

HOSE ABRASION CHECK

INSTRUMENT FOR THE DETERMINATION OF THE ABRASION RESISTANCE OF THE OUTER COVER OF RUBBER HOSES.



gibitre[®]
INSTRUMENTS

Standards the instrument complies with:

ISO 6945; ISO 7840; ISO CD_20444; SAE J2006;

Overview

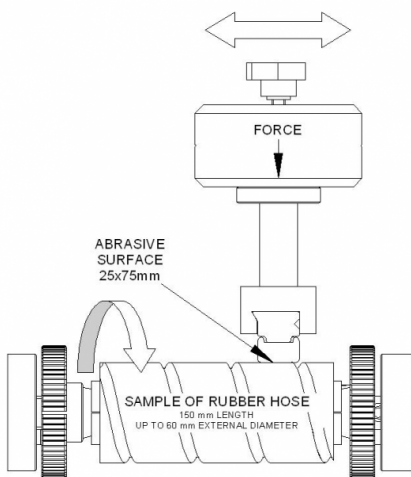
The instrument permits to perform **standard tests and to customize test conditions**. It can be successfully used both for production control and for research and development purposes.

Standard test cycle

The hose under test rotates at a constant speed while the abrasion tool moves back and forth, parallel to the axis of the hose.

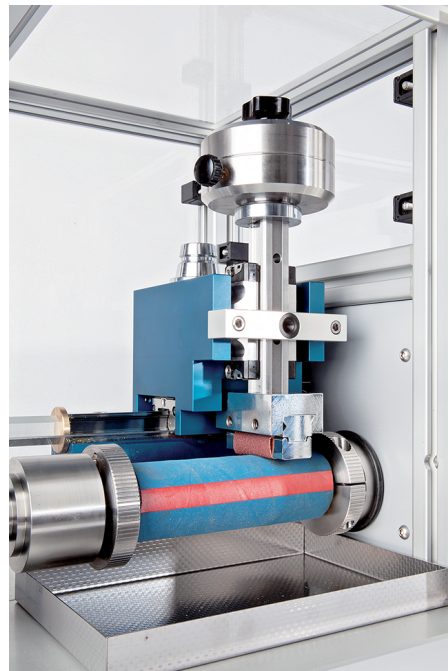
During each test cycle the hose performs a complete rotation and the abrasion tool performs a complete back and forth movement.

The instrument automatically stops, when the set number of cycles has been performed. The evaluation of the result is made by checking if the hose has rigid helix exposed and by measuring the quantity of material removed from the abrasion tool.



Key Features

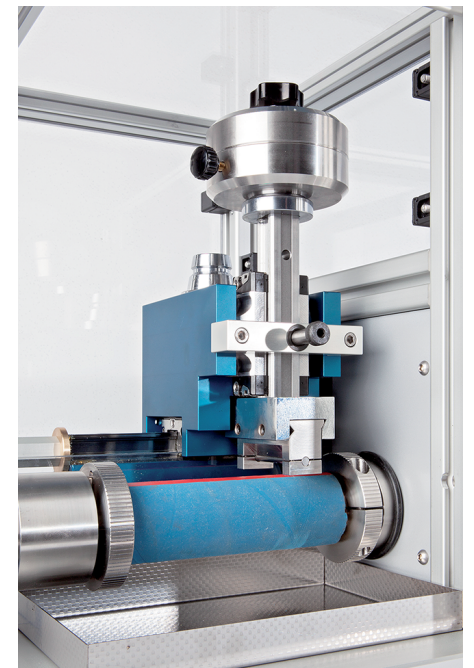
- Solid structure to prevent vibrations and ensure long duration
- Quick replacement of the abrasion tool
- Interchangeable weights to set the vertical force on the abrasion tool
- Digital speed controller with speed selection
- Digital counter of test cycles
- Hoses with external diameter up to 100 mm can be tested
- Easy setup of the instrument to select test mode and perform tests with or without axial hose rotation
- Locked protection door and safety push-button
- CE Labelling



Additional characteristics

The instrument can be set to perform **non-standard tests for research purposes**:

- Different abrading tools with non-standard shape are available and can be easily installed
- Non-standard vertical force can be applied by replacing the weight on the abrading tool
- The rotation speed for the hose can be set between 0 and 80 rpm
- The test can be performed with or without hose rotation



Setting of Displacement and Cycle speed

The speed of the test cycle can be set via the digital control display between 0 and 80 rpm.

The stroke of the scraping tool can be set at 80 or 100 mm by mechanically adjusting the oscillation kinematics.

Replacement of the abrasion tool

The quick change device of the abrasive tool allows to minimize the interruption times of the test.

It is possible to apply to the machine, in addition to the standard tool provided for by the **ISO 20444** standard, the one required by the **ISO 6945** standard.

Modification of the vertical force

The vertical force applied to the abrasive tool for testing according to ISO 2044 is 45 ± 5 N.

The instrument is designed for rapid weight replacement to allow the application of different vertical forces according to the test needs.

Expandable Mandrel for hose support

Expandable Mandrel for abrasion tester for Hoses. The device permits easy replacement of the hose to be tested, Hoses with internal diameter between 38 and 42 mm can be used.



Standard Mandrel for hose support

Steel mandrel for abrasion tester for hoses with customer-defined diameter. The mandrel can be prepared with diameter between 4.7 and 50 mm.

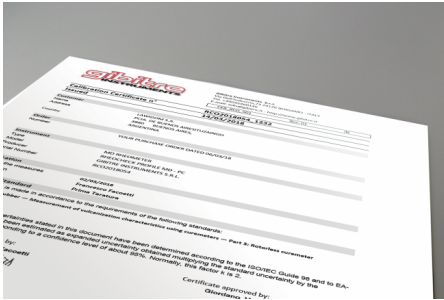


Standard Calibration service for an Abrasion Tester for Hoses

The calibration is performed with reference to the requirements of ISO/CD 20444 Standard.

The service includes:

- Ordinary maintenance of the instrument
- Calibration of Test speed (Hz)
- Calibration of the run of the abrading tool
- Calibration of vertical force applied to the sample holder
- Calibration of the radius of the abrading tool for ISO 6945:1999
- Issue and e-mail shipment of the Calibration Certificate with traceability to primary standards.



Safety Devices

- Safety protection door with safety switch
- Safety Push-button
- CE labelling



Development and production

The instrument is totally developed and produced in the plant of Gibitre Instruments in Italy.

All the mechanical parts are produced in the **company workshop using modern CNC machines.**

Components and sensors from well-known brands are selected in order to ensure the maximum reliability in the measures

Internal trained personnel takes care of all the production stages: assembly, start-up, calibration, packing, shipment and installation.



Gibitre presents the Abrasion Tester for Hoses to ISO commission.

The presentation was made in relation to the development work of the new ISO / CD standard 20444-1: Rubber and plastic hoses - Determination of abrasion resistance of the outer cover - Part 1: Abrasion tests where the hose is rotated against a reciprocating abrasion tool . Gibitre thanks all the members of the commission for their kind welcome.



Testing Configuration

Standard abrasion tool Abrasive paper 80 Grit, coarse AL203 emery cloth is firmly affixed to a hard surface with 25 x 75 ± 5 mm dimension. Other abrading tools on demand.

Rotation speed of the hose Between 0 and 80 RPM. Digital setting via control display.

Sample holder The fixing device for the hose has been specially designed to permit the easy and quick change of the hose.

Set of number of cycles Can be set up to 1,000,000 cycles.
Setting via touch-screen control display

External Diameter of the hose Minimum: 10 mm; Maximum: 120 mm

Vertical force Standard 45 ± 5 N. Different on request

Safety Devices

Safety devices The instrument is provided with safety protection door.

Labelling CE Labelling

Calibration

Calibration Calibration Report conforming to ISO/CD 20444 with traceability to primary standards

Technical specifications

Power Supply 220 VAC ±10%, 50 Hz ±3, 4 A, single phase - 110 VAC ±10%, 60 Hz ±3 on request.

Electrical power 0.8 kW

Dimensions (Depth x Width x Height) 1030 x 400 x 500 mm

Weight 92 kg

Noise Level < 40 dB



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