



Nederlands Meetinstituut

Test certificate

Number **TC2977** Revision 1
Project number 10080401
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Issued by NMI Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands

Notified Body Number 122

In accordance with Paragraph 8.1 of the European Standard on Metrological aspects of non-automatic weighing instrument EN 45501:1992/AC:1993 and by application of the OIML International Recommendation R 60 (Edition 1991). The applied error fraction π , meant in paragraph 3.5.4. of the standard is 0.7.

Applicant Mettler-Toledo, Inc.
1150 Dearborn Drive
Worthington OH 43085-6712
United States of America

In respect of The model of a **shear beam load cell with strain gauges**, tested as part of a weighing instrument (for NAWI class **III** or **III**):
Manufacturer : Mettler-Toledo, Inc.
Type : 0743

Characteristics

Maximum Capacity (E_{max})	9072 kg, 13608 kg and 20412 kg 20000 lb, 30000 lb and 45000 lb	
Accuracy Class	C	
Maximum number of LC intervals (n)	2000	3000
Ratio of minimum LC verification interval $Y = E_{max} / V_{min}$	6000	

In the description TC2977 Revision 1 further essential characteristics are described.

Description and Documentation The load cell is described in the description number TC2977 Revision 1 and documented in the documentation folder number TC2977-2, appertaining to this test certificate.





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Remarks Summary of tests involved: see Appendix number TC2977 Revision 1.
This revision test certificate replaces the earlier version including the
documentation folder.

Dordrecht, 1 December 1997
NMI Certin B.V.

I/o

A.J. Nederlof
Director

1 General information about the load cell

All properties of the load cell, whether mentioned or not, may not be in conflict with the standard mentioned in the test certificate.

1.1 Essential parts

Description	Drawing number	Rev.	Remarks
Load cell Assy, 45K (SS)	13929400A	5	Mechanical and Electrical
Loadcell, BHSB 20000 LB SS	A13077500A	1	Mechanical and Electrical
L/C Assy, qualified 9072 kg hermetic BHSB, 9072 kg C3	15355500A	-	Mechanical and Electrical
L/C Assy, qualified 13608 kg hermetic BHSB, 13608 kg C3	15298200A	-	Mechanical and Electrical
L/C Assy, qualified 45K SS hermetic BHSB, 20412 kg C3	15357400A		Mechanical and Electrical

Cable:

The load cell is provided with a 6-wire system (standard cable length 4.8 m other cable length optional).

The cable should be a shielded cable, the shield is not connected to the load cell body.

1.2 Essential characteristics

Minimum dead load	: for the version of 20000 lb, 50 kg; for the version of 30000 lb, 2.27 kg; for the version of 45000 lb, 100 kg
Safe overload	: 100 % of E_{max}
Rated output	: 2 mV/V
Input impedance	: 380 Ω
Output impedance	: 350 Ω
Recommended excitation	: 15 V DC/AC
Excitation maximum	: 20 V DC/AC
Transducer material	: 17-4 PH, Stainless Steel
Atmospheric protection	: Potted sealing over strain gauge area

1.3 Essential shapes

The load cell is built according to the drawings:

- Load cell Assy, drawing number 45K (SS)13929400A;
- Loadcell, BHSB 20000 LB, drawing number SSA13077500A;
- L/C Assy, qualified 9072 kg hermetic BHSB, 9072 kg C3, drawing number 15355500A;
- L/C Assy, qualified 13608 kg hermetic BHSB, 13608 kg C3, drawing number 15298200A;
- L/C Assy, qualified 20412 kg hermetic BHSB, 20412 kg C3, drawing number 15357400A.

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Sealing:

The data plate is sealed against removal or will be destroyed when removed. The data plate mentions at least the information and markings as described in the OIML R60 document. In the countries where is mandatory the load cell should bear this test certificate number: TC2977.

Securing:

- The connecting cable of the load cell or the junction box is provided with a possibility to seal.

Tests carried out for this test certificate on the load cell, type 0743 C2 and 0743 C3

Test	Institute	version, remarks
Temperature test and repeatability (20, 40, -10 and 20 °C)	NMi Certin B.V.	20000 lb
Temperature effect on minimum dead load output (20, 40, -10 and 20 °C)	NMi Certin B.V.	20000 lb
Creep test (20, 40 and -10 °C)	NMi Certin B.V.	20000 lb
Minimum load output return (20, 40 and -10 °C)	NMi Certin B.V.	20000 lb
Barometric pressure test at room temperature	—	Not Applicable because of mechanical construction
Humidity test	NMi Certin B.V.	20000 lb