Gibitre Instruments S.r.l.
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CER_ABT_001	Rev: 01	IN

Calibration Report n° ABTXXXXXX_61926

Issued 03/03/2026

Customer

Name	C**USTOMER**
Address	A**DDRESS**
	A**DDRESS**
Country	C**OUNTRY**

Order

Number	YOUR P.O. NO.: 1890436/1

Instrument

Type	ABRASION TESTER FOR HOSES
Model	HOSE ABRASION CHECK
Producer	GIBITRE INSTRUMENTS S.R.L.
Serial Number	ABTX**XXXXX**

Calibration

Date of the measures	**05/02/2026**	
Technician	**Stefano Bragantini**	Habilitation for Calibration

Reference Standard

The calibration is made in accordance to the requirements of the following standards:

ISO/CD 20444 Rubber and plastics hoses — Determination of abrasion resistance of the outer cover

ISO 6945:1991: Rubber hoses - Determination of abrasionresistance of the outer cover (Withdrawn)

The measurement uncertainties stated in this document have been determined according to the ISO/IEC Guide 98 and to EA-4/02. Usually they have been estimated as expanded uncertainty obtained multiplying the standard uncertainty by the coverage factor k corresponding to a confidence level of about 95%. Normally, this factor k is 2.

Calibration made by:

Stefano Bragantini

Calibration Report approved by:

Ivan Locatelli

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The measurement results reported in this Celibration Report were obtained following the procedures given in the following pages, where the reference standards or instruments are indicated which garantee the traceability chain of the laboratory, and the related calibration certificates in the course of validity are indicated as well. They relate only to the calibrated item and they are valid for the time and conditions of calibration, unless otherwise specified.

Reference Instruments	Producer	Serial N.	Gibitre Code	Certificate N.	Calibration Laboratory	Issue Date	Due Date	Uncertainty	Unit
Calibro Centesimale	Mitutoyo	1019218	CLB02	LAT 051 CT-CC-0227-2022	TRESCAL	23/05/22	23/05/2027	0,01	mm
Cronometro	RS COMPONENTS	GBT.CN.01/13	CRO02 [0-60 s]	LAT 056 23-0199_2023	GAMMA MISURE	09/02/23	09/02/2028	0,10	s
Calibratore + Cella di carico 1000 N	Interface + Gibitre Instruments	781834	C1-GB3-CAL-1+C1-F-N1000-Tr	LAT 044 F240255	SOCIETA COOPERATIVA BILANCIAI	04/12/24	04/12/2026	0,05	N
Calibratore + Cronometro	Gibitre Instruments srl	C7-CH-1	C7-GB3-CAL-1 + C7-CH-1	CAL107_28755	GIBITRE INSTRUMENTS	02/09/25	02/09/2026	0,16	s
Calibro digitale a Corsoio	Mitutoyo	A16222793	C7-CL-200	CAL107_28755	GIBITRE INSTRUMENTS	02/09/25	02/09/2026	0,01	mm
Calibratore + Cella Carico 1 kN	Interface + Gibitre Instruments	781840	C7-GB3-CAL-1 + C7-F-KN1	CAL107_28755	GIBITRE INSTRUMENTS	02/09/25	02/09/2026	0,23	N

Room Temperature	(23 ± 2) °C
Relative Humidity	(50 ± 10) %

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Calibration of: **Lateral Displacement**

Procedure: The lateral displacement of the sample holder is measured using the reference Calliper

Reference Standard: **ISO/WD 6945 & ISO 6945:1991**

Reference Instruments:
C7-CL-200 Uncertanty: 0,0148 mm Deviation 0,01 mm

Expected displacem. mm	Minimum Allowed mm	Maximum Allowed mm	Measure 1 mm	Measure 2 mm	Measure 3 mm	Mean mm	Accuracy mm	Uncertanty U_ext_95% mm	Outcome
100	95,0	105,0	100,0	100,0	100,0	100,0	0,0	0,015	ok
75	70,0	80,0	75,0	75,1	75,0	75,0	0,0	0,061	ok

Calibration of: **Vertical force applied to the sample**

Procedure: The vertical forces applied using the weights supplied are measured using the reference force sensor

Reference Standard: **ISO/CD 20444 & ISO 6945:1991**

Reference Instruments:
C7-GB3-CAL-1 + C7-F-KN1 Uncertanty: 0,2270 N Deviation 0,16 N

Expected Force N	Minimum Allowed N	Maximum Allowed N	Measure 1 N	Measure 2 N	Measure 3 N	Mean N	Accuracy N	Uncertanty U_ext_95% N	Outcome
25	24,5	25,5	25,1	25,1	25,1	25,1	0,1	0,227	ok
45	44,5	45,5	45,4	45,4	45,4	45,4	0,4	0,227	ok
50	49,5	50,5	50,1	50,1	50,1	50,1	0,1	0,227	ok
100	99,5	100,5	100,5	100,5	100,5	100,5	0,5	0,227	ok

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Calibration of: **Cycle Frequency**

Procedure: The rotation frequency is calibrated by measuring, with the reference Chronometer, the number of cycles performed in 1 minute

Reference Standard: **ISO/CD 20444 (1,00 Hz) / ISO 6945:1991 (1,25 Hz)**

Reference Instruments:
C7-GB3-CAL-1 + C7-CH-1 Uncertanty: 0,1618 s Deviation 0,00 s

Cycle Frequency Hz	Cycles/min Expected num	Minimum Allowed num	Maximum Allowed num	Counted Cycles 1 num	Counted Cycles 2 num	Counted Cycles 3 num	Measured Frequency Hz	Accuracy Hz	Uncertanty U_ext_95% Hz	Outcome
1,00	60	58	62	59	59	59	0,98	-0,02	0,00	ok
1,25	75	73	77	74	74	74	1,23	-0,02	0,00	ok
1,33	80	78	82	79	79	79	1,32	-0,01	0,00	ok

Calibration of: **Radius of Abrading Tool**

Procedure: The radius of the abrading cylinder is measured using the reference calliper

Reference Standard: **ISO 6945:1991**

Reference Instruments:
C7-CL-200 Uncertanty: 0,0148 mm Deviation 0,01 mm

Expected Protrusion mm	Minimum Allowed mm	Maximum Allowed mm	Measure 1 mm	Measure 2 mm	Measure 3 mm	Mean mm	Accuracy mm	Uncertanty U_ext_95% mm	Outcome
3	2,9	3,1	2,98	2,98	2,98	2,98	-0,02	0,227	ok

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Verification of instrument safety devices

√	Verification that the instrument's safety devices are working properly

√	Final verification that the instrument is functioning properly with safety devices active