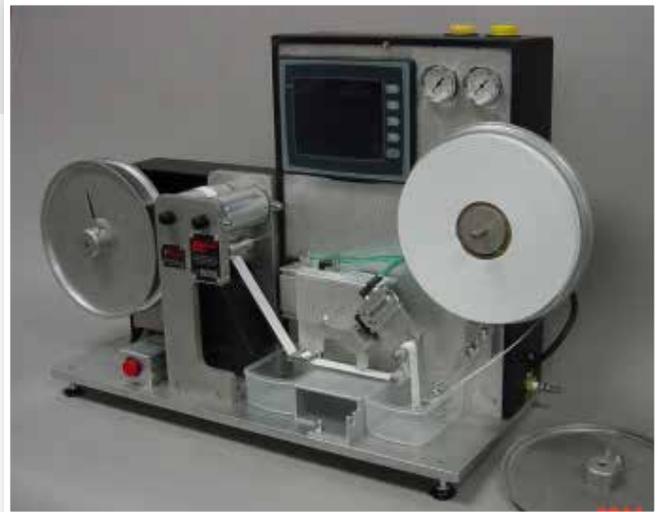
FEATURES:

- Easy set-up and operation
- Automatic shut-off
- Repeatable and consistent results
- 3 load settings
- Abrasion Debris does not affect test
- Uses inexpensive unused abrasive media



WA-1010 Wet Abrader

Test Method Reference:
TMWA-14



OVERVIEW: Built on a combination of the RCA Abrader design, and the Finger Pressing design of the Pneumatic Finger Tester, this Wet Abrader adds the ability to apply a liquid to a special NTI Abrasive Media. This abrasive media is then pressed and rubbed against the specimen using a silicone finger probe. The test probe conforms to ASTM 1578 and ASTM 1597.

This abrader can test the abrasion resistance of inks and coatings on a variety of items including membrane switches, silicone keypads, computer keys, buttons, or any item that is repeatedly pressed or in contact with the human finger in a wet or dry state.

FEATURES:

- Easy set-up and operation
- Automatic shut-off
- Adjustable pressure loads and length motion
- Abrasion Debris does not affect test
- Continuously uses inexpensive unused
- Can be ran Wet or Dry



Pledge for Quality

Look for our new seal for your Certified Norman Tool equipment purchases. Guaranteed quality, made in the USA.

Contact Switch Testers

These contact and button testers are designed to lifecycle test switches, buttons, keypads, and membrane switches. They can be used to perform the test standard and ASTM 1597 "Determining the Actuation Force and Contact Force of a Membrane Switch."

PFTE-1 Automatic Finger Tester

Test Method Reference:

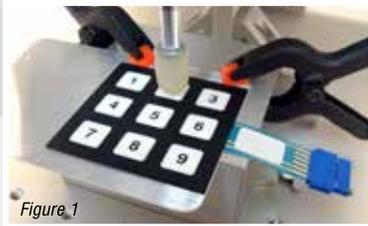


Figure 1



Figure 2

OVERVIEW: This contact tester is designed to press and depress switches, buttons, keypads, and membrane switches. This tester can be used for contact testing as well as general mechanical and cosmetic button wear. It uses a silicone finger test probe which conforms to ASTM 1578 and ASTM 1597 Fig. 1 or optional Fig. 2. Available in a variety of mounting thread options.

FEATURES:

- Easy set-up and operation
- Automatic shut-off
- Adjustable pressure loads and angles
- Easy dwell time setting and adjusting

Motion Pro Testers

Test Method Reference:
ASTM 1597

OVERVIEW: This line of testers is designed to provide a wide range of programmable motions to be used for testing items that come in contact by being repeatedly pressed or on contact with the human finger. Ideal for items including

membrane switches, silicone keypads, computer keys, buttons, and much more. This tester can be used for general mechanical and cosmetic button wear as well. Using a silicone finger test probe, which conforms to ASTM 1578 and ASTM 1597 Fig. 1 or Fig. 2, the effect of the pressing will closely simulate a repeating pressing of a human finger.



Figure 1

MPT-1 Single Axis

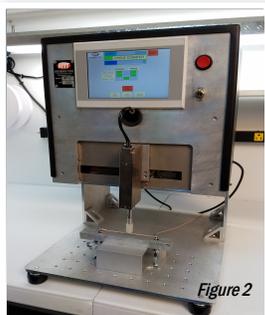


Figure 2

MPT-2 Two Axis

Wear Test Paper & Custom Test Equipment

Norman Tool, Inc. strives for total customer satisfaction. Please contact us with special requests for additional products, accessories or services.

Abrasive Paper Media



OVERVIEW: Norman Tool abrasion wear paper has been used successfully for years to apply accelerated wear testing to product samples. Our standard paper has tightly controlled specifications and is certified within Norman Tool. At the very outset of the development in the 1960's, customers used 11/16" wide paper, 1/4" wide paper, and 1/4" wide polyester tape. The 11/16" wide paper became the standard. However, we do still offer a variety of widths and paper types.

Custom Test Equipment & CNC Machining Services

OVERVIEW: Custom test equipment and test probes can be developed, or retrofitted, to suit any application. We can assist in creating custom test method specifications as well. Not all products and processes fit a one-size-fits-all test program. Send us your requirements and we can assist in providing the test equipment using the most cost effective solutions.



Before Norman Tool, Inc. became a leader in the abrasion wear test equipment industry, we started as a small machine shop. Focusing on precision and quality, Norman Tool, Inc. has always been a good source for quality machining services.



www.NormanTool.com

Norman Tool, Inc. has a mission to serve every customer that reaches out to us with "Integrity, Competence, and Fast and Friendly" service. Together with our customers, we expect to continue to improve the capabilities and products in the industries that we serve.



Quality Services That Set Us Apart

Testing Service

Norman Tool has been around for a long time. With our contacts in the industry, we can perform testing services in house or help set you up with other test labs in the industry. Or a combination of both.

Rental Service

If you have short term testing needs, a tester rental service might be advisable. We offer good rates and our testers are easy to learn how to use. Phone support is the most that would be needed, if any at all, in order to get up and running.

Rent to Own

Not sure if you want to make the investment? Many customers have chosen to rent to own. This allows the option of returning

the tester at any point or keep it after payments are made. This is a good program that many customers have used. It can help with capitol budgeting roadblocks as well.

Calibration Service

We offer calibration services for our machines. Test machines do not only need to run, their purpose is to give consistent performance and data. Our machines run consistent, but a calibration service is recommended at regular intervals.

Repair Service and Parts

Repair and parts is not a big part of our business. We think that is good news. However, if anything does fail, for any reason, let us know.

Custom Test Equipment

Sometimes we all have applications that don't quite fit the mold so to speak. If you need something a little different, we can provide services to develop a custom tester for your specific application.

Fixture Development

All tested specimens need to be held securely to be tested properly. Our testers are provided with a means to mount or clamp a part in place. But not everything is so easy to secure. Whether you are using a Norman Tool tester or something else, we can design and build a fixture for your application.



NORMAN TOOL