OIML TC9/SC2

First committee draft revision

Discontinuous totalizing automatic weighing instruments (totalizing hopper weighers)

Part 2: Test report format

Organisation Internationale de Métrologie Légale

INTERNATIONAL RECOMMENDATION

OIML R 107-2

<u>Nov 2005</u>

EXPLANATORY NOTE

This working draft revision of OIML R 107-2 was prepared by OIML TC 9/ SC 2 Automatic weighing instruments, following consultations on the Working Draft Revision in June 2005.

OIML TC 9/ SC 2 "Automatic Weighing instruments" Secretariat: United Kingdom

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FOREWORD R107-2 Page 1 of 74 The International Organization of Legal Metrology (OIML) is a worldwide, intergovernmental organization whose primary aim is to harmonize the regulations and metrological controls applied by the national metrological services, or related organizations, of its Member States.

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* *

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INTRODUCTION

This "test report format" aims at presenting, in a standardized format, the results of the various tests and examinations to which a type of a totalizing automatic weighing instrument shall be submitted with a view to its approval.

The test report format consists of two parts, a "checklist" and the "test report" itself.

The checklist is a summary of the examinations carried out on the instrument. It includes the conclusions of the results of the test performed, experimental or visual checks based on the requirements of Part 1. The words or condensed sentences aim at reminding the examiner of the requirements in OIML R 107-1 without reproducing them.

The test report is a record of the results of the tests carried out on the instrument. The "test report" forms have been produced based on the tests detailed in OIML R 107-1.

All metrology services or laboratories evaluating types of totalizing automatic weighing instruments accordingly to R 107 or to national or regional regulations based on this OIML Recommendation are strongly advised to use this test report format, directly or after translation into a language other than English or French. Its direct use in English or in French, or in both languages, is even more strongly recommended whenever test results may be transmitted by the country performing these tests to the approving authorities of another country, under bi- or multilateral cooperation agreements. In the framework of the OIML Certificate System for measuring instruments, use of this test report format is mandatory.

The "information concerning the test equipment used for type evaluation" shall cover all test equipment which has been used in determining the test results given in a report. The information may be a short list containing only essential data (name, type, reference number for purpose of traceability). For example:

- Verification standards (accuracy, or accuracy class, and No.)
- Simulator for testing of modules (name, type, traceability and No.)
- Climatic test and static temperature chamber (name, type and No.)
- Electrical tests, bursts (name of the instrument, type and No.)
- _- Description of the procedure of field calibration for the test of immunity to radiated electromagnetic fields

Note concerning the numbering of the following pages

In addition to a sequential numbering: "R 107-2 page ..." at the bottom of the pages of this publication, a special place is left at the top of each page (starting with the following page) for numbering the pages of reports established following this model; in particular, some tests (e.g. metrological performance tests) shall be repeated several times, each test being reported individually on a separate page following the relevant format; in the same way, a multiple range instrument shall be tested separately for each range and a separate form (including the general information form) shall be filled out for each range. For a given report, it is advisable to complete the sequential numbering of each page by the indication of the total number of pages of the report.

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DISCONTINUOUS TOTALIZING AUTOMATIC WEIGHING INSTRUMENTS (TOTALIZING HOPPER WEIGHERS)

TYPE EVALUATION REPORT

EXPLANATORY NOTES

Meaning of symbols:

1	= Indication
l _n	= n th indication
L	= Load
ΔL	= Additional load to next changeover point
Р	= I + $\frac{1}{2} \frac{d_t}{d_t} - \Delta L$ = Indication prior to rounding (digital indication)
E	= I - L or P - L = Error
MPE	= Maximum permissible error
EUT	= Equipment under test
d_t	= Totalisation scale interval
Temp	<u>= temperature</u>
Rel. h	= relative humidity

The name(s) or symbol(s) of the unit(s) used to express test results shall be specified in each form.

For each test, the "SUMMARY OF TYPE EVALUATION" and the "CHECKLIST" shall be completed according to this example:	Ρ	F	P = Passed F = Failed
when the instrument has passed the test:	х		
when the instrument has failed the test:		х	
when the test is not applicable:	/	/	

The white spaces in boxes in the headings of the report should always be filled according to the following example:

	At start	At end	
Temp:	20.5	21.1	°C
Rel. h:			%
Date:	<u>20</u> 02-01-29	<u>20</u> 02-01-30	yyyy:mm:dd
Time:	16:00:05	16:30:25	hh:mm:ss

"Date" in the test reports refers to the date that the test was performed.

In the disturbance tests, faults greater than d_t are acceptable provided that they are detected and acted upon, or that they result from circumstances such that these faults shall not be considered as significant; an appropriate explanation shall be given in the column "Yes (remarks)".

Section numbers in brackets refer to the corresponding subclauses of R 107-1.

Deleted: where:¶ Temp : = temperature¶ Rel. h : = relative humidity¶ ¶

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	GENERAL INFORMATION CONCERNING THE TYPE
I	Application No:
l	Type designation:
l	Manufacturer:
l	Applicant:
l	Instrument category:
	Testing on: Complete instrument Module ¹
	Accuracy class 0.2 0.5 1 2
l	Min =
	Max =
	$T + = \boxed{\qquad} T - = \boxed{\qquad} d = \boxed{\qquad} d_t = \boxed{\qquad}$
1	$U_{nom}^2 =$ V $U_{min} =$ V $U_{max} =$ V f = Hz Battery, U = V
	Zero-setting device:
	Nonautomatic
	Semi-automatic
	Automatic zero-setting
	Initial zero-setting
	Zero-tracking
	Initial zero-setting range % Temperature range °C
	Printer: Built in Connected Not present but connectable No Connection

¹ The test equipment (simulator or part of a complete instrument) connected to the module shall be defined in the test form(s) used. ² Voltage U_{nom} is the nominal voltage, or the average if a voltage range, marked on the instrument.

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GENERAL INFORMATION CONCERNING THE TYPE (continued)

Instrument submitted:		Loadcell:	
Identification No:		Manufacturer:	
Connected equipment:		Туре:	
Remarks:		Capacity:	
		Number:	
Interfaces: (numbers, nature)		Classification symbol:	
Remarks:	see below		
Date of report:		Evaluation period	:
Observer:			

Use this space to indicate additional remarks and/or information: other connected equipment, interfaces and load cells, choice of the manufacturer regarding protection against disturbances, etc.

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IDENTIFICATION OF THE INSTRUMENT

Application No:				
Report date:				
Type designation:				
Manufacturer:				
Serial No:				
Manufacturing Documenta	ition			
(Record as necessary to ic	dentify th	ne equipment under test)		
System or module name		Drawing number or software reference	Issue level	Serial No.
Simulator documentation				
System or module name		Drawing number or software reference	Issue level	Serial No.

Simulator function (summary)

Simulator description and drawings, block diagram etc should be attached to the report if available.

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IDENTIFICATION OF THE INSTRUMENT (continued)

Application No:	
Report date:	
Type designation:	
Manufacturer:	

Description or other information pertaining to identification of the instrument: (attach photograph here if available)

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INFORMATION CONCERNING THE TEST EQUIPMENT USED FOR TYPE EVALUATION

TEST EQUIPMENT						
Application No:						
Report date:						
Type designation:						
Manufacturer:						
List all test equipment used	I in this report					
Equipment name	Manufacturer	Type No Serial No:	Used for: (test references)			

I

CONFIGURATION FOR TEST

Application No:	
Report date:	
Type designation:	
Manufacturer:	

Use this space for additional information relating to equipment configuration, interfaces, data rates, load cells EMC protection options etc, for the instrument and/or simulator.

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SUMMARY OF TYPE EVALUATION

Application No:

Type designation:

	TESTS	Report page	Passed	Failed	Remarks
1	Warm-up time test				
2	Zero-setting				
3	Stability of equilibrium				
4	Influence factors				
4.1	Static temperatures				
4.2	Temperature effect on no load indication				
4.3	Damp heat tests:				
4.3.1	Damp heat, steady state				
4.3.2	Damp heat, cyclic				
4.4	AC mains voltage variation				
<u>4.5</u>	Voltage variations in external or plug-in (AC/DC) mains power including in-line rechargeable battery power				
<u>4.6</u>	Voltage variation in 12 V and 24 V road vehicle batteries				
5	Disturbances				
5.1	Short time power reductions				
5.2	Electrical bursts on I/O circuits and communication lines and on mains power lines				
5.3	Electrical surges on I/O circuits and communication lines and on mains power lines and on mains power lines				
5.4	Electrostatic discharge <u>test</u>				
5.5	Electromagnetic susceptibility test				
5.6	Electrical transient conduction test for instruments powered by road vehicle 12 V and 24 V batteries				
6	Span stability				
7	Material tests				
7.1	Separate verification method				
7.2	Integral verification method				
	EXAMINATIONS				
8	Examination of the construction				
9	Checklist				

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SUMMARY OF TYPE EVALUATION (continued)

Use this page to detail remarks from the summary of the type evaluation.

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1 WARM-UP TIME (4.2.5, A.<u>5.4</u>)

l

				At sta	rt Aten	a		
Application N	No:		Tem	ıp:		°C		
Type design	ation:		Rel.	h:		%		
Observer:			Dat	te:		yyyy:m	m:dd	
			Tim	ne:		hh:mm:	SS	
			Bar. Pre	es:		hPa		
Control scale Resolution c	e interval <i>d</i> : luring test (s	smaller than <i>d</i>):						
Duration of o	disconnectio	on before test:		<u>hours</u>			Deleted: hrs	
Automatic ze	ro-setting ar	nd zero-tracking d	levice is:					
Non-ex	istent	Not in opera	tion C	Out of working ra	inge In	operation ³		
$E = I + \frac{1}{2} d - \frac{1}{2}$	ΔL - L culated prio	r to oach moasur	ement at zero o	r poor zoro (uple				
$E_0 = error cal E_L = error cal$	culated at lo	bad (loaded)	ement at zero of	i neai zero (unic	baded)			
E_0 = error cal E_L = error cal	culated at lo	Load	Indication	Add load]	
E_0 = error cal E_L = error cal	time (*)	Load	Indication	Add load ΔL	Error	EL - E0]	
$E_0 = error cal$ $E_L = error cal$	time (*)	Load L	Indication	Add load	Error	EL - Eo]	
$E_0 = error cal$ $E_L = error cal$ Unloaded	time (*)	Load Load	Indication	Add load	Error	EL - Eo		
$E_0 = error can E_L = error can Unloaded Loaded$	time (*)	Load L	Indication	Add load	Error E ₀₁ = E _L =	E _L - E ₀]	
$E_0 = error cal$ $E_L = error cal$ Unloaded Loaded	time (*) 0 min	Load L	Indication I	Add load	Error E ₀₁ = E _L =	EL - E0]	
$E_0 = error can E_L = error can Unloaded Loaded Unloaded$	time (*) 0 min 5 min	Load Load	Indication I	Add load	Error $E_{01} =$ $E_{L} =$ $E_{0} =$ $E_{L} =$	E _L - E ₀]	
$E_0 = error can E_L = error can Unloaded Loaded Unloaded Loaded$	time (*) 0 min 5 min	Load Load	Indication I	Add load	Error E ₀₁ = E _L = E ₀ = E _L =	E _L - E ₀]	
$E_0 = error can E_L = error can Unloaded Loaded Unloaded Loaded Unloaded$	0 min 5 min	Load Load	Indication I	Add load <u>A</u> L	Error $E_{01} =$ $E_{L} =$ $E_{L} =$ $E_{L} =$	EL - E0]	
E_0 = error cal E_L = error cal Unloaded Loaded Unloaded Unloaded Loaded	0 min 5 min 15 min	Load L	Indication I	Add load <u>AL</u>	Error $E_{01} =$ $E_{L} =$ $E_{0} =$ $E_{L} =$ $E_{0} =$ $E_{L} =$	EL - E0]	
$E_0 = error can E_L = error can Unloaded Loaded Unloaded Loaded Unloaded Loaded$	0 min 5 min 15 min	Load L	Indication I	Add load	Error $E_{0} =$ $E_{L} =$ $E_{0} =$ $E_{L} =$ $E_{0} =$ $E_{L} =$	EL - E0]]]	
$E_0 = error cai E_L = error cal Unloaded Loaded Unloaded Loaded Unloaded Loaded Unloaded$	0 min 5 min 15 min	Load Load	Indication I	Add load <u>A</u> L	Error $E_{0} =$ $E_{L} =$ $E_{0} =$ $E_{L} =$ $E_{L} =$ $E_{0} =$ $E_{L} =$	EL - Eo		

Error ⁴	MPE			
Initial zero-setting error	E ₀₁	≤ 0.25 <i>d</i>	=	
Maximum value of error unloaded	E ₀	≤ 0.5 <i>d</i>	=	
Maximum value of zero variation	E ₀ - E ₀₁	≤ 0.25 <i>d</i> ∗ P	=	
Maximum value of error loaded	$E_L - E_0$	$\leq MPE * P_i$	=	
			Passed	Faile

Remarks:

I

 3 In operation only if zero operates as part of every automatic weighing cycle 4 Check that the error is \leq the MPE

2 ZERO-SETTING (3.6.1, <u>A.5.5</u>)

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interva	al <i>d</i> :				

.....

Resolution during test (smaller than *d*):

2.1 Modes of zero-setting (A.5.5.1)

Modes of zero-setting	Present	Range tested	Accuracy tested
Non-automatic			
Semi-automatic			
Auto zero at start of automatic operation			
Auto-zero as part of every weighing cycle			
Auto-zero after programmable interval			

2.2 Range of zero-setting (A.5.5.2)

2.2.1 Initial zero-setting range (A.5.5.2.1)

Positive rang	je L _p	Negative range L _n		Zero setting range L _p + L _n	% of Max load

2.2.2 Automatic zero-setting range (A.5.5.4)

Weight added	Zero Yes/No	Zero setting range	% of Max load

2.3 Accuracy of zero-setting (A.5.5.5)

P = I + $\frac{1}{2}$ d - ΔL E = I - L or P - L = Error

Zero-setting mode:	Add. Load ΔL	E = I + ½ d - ΔL	E/d

Passed	Failed
--------	--------

Remarks:

I

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2 ZERO-SETTING (continued)

2.4 Zero offset interlock (<u>3.6.1.3</u>, A.6.8)

Method of zero-setting:

Non-automatic Semi-automatic Auto zero at start of automatic operation Auto-zero as part of every weighing cycle Auto-zero after programmable interval

Positive offset:

Load applied after zeroing:				
Automatic operation	inhibited			
	Not inhibited			

Negative offset:

Load removed after zeroing:					
Automatic operation	inhibited				
	Not inhibited				

Passed

Failed

Remarks:

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3 STABILITY OF EQUILIBRIUM (3.3.7, A.6.1)

			At sta	<u>rt</u>	At end	
Application No:	<u></u>	<u></u> <u>Temp:</u>				<u>°C</u>
Type designation	<u>:</u>	<u></u> <u>Rel. h:</u>		_		<u>%</u>
Observer:	<u></u>	<u></u> <u>Date:</u>				yyyy:mm:dd
		Time:				hh:mm:ss
In the case of prin	ting or data storage					
Load =						
	<u>Prii</u>	nting or data storag	<u>e</u>			
<u>Number</u>	First printed or stored value after manual	Reading during	ng 5 second	s after pri	nt-out or storag	e
	disturbance and	Minimu	<u>um</u>		<u>Maximum</u>	
	command					
<u>1</u>						
<u> </u>						
<u> </u>						
<u>+</u> 5						
2						
Check separately	for each of the 5 tests if	only two adjacent f	igures appea	ar, one be	eing the printed	value
In the case of zero	<u>p-setting</u>					
E = I + ½ d - ΔL - I	L = zero or nea	ar zero				
						
		Zero-setting				
Number	Load	Indication	Add. Ic	ad	Error F	
1	<u> </u>	2			<u> </u>	
2						
3						
4						_
5						
<u> </u>]

Check the accuracy according to A.5.5.5 for zero-setting.

Passed

Failed

Remarks:

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4 **INFLUENCE FACTORS (2.7, A.7.3)**

Test 1 Static temperature, reference 20°C

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
		Bar. Pres:			hPa
Control scale interval Totalisation scale interval	d: erval d _t :				
Automatic zero-setting	device is:				
Non-existent	Not in operation	Out of	working range	In opera	tion
$E = I + \frac{1}{2} d - \Delta L - L,$	$E_c = E - E_o$ with $E_o =$	error calculated	at or near zero (*)	

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

Load L	Indica	ation I	Add load ΔL		Add load ΔL Error Corrected error E_c MPE		Corrected error E _c		MPE
	\downarrow	\uparrow	\downarrow	\uparrow	\downarrow	\uparrow	\downarrow	\uparrow	
(*)					(*)				

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

	Totalisation indication	
At start of test	At end of test	Max deviation observed (except for non-recordable transients)

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Static Load	Calculated change in totalisation	Totalisation before adding load	Totalisation after adding load	Indicated change in totalisation	Error T _c - T _i
	Tc	Т _ь	Ta	T _I = T _a - T _b	
		1	1	1	I
				Passed	Failed

Remarks

Deleted: ¶ Note: Tests shall be performed in accordance with the temperature sequence specified in A.7.3.1 and recorded on additional test reports.¶

1

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Test 2 Static temperature, specified high (°C)

						At start	At e	<u>end</u>		
Application N	<u>lo:</u>		<u></u>	Te	mp:				<u>°C</u>	
Type design	ation:			Re	el. h:				%	
Observer:			<u></u>	<u>D</u>	ate:				yyyy:mm:dd	
				<u></u>	me:				hh:mm:ss	
				<u>Bar. P</u>	res:				<u>hPa</u>	
Control scale	e interval a	<u>t</u>	<u></u>		<u></u>					
Totalisation :	scale inter	val <u>d</u> t:	<u></u>	<u></u>	<u></u>					
E 1.1/1			е же				- (+)			
$E = 1 + \frac{1}{2} d - 1$	$\Delta L - L,$	$E_c = E -$	E_0 with E_0	= error cal	culated at	or near zer	<u>0 (^)</u>			
Recult sheet	A - Lleod ir		n with roci	ilt shoot B	when the i	atearal con	trol device	ie ueed to	determine the	orror
Result Sheet	H - USEU II	<u>r conjunctio</u>		all Sheet D		ilegiai con				enor
Load	India	ation	Addio		Er.	ror	Corrocto	d orror E	MDE	
LUAU L	Indica		Add Id			<u>101</u>				
(1)	<u> </u>		<u> </u>		<u> </u>		<u> </u>	<u> </u>		
<u>(*)</u>					(*)					
										4

 Image: state of the s

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

	Totalisation indication	
At start of test	At end of test	Max deviation observed (except for non-recordable transients)

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

<u>Static</u> Load	<u>Calculated change</u> <u>in totalisation</u> <u>T</u> c	Totalisation before adding load <u>T</u> b	Totalisation after adding load <u>T</u> a	$\frac{\text{Indicated change in}}{\underline{\text{totalisation}}}$ $\frac{\underline{\text{T}}_{l}=\underline{\text{T}}_{a}-\underline{\text{T}}_{b}}{\underline{\text{T}}_{l}=\underline{\text{T}}_{a}-\underline{\text{T}}_{b}}$	<u>Error</u> T _c - T _i

Remarks

Passed

Failed

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est 3 Stat	ic tempera	ature, spec	ified low (°C	<u>)</u>				
Application Type design Observer:	<u>No:</u>			<u>Ter</u> <u>Re</u> <u>Di</u> <u>Tir</u>	<u>mp:</u> <u>I. h:</u> <u>ate:</u> <u>me:</u>	At start	At (<u>end</u>	<u>°C</u> <u>%</u> yyyy:mm:dd <u>hh:mm:ss</u>
$\frac{\text{Control scal}}{\text{Totalisation}}$	<u>e interval d</u> scale inter ΔI – I	<u>t</u> <u>val d_t :</u> Fo = F -	 E. with E.	Bar. Pl	res: [or near z	rero (*)		<u>_n₽a</u>
lesult sheet	A - Used in	<u>conjunctio</u>	<u>n with resu</u>	Ilt sheet B	when the i	ntegral c	ontrol device	is used to	determine the
Load L	Indica	ation I	Add Io	ad <u>AL</u>	Er	ror	Correcte	d error E _c	MPE
	↓	1	↓	\uparrow	↓	⊥	↓	<u> 1 1 1 1 1 </u>	
)					<u>()</u>				
				-					
esult sheet	B - Used in	i conjunctio	n with resu	ilt sheet A t <u>Totalis</u>	to record the	ne retaine ation	ed totalisation	<u>n</u>	
	At start of	<u>r test</u>		<u>At e</u>	end of test		Max deviati	<u>on observe</u>	ed (except for
							<u>11011-100</u>		ansients)
esult sheet stalisation in	<u>C - Used v</u> dicator is u	vhere the to sed to dete	otal is being	g increased error	d by contin	ually add	ding the resu	lt of weigh	ing a static loa
<u>Static</u> Load	Calculate in total T	d change isation	Totalisati addin	ion before i <u>g load</u> Γ _b	Totalisat adding T	ion after 1 load	Indicated c totalisa T ₁ = T _a	hange in ation - Th	<u>Error</u> T _c - T _i
	<u>-</u>	-			+	=	<u> </u>	e	
			1						
					1				
					1		1		

Remarks

Passed

Failed

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Test 4 Static temperature, 5°C

					A	<u>t start</u>	At	end		
Application	<u>No:</u>		<u></u>	<u>Te</u>	<u>mp:</u>				<u> </u>	
Type desig	nation:		<u></u>	Re	l. h:				<u>%</u>	
Observer:			<u></u>	D	ate:				yyyy:mm:dd	
				Ti	me:				hh:mm:ss	
				Bar. P	res:				hPa	
Control sca	ile interval o	t:					•			
Totalisation	scale inter	val d _t :								
$E = I + \frac{1}{2} d$ -	$\Delta L - L$,	<u>E_c = E -</u>	E _o with E _o	= error cal	culated at or	near ze	ero (*)			
Result sheet	<u>t A - Used ir</u>	<u>n conjunctic</u>	on with resu	It sheet B	when the inte	egral co	ntrol device	e is used to	determine the e	rror
Load L	Indica	<u>ation I</u>	Add lo	<u>ad ΔL</u>	Erro	r	Correct	ed error E _c	MPE	
	\downarrow	↑	\downarrow	↑	\downarrow	1	\downarrow	↑		
(*)					(*)					
		1								
		1								
		1								
		1								
	_	ł					-	+		
								-		
Result sheet	<u>t B - Used ir</u>	n conjunctio	on with resu	ilt sheet A	to record the	retaine	d totalisatio	<u>n</u>		
Result sheet	<u>t B - Used ir</u>	n conjunctic	on with resu	Ilt sheet A	to record the	retaine	d totalisatio	<u>on</u>		
Result sheet	t B - Used in		on with resu	<u>Ilt sheet A t</u>	to record the ation indicati	<u>retaine</u> on	d totalisatio	<u>on</u>		
Result sheet	t B - Used ir <u>At start o</u>	<u>n conjunctio</u>	on with resu	ilt sheet A t <u>Totalis</u> <u>At e</u>	to record the ation indicati and of test	<u>retaine</u> on	d totalisatio	ion observe	ed (except for	
Result sheet	<u>t B - Used ir</u> <u>At start o</u>	n conjunctio f test	on with resu	ilt sheet A t <u>Totalis</u> <u>At e</u>	to record the ation indicati and of test	retaine on	d totalisatio <u>Max deviat</u> <u>non-re</u>	<u>ion</u> ion observe cordable tr	ed (except for ansients)	
Result sheet	<u>t B - Used ir</u> <u>At start o</u>	n conjunctic f test	on with resu	ilt sheet A t <u>Totalis</u> <u>At e</u>	to record the ation indicati and of test	retaine on	<u>d totalisatio</u> <u>Max devia</u> <u>non-re</u>	ion observe cordable tr	ed (except for ansients)	
Result sheet	<u>t B - Used ir</u> <u>At start o</u>	<u>n conjunctic</u> f test	on with resu	ilt sheet A t <u>Totalis</u> <u>At e</u>	to record the ation indicati	retaine on	<u>d totalisatio</u> <u>Max deviat</u> <u>non-re</u>	n ion observe cordable tr	ed (except for ansients)	
Result sheet	<u>t B - Used ir</u> <u>At start o</u> t C - Used v	<u>f test</u>	on with resu	I <u>lt sheet A t</u> <u>Totalis</u> <u>At e</u> g increase	to record the ation indicati and of test	<u>retaine</u>	<u>Max deviation</u> <u>Max deviation</u> <u>non-re</u> ing the rest	<u>ion observ</u> cordable tr	ed (except for ansients)	and the
Result sheet	<u>At start or</u> <u>At start or</u> <u>t C - Used v</u> ndicator is u	t conjunction	on with resu	It sheet A t <u>Totalis</u> <u>At e</u> g increased error	to record the ation indicati end of test	on ally add	d totalisation Max deviat non-re	ion observe cordable tr	<u>ed (except for</u> ansients) ing a static loac	and the
Result sheet	t B - Used ir At start of t C - Used v ndicator is u	t conjunction	on with resu	It sheet A t <u>Totalis</u> <u>At e</u> g increased error	to record the ation indicati end of test	retaine on	d totalisatic Max deviat non-re	ion observ cordable tr	<u>ed (except for</u> ansients) ing a static loac	and the
Result sheet	<u>At start or</u> <u>At start or</u> <u>t C - Used v</u> ndicator is u	t conjunctic	on with resu	It sheet A to Totalis At o g increased error ion before	to record the ation indicati end of test d by continua	retaine on	d totalisatic Max deviat non-re ing the rest	ion observe cordable tr ult of weigh	ed (except for ansients) ing a static loac Error	<u>I and the</u>
Result sheet	<u>At start or</u> <u>At start or</u> <u>t C - Used v</u> <u>ndicator is u</u> <u>Calculate</u> in total	t conjunction f test where the to used to detect d change isation	on with resu	<u>Totalis</u> <u>Totalis</u> <u>At e</u> <u>g increased</u> <u>error</u> <u>ion before</u> g load	to record the ation indicati end of test d by continua Totalisation adding lo	retaine on ally add	d totalisatio	ion observe cordable tr ult of weigh change in ation	ed (except for ansients) ing a static loac <u>Error</u> Te-Ti	<u>I and the</u>
Result sheet Result sheet totalisation ir Static Load	<u>At start or</u> <u>At start or</u> <u>t C - Used w</u> <u>ndicator is u</u> <u>Calculate</u> <u>in total</u>	t conjunction	on with resu otal is being ermine the otal <u>Totalisati</u> addin	It sheet A t <u>Totalis</u> <u>At c</u> <u>g increased</u> <u>error</u> <u>ion before</u> <u>ig load</u> <u>F</u> _b	to record the ation indicati end of test d by continua <u>Totalisation</u> adding lo	retaine on Ally add	<u>Max deviation</u> <u>Max deviation</u> <u>non-re</u> ing the result ing the result indicated of totalis T = T.	ion observe cordable tr ult of weigh change in ation	ed (except for ansients) ing a static loac <u>Error</u> <u>T_c - T_i</u>	<u>l and the</u>
Result sheet Result sheet totalisation ir Static Load	t B - Used ir At start or t C - Used w ndicator is u <u>Calculate</u> in total	t conjunction f test where the two ised to determine the change isation ce	on with resu otal is being ermine the e <u>Totalisati</u> addin	It sheet A the she	to record the ation indicati and of test d by continua <u>Totalisation</u> <u>adding to</u> <u>La</u>	retaine on ally add	d totalisatic <u>Max deviat</u> <u>non-re</u> ing the rest <u>Indicated of</u> <u>totalis</u> <u>T_i= T_i</u>	$\frac{1}{1000} \frac{1}{1000} \frac{1}{1000$	ed (except for ansients) ing a static loac <u>Error</u> I _c - T _i	<u>I and the</u>
Result sheet	t B - Used ir At start or t C - Used w ndicator is u <u>Calculate</u> in total	t conjunction f test where the two sed to determine the change isation ce	on with resu otal is being ermine the e <u>Totalisati</u> addin	It sheet A the she	to record the ation indicati and of test d by continua <u>Totalisation adding to</u> <u>Ia</u>	n after bad	d totalisatic <u>Max deviat</u> <u>non-re</u> ing the rest <u>Indicated of</u> <u>T_i= T_i</u>	$\frac{1}{1000} \frac{1}{1000} \frac{1}{1000$	ed (except for ansients) ing a static loac <u>Error</u> <u>T_c - T</u> i	<u>I and the</u>
Result sheet	t B - Used ir At start of t C - Used v ndicator is u <u>Calculate</u> in total	t conjunction f test where the transformed to deter the sed to deter the set to deter the s	on with results of a lis being or the formula of th	It sheet A to Totalis At e g increased error ion before g load Ib	to record the ation indicati and of test by continua <u>Totalisation</u> adding to <u>La</u>	n after bad	d totalisatic Max deviat non-re ing the resu Indicated o totalis T_= T_	ion observe cordable tr ult of weigh change in ation a_Tb	ed (except for ansients) ing a static load <u>Error</u> T _c - Ti	l and the
Result sheet	t B - Used ir At start of t C - Used v ndicator is u <u>Calculate</u> in total	t conjunction f test where the to ised to deter isation ce	on with results of a lis beingermine the end	It sheet A to Totalis At e g increased error ion before ig load L _b	to record the ation indicati and of test by continua <u>Totalisation</u> adding to <u>Ta</u>	n after bad	d totalisatic <u>Max deviat</u> <u>non-re</u> ing the resu <u>Indicated of</u> <u>totalis</u> <u>T_= T</u>	ion observ cordable tr ult of weigh change in ation a - Tp	ed (except for ansients) ing a static load <u>Error</u> T _c - Tı	l and the
Result sheet	t B - Used ir At start or t C - Used v ndicator is u <u>Calculate</u> in total	t conjunction f test where the to sed to deter isation ce	on with results of a lis being order is being order in the end of the second se	It sheet A t <u>Totalis</u> <u>At e</u> g increased error ion before ig load L₀	to record the ation indicati end of test d by continua <u>Totalisation</u> adding to <u>Ta</u>	retaine on ally add <u>n after</u> bad	d totalisatic <u>Max deviat</u> <u>non-re</u> ing the rest <u>Indicated (</u> <u>totalis</u> <u>T_i= T_i</u>	ion observ cordable tr ult of weigh change in ation aT_b	ed (except for ansients) ing a static load <u>Error</u> T _c - Ti	I and the
Result sheet	t B - Used ir At start or t C - Used v ndicator is u <u>Calculate</u> in total	t conjunction	on with results of a lis being provide the second s	It sheet A to Totalis At e g increased error ion before ig load L _b	to record the ation indicati end of test d by continua <u>Totalisation</u> adding lo <u>Ia</u>	n after bad	d totalisatic <u>Max deviat</u> <u>non-re</u> ing the rest <u>Indicated (</u> <u>totalis</u> <u>T_i= T_i</u>	ion observ cordable tr ult of weigh change in ation a= T _b	ed (except for ansients) ing a static load <u>Error</u> <u>T_c - T_i</u>	<u>I and the</u>
Result sheet	t B - Used ir At start or t C - Used v ndicator is u <u>Calculate</u> in total	t conjunction	on with results of a lis being order is being order is being order in the order of	It sheet A to Totalis At e g increased error ion before ig load Ib	to record the ation indicati end of test d by continua <u>Totalisation</u> adding lo <u>Ta</u>	n after bad	d totalisatic	ion observ. cordable tr ult of weigh change in ation <u>a T b</u>	ed (except for ansients) ing a static load	<u>l and the</u>
Result sheet	t B - Used ir At start or t C - Used v ndicator is u <u>Calculate</u> in total	t conjunction f test where the two sed to deter the change isation ce	on with results of a lis being order to be a lis being order to be a lis being order to be a list of a lis	It sheet A to Totalis At e g increased error ion before g load [b	to record the ation indicati end of test d by continua <u>Totalisation</u> <u>adding lo</u> <u>Ta</u>	n after bally add	d totalisatic	ion observ cordable tr ult of weigh change in ation a= Tb	ed (except for ansients) ing a static load	<u>l and the</u>
Result sheet Result sheet totalisation ir Static Load	t B - Used ir At start or t C - Used v ndicator is u <u>Calculate</u> in total	t conjunction	on with results	It sheet A to Totalis At e g increased error ion before g load Ib	to record the ation indicati end of test d by continua <u>Totalisation</u> adding lo <u>Ia</u>	n after bally add	d totalisatio	ion observe cordable tr ult of weigh Change in ation a - Tb	ed (except for ansients) ing a static load	<u>l and the</u>
Result sheet	t B - Used ir At start or t C - Used w indicator is u <u>Calculate</u> in total	t conjunction	on with results	It sheet A to Totalis At e g increased error ion before g load Ib	to record the ation indicati end of test d by continua <u>Totalisation</u> adding lo <u>Ta</u>	n after bally add	d totalisatic <u>Max deviat</u> <u>non-re</u> ing the rest <u>Indicated o</u> <u>totalis</u> <u>T_i= T_i</u>	ion observe cordable tr ult of weigh <u>change in</u> ation a <u>-</u> T _b	ed (except for ansients) ing a static loac <u>Error</u> <u>T_c - T_i</u>	<u>l and the</u>
Result sheet Result sheet Static Load	t B - Used ir At start or t C - Used v indicator is u <u>Calculate</u> in total	t conjunction f test where the transformed to deter d change isation -2	on with results of the second	It sheet A in <u>Totalis</u> At e	to record the ation indicati end of test d by continua <u>Totalisation</u> adding lo <u>Ta</u>	n after bad	d totalisatic <u>Max deviat</u> <u>non-re</u> ing the rest <u>Indicated (</u> <u>totalis</u> <u>T₁= T₂</u>	ion observe cordable tr ult of weigh change in ation a T b	ed (except for ansients) ing a static loac <u>Error</u> T _c - T _i	<u>l and the</u>

Remarks

Passed Failed

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Test 5 Static temperature, reference 20°C

						At start	At	end		
Application	No:		<u></u>	<u>Te</u>	mp:				<u>°C</u>	
Type desig	nation:		<u></u>	<u>Re</u>	l. h:				<u>%</u>	
Observer:			<u></u>	D	ate:				yyyy:mm:dd	
				Ti	me:				hh:mm:ss	
				<u>Bar. P</u>	res:				<u>hPa</u>	
Control sca	lle interval d	<u>/:</u>	<u></u>							
Totalisation	scale inter	val d _t :								
$E = I + \frac{1}{2} d$	<u>ΔL – L,</u>	<u> </u>	E _o with E _o	= error cal	culated at	or near z	<u>zero (*)</u>			
Result sheet	<u>t A - Used ir</u>	<u>n conjunctio</u>	on with resu	ult sheet B	when the ir	ntegral c	ontrol device	is used to	determine the	error
Load L	Indic	<u>ation I</u>	Add Ic	ad <u>ΔL</u>	Er	ror	Correcte	ed error E _c	MPE	
	\downarrow	↑	\downarrow	↑	\rightarrow	^	\downarrow	↑		
(*)		<u> </u>			(*)			<u> </u>		
<u> </u>			1	1	<u> </u>					
								+		
<u>.</u>	1							1		
Result sheet	t B - Used ir	n conjunctio	on with resu	ilt sheet A t	to record th	ne retain	ed totalisatio	n		
<u>rtoodit onoo</u>	00001	reenjanea				lo rotain		<u></u>		
				Totalis	ation indic	ation				٦
	At start o	ftest			and of test		Max deviat	ion observe	ad (excent for	-
	<u>At start 0</u>	11031		<u>ALC</u>	end of test			cordable tr	anciente)	
							1011-16		ansientsj	-
Result sheet	t C - Used v	where the t	otal is bein	a increased	d by contin	ually ad	dina the resu	ult of weigh	ing a static loa	ad and the
totalisation in	ndicator is u	used to dete	ermine the	error						
Static	Calculate	an change	Totalisat	ion hefore	Totalisati	on after	Indicated o	hange in	Error	٦
	in tota	lisation	addir		adding	load	totalie	ation	T T.	
LUau		r	auuii	i <u>g iuau</u> T.		IUau		T.	<u>1c-1</u>	
		<u>L</u> c		<u>1</u> b	<u>i</u>	3	<u></u>	<u>- 1</u> b		
							1			
										1
 							1			1
			+				1			-
			-							-1
F										-
			-							-

Remarks

Passed Failed

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4.2 Temperature effect on no-load indication (2.7.1.2, A.7.3.2)

Application No:		
Type designation:		
Observer:		
Control scale interval	d:	
Resolution during tes	t (smaller than d):	

Automatic zero-setting device is:

Non-existent	Not in operation	Out of working range	In operation

 $\mathsf{P} = \mathsf{I} + \frac{1}{2} d - \Delta \mathsf{L}$

Report Page ⁵		Date	Time	Temp (°C)	Zero indication I	Add load ∆L	Р	ΔΡ	∆Temp	Zero-change per °C
	_									
	_									

 ΔP = difference of P for two consecutive tests at different temperatures

 Δ Temp = difference of <u>temperature</u> for two consecutive tests at different temperatures Check if the zero-change per 5 °C is smaller than *d*.

Passed

Failed

Remarks:

1

5 Give the report page of the relevant weighing test where weighing tests and temperature effect on no-load indication test are conducted together.

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4.3 [Damp heat te	sts (4.2.3, /	A.7.3.3)							
Note: E	Either the stea	ady-state te	<u>st (4.3) or</u>	the cyclic t	<u>test (4.4) s</u>	hall be pre	scribed de	pending u	oon the type of	of the EUT
<u> </u>	and its applica	ition as spec	cified in 4.2	<u></u>						
<u>4.3.1</u>	Damp heat, s	teady state	(non-con	<u>densing) (</u>	A.7.3.3.1)					
Test 1	Reference tem	nperature of	<u>20 °C at 5</u>	<u>0 % humid</u>	lity					
						At start	Ate	end		
Applicati	on No:			Te	emp:				°C	
Type des	signation:			Re	el. h:				%	
Observe	r:			D	ate:				yyyy:mm:dd	
		,		Т	ime:				hh:mm:ss	
Control s	cale interval o	d: Noted :								
TOtalisat		val u _t .								
Automatic	zero-settina	device is:								
	g									
Non	-existent	Not ir	n operation		Out of wo	king range		In operation	on	
$E = I + \frac{1}{2}$	<i>d</i> - ΔL – L,	E _c = E -	E_0 with E_0	= error ca	lculated at	or near zer	o (*)			
Pocult ch	oot A - Lleod i	n conjunctio	n with roci	ilt shoot B	when the i	ntearal con	tral device	ie ueod to	determine the	orror
Result Shi	eet A - Oseu i		ii willi iest	all Sheet D	when the h	negrai con		is used to		enoi
Load L	. Indic	ation I	Add lo	ad ΔL	Er	ror	Correcte	d error E _c	MPE	1
	\downarrow	1	\rightarrow	\uparrow	\downarrow	\uparrow	\rightarrow	1		
(*)					(*)					
							1			-
										-
										-
					1					-
		-								-

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

	Totalisation indication	
At start of test	At end of test	Max deviation observed (except for
()	()	non-recordable transients)

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Static Load	Calculated change in totalisation T _c	Totalisation before adding load T⊾	Totalisation after adding load T ₂	Indicated change in totalisation T _I = T ₂ - T _b	Error T _c - T _i
			·a		
-					
L			i		
•				Passed	ailed

Deleted: ¶ Note: Tests shall be performed in accordance with the temperature/humidity sequence specified in A.7.3.3.1 and recorded on additional test reports.¶ ¶

Remarks

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4.3.1 Dai	<u>mp heat, steady stat</u>	e (continued)			
Test 2 Upp	per limit temperature (°C) at 85 %	humidity		
			At star	t <u>At end</u>	_
Application	<u>No:</u>	<u>Te</u>	<u>mp:</u>		<u> </u>
Observer:	<u></u>	<u></u> <u>D</u>	ate:		<u>yyyy:mm:dd</u>
Control sca	le interval d	<u></u>	me:		hh:mm:ss
Totalisation	<u>scale interval d_t:</u>	<u></u>			
<u>E = I + $\frac{1}{2} d$ -</u>	$\Delta L - L, E_c = E$	$- E_0$ with E_0 = error cal	culated at or near	<u>zero (*)</u>	
Result sheet	<u>t A - Used in conjuncti</u>	on with result sheet B	when the integral	control device is used	to determine the error
Load L	Indication I	Add load <u>AL</u>	Error	Corrected error E	
	<u>↓</u> <u>↑</u>	<u>↓</u> <u>↑</u>	\downarrow \uparrow	\downarrow \uparrow	
<u>(*)</u>			<u>(*)</u>		
	<u> </u>				
Desult sheet		en with recult cheet A (to up on and the up to :		
Result sneet	<u>I B - Used in conjuncti</u>	on with result sheet A	to record the retain	ned totalisation	
		Totalis	ation indication	1	
	At start of test	<u>At e</u>	end of test	Max deviation observed	rved (except for transients)
	<u></u>				
Result sheet	t C - Used where the	total is being increased	d by continually a	dding the result of weig	ghing a static load and th
<u>Static</u>	Calculated change	Totalisation before	Totalisation afte	r Indicated change in	<u>Error</u>
Load	In totalisation	adding load	adding load	$T_1 = T_2 - T_b$	<u> </u>
	<u> </u>	<u> </u>	<u></u>	<u></u>	
<u> </u>					
				Passed	Failed
Remarks					
		R107-2 Pa	ige 24 of 74		

Test 3 Reference temperature of 20 °C at 50 % humidity

			At start	At end	
Application No:	<u></u>	Temp:			<u>°C</u>
Type designation:		Rel. h:			<u>%</u>
Observer:	<u></u>	Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interva	<u>d:</u>		<u>.</u>		

Totalisation scale interval *d_t*: <u>.....</u>

<u>E = I + $\frac{1}{2}$ d - Δ L - L, <u>E_c = E - E_o</u> with <u>E_o</u> = error calculated at or near zero (*)</u>

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

Load L	Indica	ation I	Add loa	<u>ad ΔL</u>	Er	<u>ror</u>	Correcte	<u>d error E_c</u>	MPE
	↓	<u>1</u>	<u>↓</u>	<u>↑</u>	<u>↓</u>	<u>↑</u>	<u>↓</u>	1	
<u>(*)</u>					<u>(*)</u>				

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

	Totalisation indication	
At start of test	At end of test	Max deviation observed (except for
		non-recordable transients)

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

<u>Static</u>	Calculated change	Totalisation before	Totalisation after	Indicated change in	Error
Load	in totalisation	adding load	adding load	totalisation	<u>Т_с – Т_і</u>
	<u> </u>	<u> </u>	la	<u> = a- b</u>	

Remarks

Passed Failed

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4.3 Dan	np heat tes	sts (continu	ued)						
4.3.2 Dan	4.3.2 Damp heat, cyclic (condensing) (A.7.3.3.2)								
Test 1 Tem	perature ris	se from 25 °	<u>at 93 % hu</u>	<u>ımidity C dı</u>	uring the fire	st 3 hours.			
Application Type desigr Observer: Control scal Totalisation	No: ation: e interval o scale inter	<u>t</u> val d _t :		<u>Te</u> <u>Re</u> <u>D</u> _Ti	<u>mp:</u> <u>I. h:</u> <u>ate:</u> <u>me:</u>	<u>At start</u>	At e		° <u>C</u> % yyyy:mm:dd hh:mm:ss
Automatic ze Non-ex $E = I + \frac{1}{2} d$ - Pasult sheet	Automatic zero-setting device is:Non-existentNot in operation $\underline{P} = I + \frac{1}{2} d - \Delta L - L$, $\underline{E}_{c} = E - E_{0}$ with \underline{E}_{0} = error calculated at or near zero (*)								
Result sheet	A - Oseu II		ii wiiii iest						
Load L		ation I 	<u>Add Io</u> a	ad <u>ΔL</u> 	<u>Ern</u>	or <u>⊢</u> 	<u>Correcte</u>	<u>d error E_c ↑</u>	MPE
<u>(*)</u>					<u>(*)</u>				

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

	Totalisation indication	
At start of test	At end of test	Max deviation observed (except for
		non-recordable transients)

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Static Load	Calculated change in totalisation T _c	Totalisation before adding load T _b	Totalisation after adding load T _a	Indicated change in totalisation $T_1 = T_a - T_b$	Error T _c – T _l
-					

Passed

Failed

Deleted: (1) . Tests shall be performed in accordance with the temperature/humidity sequence specified in . A.7.3.3.2 and recorded on additional test reports.¶ ¶ . . . (2) .

Remarks

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sult shee	A - Used in	<u> </u>	<u>· E_o with E_o on with res</u> i	<u>o = error ca</u> ult sheet B	alculated a	t or near : integral c	<u>zero (*)</u> :ontrol device	e is used to	determine the e
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)	<u>↓</u>	<u><u> </u></u>	<u> </u>	<u><u> </u></u>	<u> </u>	<u> </u>	<u> </u>	<u><u> </u></u>	
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esult shee talisation in	<u>At start of</u> <u>At start of</u> <u>t C - Used w</u> ndicator is us	test vhere the to dete	on with res	ult sheet A <u>Totali</u> <u>At</u> ng increase error	to record isation indi end of tes ed by conti	the retain cation t nually ad	Max deviation	ion observ cordable tr ult of weigh	ed (except for ransients) ning a static load
esult shee talisation i Static Load	<u>At start of</u> <u>At start of</u> <u>t C - Used w</u> <u>ndicator is us</u> <u>Calculater</u> <u>in totali</u>	test <u>test</u> <u>vhere the to</u> sed to deto <u>d change</u> <u>isation</u>	on with res	ult sheet A <u>Totali</u> At ng increase error tion before ng load	to record isation indi end of tes ed by conti <u>ed by conti</u>	the retain cation t inually ad tion after ig load	<u>Max deviation</u> <u>Max deviation</u> non-red ding the result <u>Indicated of</u>	ion observ cordable tr ult of weigh change in ation	ed (except for ansients) hing a static load $\frac{Error}{T_c - T_l}$
sult shee alisation i <u>Static</u> Load	<u>At start of</u> <u>At start of</u> <u>t C - Used w</u> <u>ndicator is u</u> <u>Calculate</u> <u>in totali</u> <u>T</u>	test vhere the to sed to dete d change isation	on with res	ult sheet A <u>Totali</u> <u>At</u> ng increase error tion before ng load T _b	to record isation indi end of tes ed by conti <u>ed by conti</u>	the retain cation t nually ad tion after ig load T _a	ed totalisation	ion observ cordable tr ult of weigh change in ation $a = T_b$	$\frac{ed (except for ansients)}{ansients}$
sult shee alisation i Static Load	<u>At start of</u> <u>At start of</u> <u>t C - Used w</u> <u>ndicator is us</u> <u>Calculater</u> <u>in totali</u> <u>T</u>	<u>test</u> <u>vhere the to</u> <u>sed to dete</u> <u>d change</u> <u>sation</u>	on with res	ult sheet A <u>Totali</u> At ng increase error tion before ng load <u>T</u> b	A to record isation indi end of tes ed by conti 2 Totalisa addir	the retain cation t nually ad tion after ig load T _a	<u>Max deviation</u> <u>Max deviation</u> <u>ding the rest</u> <u>Indicated of</u> <u>T₁ = T</u>	ion observ cordable tr ult of weigh change in ation a T b	ed (except for ansients) ning a static load $\frac{Error}{I_c - I_l}$
sult shee alisation i <u>Static</u> Load	<u>At start of</u> <u>At start of</u> <u>t C - Used w</u> <u>adicator is us</u> <u>Calculate</u> <u>in totali</u> <u>T</u>	test vhere the t sed to dete d change isation c	on with res	ult sheet A <u>Totali</u> At <u>ag increase</u> error tion before <u>ng load</u> T _b	to record isation indi end of tes ed by conti <u>addir</u>	the retain cation t nually ad tion after ig load La	ed totalisatic	ion observ cordable tr ult of weigh <u>change in</u> ation a - Tb	ed (except for ansients) aing a static load
<u>sult shee</u> alisation i <u>Static</u> <u>Load</u>	<u>At start of</u> <u>At start of</u> <u>t C - Used w</u> <u>ndicator is us</u> <u>Calculater</u> <u>in totali</u> <u>T</u>	test <u>vhere the t</u> <u>sed to dete</u> <u>d change</u> <u>sation</u> <u>c</u>	on with resident of the second	ult sheet A <u>Totali</u> <u>At</u> ag increase error tion before ng load T _b	A to record isation indi end of tes ed by cont 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	the retain cation t nually ad tion after ig load	ed totalisation $ \underline{Max \ deviat} $ $ \underline{Max \ deviat} $ $ \underline{Max \ deviat} $ $ \underline{Indicated \ o} $ $ \underline{Indicated \ o} $ $ \underline{T_1 = T} $	ion observ cordable tr ult of weigh change in ation a - T _b	ed (except for ransients) aning a static load $\frac{Error}{I_c - I_l}$
sult shee alisation i <u>Static</u> Load	<u>At start of</u> <u>At start of</u> <u>t C - Used w</u> <u>ndicator is u</u> <u>Calculate</u> <u>in totali</u> <u>T</u>	test <u>vhere the t</u> <u>sed to dete</u> <u>d change</u> <u>isation</u>	on with res	ult sheet A <u>Totali</u> <u>At</u> ng increase error tion before ng load <u>T</u> b	A to record isation indi end of tes ed by conti addir addir	the retain cation t inually ad tion after ig load L _a	ed totalisation $ \underline{Max \ deviat} \underline{Max \ deviat} \underline{Nax \ deviat} \underline{non-re} $ ding the rest $ \underline{Indicated \ oliver{totalis} \underline{T_i = T} \underline{Indicated \ oliver{totalis} \underline{Indicated \ olivert{totalis} $	ion observ cordable tr ult of weigh change in ation a - To	$\frac{ed (except for ransients)}{ansients}$
sult shee alisation in <u>Static</u> Load	<u>At start of</u> <u>At start of</u> <u>t C - Used w</u> <u>ndicator is us</u> <u>Calculate</u> <u>in totali</u> <u>T</u>	test <u>test</u> <u>vhere the t</u> <u>sed to dete</u> <u>d change</u> <u>isation</u> <u>c</u>	on with res	ult sheet A <u>Totali</u> <u>At</u> ng increase error tion before ng load T _b	to record isation indi end of tes ed by conti Totalisa addir addir	the retain cation t nually ad tion after ig load T _a	ed totalisatio	ion observ cordable tr ult of weigh change in ation a - Tp	$\frac{ed (except for ansients)}{ansients}$

	_			
432	Damn	heat c	velie ((continued)
TIOLE	Dunp	noull o		oon and a

Test 3 Temperature lowered to 25 °C at 93 % humidity within 3-6 hours.

			At start	At end	
Application No:	<u></u>	Temp:			<u>°C</u>
Type designation:	<u></u>	<u>Rel. h:</u>			<u>%</u>
Observer:	<u></u>	Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interval	<u>d:</u>		<u></u>		

Totalisation scale interval d_t : <u>.....</u>

<u>E = I + $\frac{1}{2}$ d - Δ L - L, <u>E_c = E - E_o with E_o = error calculated at or near zero (*)</u></u>

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

Load L	Indica	ation I	Add loa	<u>ad ΔL</u>	Erre	<u>or E</u>	Correcte	<u>d error E_c</u>	MPE
	↓	<u>1</u>	<u>↓</u>	<u>↑</u>	<u>↓</u>	<u>↑</u>	<u>↓</u>	1	
<u>(*)</u>					<u>(*)</u>				

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

	Totalisation indication	
At start of test	At end of test	Max deviation observed (except for non-recordable transients)

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

<u>Static</u> Load	Calculated change in totalisation T _c	Totalisation before adding load Tb	Totalisation after adding load T _a	$\frac{\text{Indicated change in}}{\text{totalisation}} \\ T_1 = T_a - T_b$	<u>Error</u> T _c – T _l

4

Remarks

Passed Failed

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						∆t start	Δ	tend	
pplication	No:		<u></u>	Te	mp:	At Start			<u>°C</u>
ype desig	nation:		<u></u>	Re	<u>el. h:</u>				<u>%</u>
bserver:			<u></u>	<u>D</u> Ti	ime:				<u>yyyy:mm:aa</u> hh:mm:ss
Control sca Totalisation	ale interval a n scale inter	<u>t:</u> val d _t :	<u></u>		<u></u>				
<u>= + ½ d -</u> esult shee	<u>- ΔL – L,</u> <u>t A - Used ir</u>	E _c = E -	<u>E_o with E_o on with resu</u>	<u>= error cal</u> ult sheet B	lculated at when the i	or near and a contract of the second	<u>zero (*)</u> control devic	e is used to	determine the e
Load L	Indic	ation I	Add lo	ad ΔL	<u>En</u>	or E	Correct	ed error E _c	<u>MPE</u>
)	<u> </u>	<u><u> </u></u>	<u>↓</u>	<u> </u>	<u>↓</u> ()	<u><u> </u></u>	<u> </u>	<u><u> </u></u>	
<u>_</u>									
							_		
esult shee	t B - Used ir At start o	n conjunctio	on with resu	ult sheet A <u>Totalis</u> <u>At c</u>	to record t sation india end of test	he retain	ied totalisation	tion observecordable tr	ed (except for ransients)
esult shee	t B - Used ir At start o	f test where the t	on with resu	ult sheet A <u>Totalis</u> <u>At</u>	to record t sation indic end of test d by contil	he retain	Max devia <u>Nax devia</u> non-re	tion observ ecordable tr ult of weigh	ed (except for ansients)
esult shee esult shee talisation i	t B - Used ir At start o t C - Used v ndicator is u	t conjunction	on with resu	ult sheet A <u>Totalis</u> <u>At</u> g increase error	to record t sation indic end of test d by contin	he retain	Max devia <u>Max devia</u> non-re ding the res	tion observ ecordable tr ult of weigh	ed (except for ransients)
esult shee esult shee calisation i Static Load	t B - Used ir At start o t C - Used v ndicator is u <u>Calculate</u> in tota	f test f test where the t used to dete d change isation	on with rest	ult sheet A Totalis At a g increase error ion before ig load	to record t sation indic end of test d by contin <u>Totalisat</u> addin	he retain eation hually ad	Max devia <u>Max devia</u> <u>non-re</u> <u>Indicated</u> <u>totalis</u>	tion observed ecordable tr ult of weigh change in sation	$\frac{ed (except for ansients)}{ansients}$
esult shee esult shee calisation i Static Load	t B - Used ir At start o t C - Used v ndicator is u <u>Calculate</u> in tota	t conjunction f test where the t ised to detect d change isation	on with rest	ult sheet A <u>Totalis</u> <u>At a</u> <u>g increase</u> <u>error</u> <u>tion before</u> <u>ng load</u> <u>T_b</u>	to record t sation indic end of test d by contin <u>Totalisa</u> <u>addin</u>	he retain ation hually ad	Max devia non-re ding the res <u>Indicated</u> <u>T_1 = 1</u>	tion observed ecordable tr ult of weigh change in sation $a = T_b$	$\frac{ed (except for ansients)}{ansients}$ hing a static load $\frac{Error}{I_c = T_l}$
esult shee esult shee alisation i <u>Static</u> Load	t B - Used ir At start o t C - Used v ndicator is u <u>Calculate</u> in total	test <u>where the t</u> <u>sed to dete</u> <u>c</u>	on with resu otal is bein ermine the Totalisat addir	ult sheet A <u>Totalis</u> <u>At u</u> ug increase error tion before ng load T _b	to record t sation indic end of test d by contin <u>Totalisa</u> <u>addin</u>	he retain cation hually ad tion after g load	Max devia non-re ding the res	tion observ ecordable tr ult of weigh change in sation a Tb	$\frac{ed (except for ransients)}{ansients}$ $\frac{Error}{I_c - T_l}$
esult shee esult shee talisation i <u>Static</u> Load	t B - Used ir At start o t C - Used v ndicator is u <u>Calculate</u> in tota	t conjunction f test where the t used to deter d change isation c	on with rest	ult sheet A Totalis At a g increase error ion before ng load T _b	to record t sation indic end of test d by contin <u>Totalisa</u> <u>addin</u> 1	he retain	Max devia <u>Max devia</u> <u>non-re</u> ding the res <u>Indicated</u> <u>totalis</u> <u>T₁ = 1</u>	tion observer ecordable tr ult of weigh change in sation ta _ Tb	ed (except for ansients) hing a static load
esult shee esult shee calisation i <u>Static</u> Load	t B - Used ir At start o t C - Used v ndicator is u <u>Calculate</u> in tota	test where the t ised to deter d change isation c	on with rest	ult sheet A <u>Totalis</u> <u>At u</u> g increase error <u>ion before</u> <u>ion before</u> <u>ion before</u> <u>ion before</u>	to record t sation indicend of test	he retain ation hually ad ion after g load a	Max devia <u>Max devia</u> <u>non-ru</u> ding the res <u>Indicated</u> <u>totalis</u> <u>T₁ = 1</u>	tion observed ecordable tr ult of weigh change in sation a _ Tb	$\frac{ed (except for ansients)}{ansients}$
esult shee esult shee alisation i <u>Static</u> Load	t B - Used ir At start o t C - Used v ndicator is u Calculate in total	test <u>where the t</u> <u>ised to dete</u> <u>isation</u> <u>c</u>	on with results of a list bein control of the second secon	ult sheet A <u>Totalis</u> <u>At u</u> ug increase error <u>sion before</u> ng load T _b	to record t sation indic end of test d by contin <u>Totalisa</u> <u>addin</u>	he retain	Max devia non-ro ding the res	tion observ ecordable tr ult of weigh change in sation a Tb	$\frac{ed (except for ransients)}{ansients}$
esult shee esult shee talisation i <u>Static</u> Load	t B - Used ir <u>At start o</u> <u>t C - Used v</u> ndicator is u <u>Calculate</u> <u>in tota</u>	n conjunctic	on with rest	ult sheet A Totalis At a g increase error icion before ng load T _b	to record t sation indic end of test d by contin <u>addin</u> <u>a</u>	he retain cation hually ad ion after g load a	Max devia non-re ding the res	tion observed ecordable tr ult of weigh change in sation ta _ Tb	ed (except for ansients) hing a static load
esult shee esult shee alisation i Static Load	t B - Used ir At start o t C - Used v ndicator is u <u>Calculate</u> in total	test where the t ised to dete	on with resu	ult sheet A <u>Totalis</u> <u>At u</u> <u>ag increase</u> <u>error</u> <u>tion before</u> <u>ng load</u> <u>T_b</u>	to record t sation indicend of test	he retain	Max devia non-re ding the res	tion observ ecordable tr ult of weigh change in sation a _ T_b	$\frac{ed (except for ansients)}{ansients}$
esult shee esult shee alisation i <u>Static</u> Load	t B - Used ir <u>At start o</u> <u>t C - Used v</u> <u>ndicator is u</u> <u>Calculate</u> <u>in tota</u>	test where the t sed to deter d change isation c	on with results	ult sheet A <u>Totalis</u> <u>At u</u> ug increase error tion before ng load T _b	to record t sation indicend of test	he retain	Indicated	tion observ ecordable tr ult of weigh change in sation a Tb	$\frac{ed (except for ransients)}{ansients}$
esult shee esult shee talisation i <u>Static</u> Load	t B - Used in At start o t C - Used v ndicator is u Calculate in tota	test where the t sed to deter d change isation c	on with rest	ult sheet A <u>Totalis</u> <u>At</u> <u>ag</u> increase <u>error</u> <u>ison before</u> <u>ison before</u> <u>ison before</u> <u>ison before</u> <u>ison before</u> <u>ison before</u>	to record t sation indic end of test d by contin <u>Totalisa</u> addin]	he retain eation hually ad ion after g load a	Indicated Indicated totalis Indicated totalis Indicated totalis Indicated totalis Indicated totalis Indicated totalis Indicated Indicated <t< td=""><td>tion observ ecordable tr ult of weigh change in sation a _ Tb</td><td>ed (except for ansients)</td></t<>	tion observ ecordable tr ult of weigh change in sation a _ Tb	ed (except for ansients)
esult shee	t B - Used in At start o At start o t C - Used v ndicator is u Calculate in total	c conjunction	on with results	ult sheet A <u>Totalis</u> <u>At u</u> ag increase <u>error</u> tion before ng load T _b	to record t sation indic end of test d by contin <u>addin</u> <u>addin</u>	he retain	Image: Indicated totalis Indicated totalis Indicated totalis Indicated Inditation Indicated <td>tion observed ecordable tr ult of weigh change in sation a _ T_b</td> <td>ed (except for ransients) ansients) aing a static load \underline{Error} $\underline{I_c} = \underline{T_l}$ </td>	tion observed ecordable tr ult of weigh change in sation a _ T_b	ed (except for ransients) ansients) aing a static load \underline{Error} $\underline{I_c} = \underline{T_l}$
esult shee esult shee talisation i Static Load	t B - Used ir At start o t C - Used v ndicator is u Calculate in total	test where the t ised to deter isation c	on with results	ult sheet A Totalis At u ug increase error ion before ng load Tb	to record t sation indic end of test d by contin Totalisa addin	he retain cation hually ad ion after g load a	Image: section of the section of t	tion observ ecordable tr ult of weigh change in sation a Tb	ed (except for ransients) ansients) hing a static load \underline{Error} $\underline{I_c} - \underline{I_l}$
esult shee alisation i Static Load	t B - Used in At start o t C - Used v ndicator is u Calculate in tota	test where the t sed to dete	on with rest	ult sheet A Totalis <u>At</u> <u>a</u> <u>a</u> <u>ion before</u> <u>ion b</u>	to record t sation indic end of test d by contin <u>d by contin</u> <u>addin</u> <u>1</u>	he retain	Image: description of the second s	tion observed ecordable tr ult of weigh change in sation a _ Tb	ed (except for ansients)

4.4 AC mains voltage variation (2.7.2, A.7.3.4)

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:		_	%
Observer:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interval Totalisation scale inte	<i>d</i> : erval <i>d</i> _t :				
Automatic zero-setting	device is:				
Non-existent	Not in operation	Out of	working range	In operat	tion
Marked nominal volta	age (Unom) or voltage range	:	V		
$E = I + \frac{1}{2} d - \Delta L - L,$	$E_c = E - E_o$ with $E_o = e$	error calculated	at or near zero	(*)	

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

Voltage conditions ⁶	Load L	Indication I	Add load ΔL	Error	Corrected error E _c
Unom			(*)		
U _{nom} or U _{max} × 1.10 %					
U _{nom} or U _{min} × 0.85 %					
U _{nom}					

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

Voltage conditions		Totalisation	indication
Voltage conditions	At start of test	At end of test	Max deviation observed (except for
			non-recordable transients)
Unom			
U _{nom} or U _{max} <u>×</u> 1.10 %			
U _{nom} or U _{min} <u>×</u> 0.85 %			
Unom			

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Voltage conditions	Static	Calculated	Totalisation	Totalisation	Indicated change	Error
-	Load	change in	before adding	after adding	in totalisation	T _c - T _i
		totalisation	load	load	$T_I = T_a - T_b$	
		Tc	Tb	Ta		
U _{nom}						
U _{nom} or U _{max} x 1.10 %						
U _{nom} or U _{min} x 0.85 %						
U _{nom}						

Failed

Passed

Remarks

1

⁶ (a) U_{nom} is the nominal voltage marked on the instrument; if a range of voltages is marked then the test shall be performed at <u>U_{max} x 1.10%</u> (highest value of the range) and at <u>U_{min} x 0.85%</u> (lowest value of the range).

(b) In the case of three-phase mains power, the voltage variations shall apply for each phase successively.

1

1

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4.5	oltage variation in external or plug-in (AC/DC) mains power including in-line rechargeable battery po	wer
	2.7.2, A.7.3.5)	

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interval Totalisation scale interval	d: erval d _t :				
Automatic zero-setting	device is:				
Non-existent	Not in operation	Out o	of working range	In operati	on
Marked nominal volta	age (Unom) or voltage range:		V		

 $E = I + \frac{1}{2} d - \Delta L - L$, $E_c = E - E_o$ with $E_o =$ error calculated at or near zero (*)

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

	Voltage conditions'	Load	Indication	Add load	Error	Corrected error
		L	I	ΔL		Ec
	11			(*)		
	Unom					
	Unom or Umax × 1.20 %					
	Umin (minimum operating					
	<u>voltage)</u>					
	Unom					

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

	Totalisation indication					
Voltage conditions	At start of test	At end of test	Max deviation observed (except for non-recordable transients)			
Unom						
<u>Unom_or Umax_ × 1.20 %</u>						
<u>U_{min} (minimum operating</u>						
voltage)						
Unom						

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Failed

Passed

	change in totalisation T _c	before adding load T _b	after adding load T _a	in totalisation $T_1 = T_a - T_b$	T _c - T _I
U _{nom}					
<u>U_{nom} or U_{max} ×</u> <u>1.10 %</u>					
<u>U_{min} (minimum</u> operating voltage)					
Unom					

Remarks:

⁷<u>U_{nom} is the nominal voltage marked on the instrument; if a range of voltages is marked then the test shall be performed at U_{max} × 1.20% (highest value of the range) and at the minimum operating voltage.</u>

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4.7 Voltage variations in 12 V and 24 V road vehicle batteries (2.7.2, A.7.3.6)

			At start	At end					
Application No:		Temp:			°C				
Type designation:		Rel. h:			%				
Observer:		Date:			yyyy:mm:dd				
		Time:			hh:mm:ss				
Control scale interval <i>d</i> : Totalisation scale interval <i>d</i> _t :									
Automatic zero-setting	device is:								
Non-existent	Not in operation	Out of	working range	In operati	on				
Marked nominal volta	age (U_{nom}) of the vehicle's e	lectrical syster	m:	V					

 $E = I + \frac{1}{2} d - \Delta L - L$, $E_c = E - E_o$ with $E_o =$ error calculated at or near zero (*)

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

Voltage conditions	Test limits		Load L	Indication I	Add load ΔL	Error E	Corrected error E _c
U _{nom} ⁸							
12 V	U _{max} =	16 V				(*)	
	U _{min} =	9 V					
24 V	U _{max} =	32 V					
	U _{min} =	16 V					

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

	Totalisation indication								
Voltage	Test limits		At start of test	At end of test	Max deviation observed (except				
conditions					IOI HOII-IECOIUADIE ITAIISIEIIIS/				
12 V	U _{max} =	16 V							
	U _{min} =	9 V							
24 V	U _{max} =	32 V							
	U _{min} =	16 V							

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Voltage conditions <i>U</i> _{nom}	Test	limits	Static Load	Calculated change in totalisation T _c	Totalisation before adding load T _b	Totalisation after adding load T _a	Indicated change in totalisation $T_1 = T_a - T_b$	Error T _c - T _I
12 V	U _{max} =	16 V						
	U _{min} =	9 V						
24 V	U _{max} =	32 V						
	U _{min} =	16 V						

Passed

Failed

Remarks:

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⁸The nominal voltage (<u>Urom</u>) of the vehicle's electrical system is usually 12 V or 24 V. However, the practical voltage at the battery-terminals of a road vehicle can vary considerably.

5 DISTURBANCES (4.1.2, A.7.4)

5.1 Short time power reductions (A.7.4.1)

			At start	At end				
Application No:		Temp:			°C			
Type designation:		Rel. h:			%			
Observer:		Date:			yyyy:mm:dd			
		Time:			hh:mm:ss			
Control scale interval	d:							
Totalisation scale inte	erval <i>d</i> _t :							
Automatic zero-setting	device is:							
Non-existent Not in operation Out of working range In operation								
Marked nominal voltage (U _{nom}) or voltage range:								
Pre-test information								
Disturbance parameters								

Disturbance parameters									
Amplitude % of Unom ⁹	Duration cycles	Number of disturbances	Repetition Interval (s)						
0	0.5	10							
50	1	10							

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

Disturbance	Result				
Amplitude		Indication	Significant fault (>1 d _t)		
% of <i>U</i> _{nom} (other pre-test information)	Load	I	No	Yes (remarks)	
without disturbance					
0					
50					

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

Disturbance	Result					
Amplitude	Totalisation	n indication	Significant fault (>1 dt)			
(other pre-test information)	At start of test	At end of test	No	Yes (remarks)		
without disturbance						
0						
50						

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Disturbance	Result									
Amplitude % of U _{nom}	Load	Calculated change in	Totalisation before	Totalisation after adding	Indicated change in totalisation $T_1 = T_a - T_b$	Significant fault (T _c - T _I)				
(other pre-test information)		totalisation T _c	adding load T_b	load T _a		No	Yes (remarks)			
without disturbance										
0										
50										

Passed Failed

 $^{\rm 9}$ In case a voltage-range is marked, use the average value as $U_{\rm nom.}$

1

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Remarks:

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5.2 Bursts (transients) on I/O circuits and communication lines and on mains power lines (A.7.4.2)

5.2.1 <u>Mains pow</u>	<u>er lines</u>			
			At start	At end
Application No:		Temp:		
Type designation:		Rel. h:		
Observer:		Date:		
		Time:		
Control scale interva Totalisation scale in	al <i>d</i> : terval <i>d</i> _t :			

Automatic zero-setting device is:	
-----------------------------------	--

Non-existent

Not in operation

Out of working range In operation

°C % yyyy:mm:dd hh:mm:ss

Mains power lines: test voltage 1.0 kV, duration of the test 2 minutes at each amplitude and polarity

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

			Result		
Connection	Polarity	Load	Indication	Sig	nificant fault (>1 dt)
			I	No	Yes (remarks)
without disturb	bance				
Live	pos				
ground	neg				
without disturb	bance				
Neutral	pos				
↓ ground	neg				
without disturt	bance				
Protective earth	pos				
↓ ground	neg				

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

		Result					
Connection	Polarity	Totalisation	indication	Significant fault (> 1 dt)			
		At start of test	At end of test	No	Yes (remarks)		
without disturb	bance						
Live	pos						
ground	neg						
without disturb	bance						
Neutral	pos						
ground	neg						
without disturb	bance						
Protective earth	pos						
ground	neg						

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5.2.1 Mains power lines (continued)

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Result								
			Calculated	Totalisation	Totalisation	Indicated	Signif	icant fault (T _c - T _l)
Connection Pol	Polarity	Load	change in totalisation T _c	before adding load T _b	after adding load T _a	change in totalisation $T_1 = T_a - T_b$	No	Yes (remarks)
without dist	urbance							
Live	pos							
, ground	neg							
without dist	urbance							-
Neutral	pos							
, ground	neg							
without dist	urbance							
Protective	pos							
↓ ground	neg							

Passed

Failed

Remarks:

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5.2 Bursts (transients) on I/O circuits and communication lines and on mains power lines (continued)

5.2.2 I/O circuits and communication lines

				At start	At end	
	Application No:		Temp:			°C
	Type designation:		Rel. h:			%
	Observer:		Date:			yyyy:mm:dd
			Time:			hh:mm:ss
I	Control scale interva Totalisation scale int	l <i>d</i> : erval <i>d</i> _t :				
	Automatic zero-setting	g device is:				
	Non-existent	Not in operation	Out of	working range	In operat	ion

I/O signals, data and control lines: test voltage 0.5 kV, duration of the test 2 min at each amplitude and polarity

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

		Result					
Cable/Interface	Polarity	Load	Indication I	Significant fault (>1 <i>d</i> _i) No Yes (remarks)			
without	disturbance						
C/1 1	pos						
0/1,1	neg						
without	disturbance						
C/1 2	pos						
0/1,2	neg						
without	disturbance						
C/1 3	pos						
0/1,5	neg						
without	disturbance						
C/1 4	pos						
0/1,4	neg						
without	disturbance						
C/1 5	pos						
0/1,0	neg						
without disturbance							
04.0	pos						
C/1,6	neg						

Notes: (1) Explain or make a sketch indicating where the clamp is located on the cable; if necessary, add additional page.

(2) The cell references C/1,1 to C/1,6 should be used to cross-reference the cable or interface between Tables A and B.

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5.2.2 I/O circuits and communication lines (continued)

		Result				
Cable/Interface	Polarity	At start of test	At end of test	No	Significant fault (>1 <i>d</i> t) Yes (remarks)	
	without distu	rbance				
C/1 1	pos					
0/1,1	neg					
	without distu	rbance				
C/1 2	pos					
0/1,2	neg					
	without distu	rbance				
C/1 3	pos					
0/1,3	neg					
	without distu	rbance				
C/1 4	pos					
0/1,4	neg					
	without distu	rbance				
C/1 5	pos					
0/1,5	neg					
	without distu	rbance				
0// 0	pos					
C/1,6	neg					

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

					Result			
Cable/Interface	Polarity	Load	Calculated change in totalisation T _c	Totalisation before adding load T _b	Totalisation after adding load T _a	Indicated change in totalisation $T_1 = T_a - T_b$	Signif No	icant fault (T _c - T _i) Yes (remarks)
		W	ithout disturb	bance				
C/1 1	pos							
0/1,1	neg							
	-	W	ithout disturb	pance				
C/1 2	pos							
0/1,2	neg							
		W	ithout disturb	pance				
C/1 3	pos							
0/1,5	neg							
		W	vithout distur	bance				
C/1 4	pos							
0/1,4	neg							
		W	ithout disturb	pance				
C/1 5	pos							
0/1,5	neg							
	without disturbance							
0// 0	pos							
C/1,6	neg							

Passed

Failed

Remarks:

I

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5.3 Surges on I/O circuits and communication lines and on mains power lines (A.7.4.3)

5.3.1 Mains power lines

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interval Totalisation scale interval	l <i>d</i> : erval <i>d_t</i> :				
Automatic zero-setting	g device is:				
Non-existent	Not in operation	Out of	working range	In operati	on

Mains power line: test voltage 0.5 kV (line to line) and 1.0 kV (line to earth), duration of test > 1 minute at each amplitude and polarity

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

			Result				
Connection	Polarity	Load	Indication	Sig	Significant fault (>1 d_t)		
			I	No	Yes (remarks)		
without disturb	bance						
Live	pos						
ground	neg						
without disturb	bance						
Neutral	pos						
ground	neg						
without disturb	bance						
Protective earth	pos						
↓ ground	neg						

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

			Result			
Connection	Polarity	Totalisation	indication	Significant fault (>1 d_t)		
		At start of test	At end of test	No	Yes (remarks)	
without disturt	bance					
Live	pos					
ground	neg					
without disturb	without disturbance					
Neutral	pos					
↓ ground	neg					
without disturt	without disturbance					
Protective earth	pos					
↓ ground	neg					

1

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5.3.1 Mains power lines (continued)

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

					Result			
Connection Polarity			Calculated	Totalisation	Totalisation	Indicated	Signif	icant fault (T _c - T _l)
	Polarity	Load change i totalisatio		before adding load T _b	after adding load T _a	change in totalisation $T_1 = T_a - T_b$	No	Yes (remarks)
without dist	urbance							
Live	pos							
ground	neg							
without dist	urbance							
Neutral	pos							
ground	neg							
without dist	urbance							
Protective	pos							
ground	neg							

Passed

Failed

Remarks (including additional test set-up information):

I

5.3.2 Surges on I/O circuits and communication lines

Application No: Type designation Observer: Control scale inte Totalisation scale	<u></u> 	Tem Rel. Dat 	At start	At end	<u>°C</u> <u>%</u> yyyy:mm:dd <u>hh:mm:ss</u>
Automatic zero-se	tting device is:				
Non-existen	t Not in oper	ation C	Out of working rar	ge In operatio	<u>אר</u>
I/O signals, data a	nd control lines: test vo	oltage 0.5 kV, dur	ation of the test 2	min at each amplitude	and polarity
Result sheet A - U	sed in conjunction with	result sheet B w	hen the integral c	ontrol device is used to	determine the error
			F	Result	
Cable/Interface	Polarity	Load	Indication	Significant faul	<u>t (>1 <i>d</i>t)</u> marks)
without	disturbance		_		
C/1 1	pos				
<u>0/1,1</u>	neg				
without	<u>disturbance</u>				
<u>C/1,2</u>	pos				
without	disturbance				
<u>Millout</u>	DOS				
<u>C/1,3</u>	neg				
without	disturbance				
C/1.4	pos				
<u> </u>	neg				
without	disturbance				
<u>C/1,5</u>	pos				
without	disturbance				
maiout	pos				
<u>C/1,6</u>	neg				
Notes: (1)	Explain or make a ske additional page.	tch indicating who	ere the clamp is	ocated on the cable; if	necessary, add
(2)	The cell references C between Tables A and	<u>/1,1 to C/1,6 sho</u> B.	ould be used to	cross-reference the cal	ole or interface

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5.3.2 Surges on I/O circuits and communication lines (continued)

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

			<u>R</u>	lesult	
Cable/Interface	<u>Polarity</u>	At start of test	At end of test	No	Significant fault (>1 dt) Yes (remarks)
	without distu	<u>rbance</u>			
C/1 1	pos				
<u>0/1,1</u>	neg				
	without distu	<u>rbance</u>			
<u>C/1,2</u>	pos				
	neg				
	without distu	<u>rbance</u>			
C/1 3	pos				
0/1,0	neg				
	without distu	<u>rbance</u>			
C/1 4	pos				
<u>0/1,4</u>	neg				
	without distu	<u>rbance</u>			
C/1 5	pos				
0/1,0	neg				
	without distu	<u>rbance</u>			
011.0	pos				
<u>C/1,6</u>	neg				

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

			Result							
Cable/Interface	<u>Polarity</u>	<u>Load</u>	$\frac{\frac{Calculated}{change in}}{\frac{totalisation}{\underline{T}_c}}$	Totalisation before adding load Tb	<u>Totalisation</u> after adding <u>load</u> <u>T</u> a	$\frac{\text{Indicated}}{\text{change in}}$ $\frac{\text{totalisation}}{\text{T}_1 = \text{T}_a - \text{T}_b}$	<u>Signif</u> <u>No</u>	<u>icant fault (T_e- T_i)</u> <u>Yes (remarks)</u>		
	without disturbance									
C/1 1	pos									
<u>0/1,1</u>	neg									
		W	<u>rithout disturl</u>	<u>pance</u>						
C/1 2	pos									
0/1,2	neg									
		W	<u>rithout disturl</u>	<u>pance</u>						
C/1 3	pos									
0/1,0	neg									
		W	ithout disturl	<u>bance</u>						
C/1 4	pos									
<u>0/1,4</u>	neg									
		W	<u>rithout disturl</u>	<u>pance</u>						
C/1 5	pos									
0/1,0	neg									
		<u>w</u>	<u>rithout distur</u>	<u>pance</u>						
011.0	pos									
<u>C/1,6</u>	neg									

Passed

Failed

Remarks:

I

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5.4 Electrostatic discharge test (A.7.4.4)

5.4.1 Direct application

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interval Totalisation scale interval	<i>d</i> : erval <i>d</i> _t :				
Automatic zero-setting	device is:				
Non-existent	Not in operation	Out of	working range	In operation	on
Contact discl	narges	Paint per	netration		
Air discharge	s	Polarity	¹⁰ : pos	neg	

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

Discharges			Result			
Test	Number of	Repetition	Load	Indication	S	ignificant fault (>1 d _t)
Voltage (kV)	discharges ≥ 10	Interval (s)		Ι	No	Yes (remarks)
without disturbance						
2						
4						
6						
8 (air discharges)						

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

	Discharges			Result			
Test	Number of	Repetition	At start of	At end of	Significant fault (>1 d _t)		
Voltage (kV)	discharges ≥ 10	Interval (s)	test	test	No	Yes (remarks)	
without disturbance							
2							
4							
6							
8 (air discharges)							

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Passed

Failed

	Discharges	Result							
Test Voltage (kV)	Number of discharges ≥ 10	Repetition Interval (s)	Load	Calculated change T _c	Before adding load T _b	After adding load T _a	Indicated change $T_1 = T_a - T_b$	Sig No	nificant fault (T _c - T _I) Yes (remarks)
	without disturbance								
2									
4									
6									
8 (air discharges)									

Note: If the EUT fails, the test point at which this occurs shall be recorded.

Remarks:

 10 IEC 61000-4-2 specifies that the test shall be conducted with the most sensitive polarity. R107-2 Page 43 of 74

5.4 Electrostatic discharge test (continued)

5.4.2 Indirect application (contact discharges only)

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interval Totalisation scale interval	d: erval d _t :				
Automatic zero-setting	device is:				
Non-existent	Not in operation	Out of v	working range	In operati	on
Polarity ¹¹ :	pos	neg			

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

Horizontal coupling plane

	Result					
Test Voltage (kV)	Number of discharges ≥ 10	Repetition Interval (s)	epetition Load Indication Interval I (s)			gnificant fault (>1 <i>d_t</i>) Yes (remarks)
without disturbance						
2						
4						
6						

Vertical coupling plane

	Result					
Test	Number of	Repetition	Load	Indication	Sig	gnificant fault (>1 dt)
Voltage (kV)	discharges ≥ 10	Interval (s)		I	No	Yes (remarks)
without disturbance						_
2						
4						
6						

¹¹ IEC 61000-4-2 specifies that the test shall be conducted with the most sensitive polarity. R107-2 Page 44 of 74

5.4.2 Indirect application - contact discharges only (continued)

 $\label{eq:result} \textbf{Result sheet B} \ \textbf{B} \ \textbf{-} \ \textbf{Used in conjunction with result sheet A to record the retained totalisation}$

Horizontal coupling plane

D	ischarges		Result				
Test	Number of	Repetition	Totalisation At start of At end of test test		Significant fault (>1 d_t)		
Voltage (kV)	discharges > 10	Interval (s)			No	Yes (remarks)	
	withou	it disturbance					
2							
4							
6							

Vertical coupling plane

D	ischarges		Result					
Test	Number of	Repetition	Totalis	ation	Sig	Significant fault (>1 d_t)		
Voltage	discharges	Interval	At start of	At end of	No	Vac (remarka)		
(kV)	≥ 10	(s)	test	test	INO	res (remarks)		
	withou	it disturbance						
2								
4								
6								

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Horizontal coupling plane

	Discharges	;	Result							
Test	Number of	Repetition	Totalisation						Significant fault	
vollage	discharges	Interval							$(1_{c} - 1_{l})$	
(kV)	≥ 10	(s)	Load ()	$ \begin{array}{c c} \text{Load} & \text{Calculated} & \text{Before} & \text{After} \\ () & \text{change} & \text{adding} \\ T_c & \text{Ioad} & \text{Ioad} \\ T_c & T_c & T_c \\ T_c & T_c \\$						
		v	vithout di	sturbance						
2										
4										
6										

Vertical coupling plane

	Discharges	3		Result							
Test	Number of	Repetition				Significant fault					
voltage	discharges	Interval					1		$(1_{c} - 1_{l})$		
(kV)	≥ 10	(s)	$ \begin{array}{c c} Calculated \\ Load \\ () \\ T_c \\ T_b \\ T_b \\ T_c \\ T_b \\ T_a \\ T$						Yes (remarks)		
		١	without di	sturbance							
2											
4											
6											

Note: If the EUT fails, the test point at which this occurs shall be recorded.

Remarks:

Passed

Failed

1

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5.4 Electrostatic discharge test (continued)

Specification of test points of EUT (direct application), e.g. by photos or sketches

a) Direct application

Contact discharges:

Air discharges:

b) Indirect application

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5.5 Electromagnetic susceptibility test (A.7.4.5)

5.5.1 Radiated electromagnetic susceptibility (A.7.4.5.1)

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interva Totalisation scale int	ıl <i>d</i> : terval <i>d</i> _t :				
Rate of sweep:					

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

	Disturb	ances		Result			
Antenna	Frequency	Polarization	Facing	Load	Indication		Significant fault
	range (MHz)		EUT		I		(>1 d _t)
						No	Yes (remarks)
	without dis	turbance					
			Front				
		Vortical	Right				
		ventical	Left				
			Rear				
			Front				
		Llarizantal	Right				
		TIONZONIA	Left				
			Rear				
			Front				
		Vortical	Right				
		ventical	Left				
			Rear				
			Front				
		Horizontal	Right				
			Left				
			Rear				

Frequency range::

80 MHz to 2 GHz

Amplitude: Modulation:

I

3 V/m (residential, commercial or light industrial environment), or 10 V/m (industrial environment) 80 % AM, 1 kHz sine wave

Note: If EUT fails, the frequency and field strength at which this occurs must be recorded.

Passed

Failed

Remarks:

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5.5.1 Radiated electromagnetic susceptibility (continued)

	Distu	rbances		Result				
Antenna	Frequency range (MHz)	Polarization	Facing EUT	Totalisatio	n indication		Significant fault (>1 <i>d</i> _t)	
				At start of test	At end of test	No	Yes (remarks)	
	without c	listurbance						
			Front					
		Vortical	Right					
		Vertical	Left					
			Rear					
	without disturbance							
		Horizontal	Front					
			Right					
			Left					
			Rear					
	without c	listurbance						
			Front					
		Vortical	Right					
		vertical	Left					
			Rear					
	without disturbance							
			Front					
		Llarizantal	Right					
		HUHZONTAL	Left					
			Rear					

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

	Distur	bances			Result					
Antenna	Frequency range	Polarization	Facing EUT		Totalisation					Significant fault
	(MHz)			Load	Calculated change T _c	Before adding load T _b	After adding load T _a	Indicated change T _I = T _a - T _b	No	Yes (remarks)
	without di	sturbance								
			Front							
		Vertical	Right							
		vertical	Left							
			Rear							
	without disturbance									
			Front							
		Horizontal	Right							
		TIONZONIA	Left							
			Rear							
	without di	sturbance								
			Front							
		Vertical	Right							
		Vortiour	Left							
			Rear							
	without disturbance									
			Front							
		Horizontal	Right							
			Left							
			Rear							

Remarks:

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Failed

Passed

5.5.2 Conducted electromagnetic susceptibility (A.7.4.5.2)

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
Control scale interva	al <i>d</i> :				
Totalisation scale in	terval d _t :				
Rate of sweep:					

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

	Disturb	ances		Result				
Antenna	Frequency range (MHz)	Polarization	Level (volts	Load	Indication I		Significant fault (>1 d _t)	
			e.m.f)			No	Yes (remarks)	
	without dis	turbance						
			Front					
		Vertical	Right					
			Left					
			Rear					
			Front					
		Llorizontol	Right					
		TIONZONIA	Left					
			Rear					
			Front					
		Vertical	Right					
		vertical	Left					
			Rear					
			Front					
		Horizontal	Right					
			Left					
			Rear					

Frequency range: RF amplitude (e.m.f): 0,15 to 80 MHz 3 V (residential, commercial or light industrial environment), or 10 V (industrial environment) 80 % AM, 1 kHz sine wave

Note: If EUT fails, the frequency and field strength at which this occurs must be recorded.

Passed Failed

Remarks:

Modulation:

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5.5.2 Conducted electromagnetic susceptibility (continued)

	Distur	rbances			Result		
Antenna	Frequency range (MHz)	Polarization	Level (volts	Totalisation	n indication		Significant fault (>1 d _t)
			e.m.f)	At start of test	At end of test	No	Yes (remarks)
without disturbance							
			Front				
		Vortical	Right				
		venical	Left				
			Rear				
without disturbance							
			Front				
		Horizoptal	Right				
		TIONZONIA	Left				
			Rear				
	without d	listurbance					
			Front				
		Vertical	Right				
		Vertiour	Left				
			Rear				
without disturbance							
			Front				
		Horizontal	Right				
		1 ION 2011tal	Left				
			Rear				

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

 $\label{eq:Result sheet C} \textbf{C} - \textbf{Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error$

	Disturbances				Result					
Antenna	Frequency range	Polarization	Level (volts			Totalisatio	on			Significant fault (T _c - T _l)
	(MHz)		e.m.f)	Load	Calculated change T _c	Before adding load T _b	After adding load T _a	Indicated change T ₁ = T _a - T _b	No	Yes (remarks)
	without di	sturbance								
			Front							
		Martinal	Right							
		ventical	Left							
			Rear							
	without di	sturbance								
		Horizontal	Front							
			Right							
		TIONZONIA	Left							
			Rear							
	without di	sturbance								
			Front							
		Vertical	Right							
		Vertical	Left							
			Rear							
	without disturbance									
		Horizontal	Front							
			Right							
		nonzonial	Left							
			Rear							

Passed

Failed

Remarks:

I

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5.5 Electromagnetic susceptibility (continued)

Include a description of the set-up of EUT, e.g. by photos or sketches.

Radiated:

Conducted:

I

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5.6 Electrical transient conduction for instruments powered by road vehicle batteries (A.7.4.6)

5.6.1 Conduction along supply lines of 12 V and 24 V batteries (A.7.4.6.1)

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
		Time:		_	hh:mm:ss
Control scale interval Totalisation scale interval	d: erval d _t :				_

Marked nominal voltage (Unom) of the vehicle's electrical system:

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

V

Voltage conditions	Test pulse	Pulse voltage Us		Result						
<u>U</u> nom			Load	Indication	Sig	gnificant fault (>1 d _t)				
				I	No	Yes (remarks) ¹²				
	2a	+ 50								
	2b ¹³	+10								
12 V	3a	-150								
	3b	+100								
	4	-7								
	2a	<u>+</u> 50								
	2b	+20								
24 V	3a	-200								
	3b	+200								
	4	-16								

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

Voltage	Test pulse	Pulse voltage	Result						
conditions		U_s	Totalisatio	n indication	Significant fault (>1 d_t)				
Unom			At start of test	At end of test	No	Yes (remarks)			
	2a	+ 50							
	2b	+10							
12 V	3a	-150							
	3b	+100							
	4	-7							
	2a	<u>+</u> 50							
	2b	+20							
24 V	3a	-200							
	3b	+200							
	4	-16		_					

¹² Functional status of the instrument during and after exposure to test pulses

¹³ Test pulse 2b is only applicable if the instrument is connected to the battery via the main (ignition) switch of the car, i.e. if the manufacturer has not specified that the instrument is to be connected directly (or by its own main switch) to the battery.

5.6.1 Conduction along supply lines of external 12 V and 24 V batteries (continued)

 $\label{eq:Result sheet C} \textbf{C} - \textbf{Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error$

Voltage	Test pulse	Pulse voltage <i>U</i> s		Result							
conditions			Totalisation indication						Significant fault (T _c – T _l)		
Unom			Load	Calculated change T _c	Before adding load T _b	After adding load T _a	Indicated change T _I = T _a - T _b	No	Yes (remarks)		
	2a	+ 50									
	2b	+10									
12 V	3a	-150									
	3b	+100									
	4	-7									
	2a	<u>+</u> 50									
	2b	+20									
24 V	3a	-200									
	3b	+200									
	4	-16									

Passed

Failed

Remarks:

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- 5.6 Electrical transient conduction for instruments powered by road vehicle batteries (continued)
- 5.6.2 Electrical transient conduction via lines other supply lines, for external 12 V and 24 V batteries (A.7.4.6.2)

Marked nominal voltage (Unom) or voltage range:

Result sheet A - Used in conjunction with result sheet B when the integral control device is used to determine the error

Voltage	Test pulse	Pulse voltage	Result						
conditions U _{nom}		Us	Load	Indication	Sig	nificant fault (>1 d_t)			
				1	No	Yes (remarks) ¹⁴			
12 V	а	-60 V							
	b	+40 V							
24 V	а	-80 V							
	b	+80 V							

Result sheet B - Used in conjunction with result sheet A to record the retained totalisation

Voltage	Test pulse	Pulse voltage	Result						
conditions U _{nom}		Us	Totalisation indication		Significant fault (>1 d_t)				
			At start of test	At end of test	No	Yes (remarks)			
12 V	а	-60 V							
	b	+40 V							
24 V	а	-80 V							
	b	+80 V							

Result sheet C - Used where the total is being increased by continually adding the result of weighing a static load and the totalisation indicator is used to determine the error

Voltage	Test	est Pulse	Result							
conditions <u>Unom</u>	pulse	voltage <i>U</i> s		Totalisation indication					Significant fault $(T_c - T_I)$	
			Load	Calculated change T _c	Before adding load T _b	After adding load T _a	Indicated change T _I = T _a - T _b	No	Yes (remarks)	
12 V	а	-60 V								
	b	+40 V								
24 V	а	-80 V								
	b	+80 V								

Passed

Failed

Remarks:

¹⁴ Functional status of the instrument during and after exposure to test pulses

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6 SPAN STABILITY (6.4.1, A.8)

Application No:										
Type designation:										
Control scale interval d:										
Resolution during test (smaller than <i>d</i>):										
Automatic zero-setting and zero-tracking device is:										
Non-existent Not in operation Out of working range										
Test load =										
Measurement No 1. Initial measurement	At start At end									
Observer:	Temp:									
F	Rel. h:									
Location:	Date:									
	Time:									
Bar.	. Pres:									

 $E_0 = I_0 + \frac{1}{2} d - \Delta L_0 - L_0$, $E_L = I_L + \frac{1}{2} d - \Delta L - L$

	Indication of zero (I_0)	Add. Load (ΔL ₀)	Eo	Indication of load (I_L)	Add. Load (ΔL)	EL	EL - E0	Corrected value ¹⁵
1								
2								
3								
4								
5								

°C %

yyyy:mm:dd hh:mm:ss hPa

Average error = average $(E_L - E_0)$	
(E _L - E ₀) _{max} - (E _L - E ₀) _{min} =	
0.1 <i>d</i> =	

If $|(E_L - E_0)_{max} - (E_L - E_0)_{min}| \le 0.1 d$, one loading and reading will be sufficient for each of the subsequent measurements: if not, five loadings and readings shall be performed at each measurement.

Remarks:

¹⁵ When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks.

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6 Span stability (continued)

Subsequent measurements

For each of the subsequent measurements (at least 7), indicate on the "conditions of the measurement", as appropriate, if the measurement has been performed:

- after the temperature test, the EUT having been stabilized for at least 16 h;
- after the humidity test, the EUT having been stabilized for at least 16 h;
- after the EUT has been disconnected from the mains for at least 8 h and then stabilized for at least 5 h;
- after any change in the test location;
- under any other specific condition.

Measurement No 2:

Measureme	11 110 2.				
			At start	At end	_
Observer:		Temp:			°C
		Rel. h:			%
Location:		Date:			yyyy:mm:dd
		Time:			hh:mm:ss
		Bar. Pres:			hPa

Conditions of the measurement:.....

 $E_0 = I_0 + \frac{1}{2} d - \Delta L_0 - L_0$, $E_L = I_L + \frac{1}{2} d - \Delta L - L$

	Indication of zero (I_0)	Add. Load (ΔL ₀)	Eo	Indication of load (I∟)	Add. Load (ΔL)	ΕL	E∟ - E₀	Corrected value 16
1								
2								
3								
4								
5								

If five loadings and readings have been performed:

Average error = average $(E_L - E_0)$

Remarks:

16

^bWhen applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks.

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6 Span stability (continued)

easurement No 3:				A					
)bserver:			Temn	At start	At	end	ംറ		
			Rel h				%		
ocation.			Date:				www.mm.qq		
			Time				hh:mm:ss		
			Bar Pres		_		hPa		
onditions of the mea	asurement:								
$a = 1_0 + \frac{1}{6} d - A _{0} - 1$	$ = E_1 = I_1 + 1$	6 d - 11 - 1							
		ν2 U - ΔL - L	-						
▲ Indication	Add. Load	E _θ	_ Indication	Add. Load	E _L	Ε _L = Ε _θ	Corrected	Formatted: Fr	enc
of zero (I ₀)	(ΔL ₀)		of load (IL)	(ΔL)			value		
1								-	
2								-	
3								-	
5									
~	1					1		ll in the second s	
		-					1		
leasurement No 4:				At start	Δt	end			
Observer:			Temp:	AUSIAN		Cild	°C		
			Rel. h:			_	%		
Location:			Date: yyyy-mm-dd						
			Time:				hh:mm:ss		
			Bar. Pres:				hPa		
conditions of the mea	asurement:		·						
$I_0 = I_0 + \frac{1}{2} d - \Delta L_0 - L_0$	$E_{L} = I_{L} + 1$	⁄₂ d - ΔL - L							
Indication	Add. Load	E ₀	Indication	Add. Load	EL	E _L - E ₀	Corrected]	
1	(44)						value	-	
2				<u> </u>				1	
3								1	
4								-	
5								1	
	1			1		L	1	4	
If fine to all the	an a dia ser terreteri terreteri								
IT five loadings and	readings have b	been pertor	mea: Av	verage error =	average (E	= _L - ⊨ ₀)			
Remarks:									
⁷ When applicable in	ecessary correction	ons resulting	from variations o	f temperature in	essure etc	See remark	s		
where the second s			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	A DESCRIPTION OF THE PARTY OF T	and the second sec			

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6 Span stability (continued)

Meas	urement No 5:				A1 -1 - 1						
Obse	erver:			Temp:	At start	At	ena	Ĵ.			
				Rel. h:	Rel. h:						
Loca	ation:			Date:	Date: vvvv:mm:dd						
				Time:			ł	nh:mm:ss			
				Bar. Pres:			ł	۱Pa			
Cond	itions of the mea	surement:		L_							
F₀ = I	₀ + ½ d - ∧l ₀ - l	• Fi = li + '	% d - ∧I - I								
_0 .				-		.		-	•		
A	 Indication of zero (I₀) 	Add. Load (ΔL ₀)	Ε _θ	 Indication of load (IL) 	- Add. Load_ (ΔL)	E _L	– -E _t = E ₀ –	Corrected value ¹⁸	For r	natted: Fren	ch France
1											
2						-					
3											
4									-		
5											
Rema Meas	arks: urement No 6:				At start	At	end				
Obse	erver:			Temp:			d	Ő			
				Rel. h:			q	%			
Loca	ation:			Date:	Date: yyyy-mm-dd						
				Time:			ł	nh:mm:ss			
				Bar. Pres:			ł	nPa			
Cond	itions of the mea	surement:									
E ₀ = I	₀ + ½ d - ΔL ₀ - L	₀ , E _L = I _L +	½ d - ΔL - I	L					_		
	Indication of zero (I ₀)	Add. Load (ΔL ₀)	Eo	Indication of load (I _L)	Add. Load (ΔL)	EL	E _L - E₀	Corrected Value			
1	(0)	· -/		(- /	. ,						
2		1			1						
3											
4											
5											
									Ľ		
f f :	o loodingo ond -	oodinge herre	haan	mod A.	00000	ovorace /	[
IT TIV	e loadings and r	eaungs nave	been perfo	inieu. Al	verage error =	- average (E	=L-⊏0)				

Remarks:

¹⁸ When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks.

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6 Span stability (continued)

Meas	urement No 7:										
					At start	Ate	end				
Obse	erver:			Temp:			•	С			
				Rel. h:			9	%			
Loca	Location:		Date:			У	yyy:mm:dd				
		Time:			ł	h:mm:ss					
				Bar. Pres:			hPa				
Condi	tions of the mea	surement:				•					
E ₀ = I	$E_0 = I_0 + \frac{1}{2} d - \Delta L_0 - L_0, E_L = I_L + \frac{1}{2} d - \Delta L - L$										
	Indication of zero (I ₀)	Add. Load (ΔL ₀)	Eo	Indication of load (I_L)	Add. Load (ΔL)	EL	E _L - E ₀	Corrected value ¹⁹			
1											
2											

Formatted: French France

If five loadings and readings have been performed:

Average error = average ($E_L - E_0$)

Remarks:

3 4 5

1

Measurement No 8:

Observer:	
Location:	

	At start	At end	_
Temp:			°C
Rel. h:			%
Date:			yyyy-mm-dd
Time:			hh:mm:ss
Bar. Pres:			hPa

Conditions of the measurement:

 $\mathsf{E}_0 = \mathsf{I}_0 + \tfrac{1}{2} \, d - \Delta \mathsf{L}_0 - \mathsf{L}_0, \qquad \mathsf{E}_\mathsf{L} = \mathsf{I}_\mathsf{L} + \tfrac{1}{2} \, d - \Delta \mathsf{L} - \mathsf{L}$

	Indication of zero (I ₀)	Add. Load (ΔL ₀)	Eo	Indication of load (I_L)	Add. Load (ΔL)	EL	E _L - E ₀	Corrected value
1								
2								
3								
4								
5								

If five loadings and readings have been performed:

Average error = average $(E_L - E_0)$

Remarks:

19 ^bWhen applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks. R107-2 Page 59 of 74

6 Span stability (continued)

Application No:

Type designation:

Plot on the diagram the indication of temperature test (T), damp heat test (D) and disconnections from the mains power supply (P)



Maximum allowable variation:

Passed

Failed

Remarks:

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7 Material tests (6.4, A.5.1)

7.1 Material testing (separate verification method) (6.2, A.5.1.1)

			At start	At end	
Application No:		Temp:			°C
Type designation:		Rel. h:			%
Observer:		Date:			yyyy:mm:dd
Control scale interval d:		Time:			hh:mm:ss
Totalisation scale interval d_t :		-			
Material:					
Condition of material:					
Nominal load:	••••••				

Parameter	Results
Number of loads	
Indicated total at start T _S	
Indicated total at end T _F	
$I = T_F - T_S$	
Control instrument indication for total load L	
Error = <u>I – L</u> x 100% L	

Note: Minimum of three material tests required (as specified in <u>6.1(d)</u>). Reproduce this sample test report to record the results of the other material tests as appropriate.

Passed

Failed

Remarks:

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7 Material tests (continued)

7.2 Integral verification weighing test performance (A.5.1.3.1, A.5.2.2)

Note: The test (A.5.1.3.1) is only part of the material tests when the integral weighing method is used for the tests. It is then conducted prior to the actual material test.

Application Type design Observer: Control scal Resolution of Automatic ze Non-ex $E = I + \frac{1}{2} d - E_c = E - E_0$ w	No:	t: (smaller that device is: Not ir or calculate	an <i>d</i>) :	Te Re D Ti	omp: el. h: iate: ime: Out of wor	At start		In operatio	°C % yyyy:mm:dd hh:mm:ss
Load L	Indica	ation I	Add loa	ad ΔL	Err	or E	Corrected	d error E _c	MPE
	\downarrow	↑ (\downarrow	\uparrow	\downarrow	\uparrow	\downarrow	↑	-
(*)					(*)				
					Ī				
					T				
	1	1	1	1	1				

Passed

Failed

Remarks:

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7 Material tests (continued)

7.2.1 Material tests (integral verification method) (6.2, A.5.1.3)

		_	At start	At end	
Application No:		Temp:			°C
Type designation:	•••••••	Rel. h:			%
Observer:		Date:			yyyy:mm:dd
Control scale interval d:		Time:			hh:mm:ss
Totalisation scale interval d _t :					
Material:					
Condition of material:					
Nominal load:					

	Hopper contents static weighing							Indicated total
	Indication I	Add load ΔL	Indication prior to rounding $P = I + \frac{1}{2} d - \Delta L$	Calculated error E	Corrected indication	Load weight		At start T_s
Loaded					l _{c∟}			
Discharged					I _{CD}	+		
Loaded								
Discharged						+		
Loaded								
Discharged						+		
Loaded								
Discharged						+		
Loaded								
Discharged								
Loaded								
Discharged						•		
Loaded								
Discharged						+		
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged						+		At end I_F
		<u>E</u>	$\frac{\text{rror} = T_F - T_S - \Sigma_L}{\Sigma} \times$	100%	1			
			ΣL			ΣL		
		E	rror =	%		(Total load)		

Note: Minimum of three material tests required as specified in 6.1(d). Reproduce this sample test report to record the results of the other material tests as appropriate.

Remarks:

Passed

Failed

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8 EXAMINATION OF THE CONSTRUCTION OF THE INSTRUMENT

Use this page to indicate any description or information pertaining to the instrument, additional to that already contained in this report and in the accompanying national type approval or OIML certificate. This may include a picture of the complete instrument, a description of its main components, and any remark which could be useful for authorities responsible for the initial or subsequent verifications of individual instruments built according to the type. It may also include references to the manufacturer description.

Description:

Remarks:

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9 CHECKLIST

The checklist has been developed based on the following principles:

To include requirements that cannot be tested according to test 1 through 10 above, but shall be checked visually, e.g. the descriptive markings (3.11);

To include requirements which indicate prohibitions of some functions, e.g. semi-automatic zero-setting devices shall not be operable during automatic operation (3.6.1.3.);

Not to include general requirements, e.g. suitability for use (3.1);

Not to include requirements that allow functions or devices to be used, e.g. a combined semi-automatic zero-setting and tare device operated by the same key (3.6.1.3).

This checklist is intended to serve as a summary of the results of examinations to be performed and not as a procedure. The items on this checklist are provided to recall the requirements specified in R 107-1 and they shall not be considered as a substitution for these requirements.

The requirements that are not included in this type evaluation report (test 1 through 10 and checklist 12) are considered to be globally covered by the type approval or OIML certificate (e.g. classification criteria [2.2 and 2.3], suitability for use [3.1]).

For non-mandatory devices, the checklist provides space to indicate whether or not the device exists and, if appropriate, its type. A cross in the box for "present" indicates that the device exists and that it complies with the definition given in the terminology; when indicating that a device is "not present", also check the boxes to indicate that the tests are not applicable (see p. 5).

If appropriate, the results stated in this checklist may be supplemented by remarks given on additional pages.

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9.1 CHECKLIST

- Application No:
- Type designation:

Requirement (R 107-1)	Test procedure	Totalizing hopper weigher checklist	Passed	Fai	led	Remarks	
2.3	<u>Observe</u>	Form of the scale interval : 1×10^k , 2×10^k , or 5×10^k				4	Formatted Table
25	A.6.2	Agreement between indicating and printing devices:					
		For the same load, the difference between the weighing results provided by any two devices having the same scale interval is:					•
		 zero for digital indicating or printing devices; 					
		 not greater than the absolute value of the MPE for automatic weighing for analogue devices. 					
2.6		Units of measurement: g, kg, t					
3		Technical requirements					
3.1	A.1.4	Instrument is designed to suit intended materials and usage and is of adequately robust construction in order that it maintains its metrological characteristics					
32	<u>Observe</u>	Security of operation					
3.2.1		No characteristics likely to facilitate fraudulent use					
3.2.2		Effect of accidental breakdown or maladjustment is evident					
3.2.3		Operation unaffected by incomplete discharge					
32.4		Interruption of automatic operation, printing Inhibition or marked, or clear warning of usage at loads greater than Max X 9 dt and less than Min					
32.5	<u>A.6.3</u>	Adjustment prevented in operational mode, except during tests in accordance with 6.2.1.2.1					
32.6	<u>Observe</u>	Controls c ome to rest in intended positions and unambiguously marked keys					
32.7	<u>Observe</u>	Dust extraction: shall not affect measurement					
3.2.8	A.6.4	Securing of components and pre-set controls	Present []	Not-	Present []	
	Observe	Access/adjustment prohibited and automatically self-evident					
32.9	Observe	External influence practically impossible after securing					
33	<u>A.6.5</u>	Indication, storage and printing of weighing results					
	<u>Observe</u>	Totalisation, storage and printing devices:					
		Principal	Present []	Not-	Present []	
		Supplementary	Present []	Not-	Present []	
		Partial	Present []	Not-	Present []	
		Memory storage	Present []	Not-	Present []	
		Printer	Present []	Not-	Present []	
33.1	Observe	Quality of indication:					
		Reliable, easy and unambiguous under normal conditions]
		Overall inaccuracy of an analogue device < 0.2 d_t					
							-

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Requirement (R 107-1)	Test procedure	Totalizing hopper weigher checklist	Passed	Fai	led	Remarks
		Figures forming the results shall be of a size, shape and clarity for reading to be easy				
		Scales, numbering and printing shall permit the figures to be read by simple juxtaposition				
3 3.2	<u>A.6.5</u>	Form of the indication:				
3 3.2.1	<u>Observe</u>	Results contain names and symbols of the units of mass				
		For any one indication, only one unit of mass				
		Decimal sign to separate integer and decimal fraction				
		Zero displayed to the extreme right without a decimal sign				
		Units of mass written in small letters (lower case)				
3 3.2.2	Observe	Scale interval:	1			
		Except supplementary devices all devices have the same scale interval				
		Scale interval in the form specified in R107-1 (2.3)				
		All indicating, printing and tare weighing devices of an instrument shall, within any one weighing range have the same scale interval for any given load.				
		For supplementary devices, scale interval resolution				
		mode is at least ten times d _t in the descriptive markings				
3.3.2.3	Observe	Digital zero indication				
		Where the scale interval is changed automatically the decimal sign shall maintain its position in the display				
		A decimal fraction shall be separated from its integer by				
		a decimal sign (comma or dot), with the indication				
		figures to the right.				
		The decimal sign shall be on one line with the bottom of the figures (example: 0.705 kg)				
		A digital zero indication shall include the display of a				
		zero for all places that are displayed to the right of a				
		no decimal values are displayed, a zero shall be				
		displayed for each place of the displayed division, (i.e.				
		displayed).				
3 3.3	<u>A.6.5</u>	Limits of indication, storage and printing:				
	<u>Observe</u>	Instruments complies with the requirements in 3.2.4				
	<u>Observe</u>	On instruments with printing device:				
		Not possible to reset principle totalisation device without auto printing or storage				
	Observe	Automatic printout or storage of the last total if operating interruption/adjustments				
3.3.4	A.1.2	Printing device:	Present [1	Not-	Present []
	Observe	A totalisation indicating and printing device shall allow				
		reliable, clear and unambiguous reading of the results by simple juxtaposition and shall bear the symbol of the appropriate unit of mass				
	Observe	Printing shall be inhibited if the stability criteria in 3.3.7 are not fulfilled.				
	Observe	Printing inhibited when stability criteria R107-1 (3.3.7) not fulfilled				
	1	1	<u> </u>			

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Requirement (R 107-1)	Test procedure	Totalizing hopper weigher checklist	Passed	Faile	d	Remarks
3 3.5	<u>A.1.2</u>	Memory storage device:	Present []	Not-	Present []
Ì	Observe	Memory storage and transfer of results inhibited when stability criteria R107-1 (3.3.7) not fulfilled				
3 3.6	<u>Observe</u>	Combined indicating devices:	Present []	Pres	ent[]
	<u>Observe</u>	Combined indication on demand clearly identified.				
34	<u>A.1.1</u>	Software controlled instruments:				
		Alteration of the metrologically relevant software is not possible without breaking a seal, or automatically generating a signal by means of an identification code. Manufacturer declare and describes metrologically				
		relevant embedded software				
		The software shall be assigned with a fixed version number or software identification. This version number shall be adapted in the case of every software change that may affect the functions and accuracy of the instrument				
		Software controlled instruments shall be capable				
		The manufacturer shall submit the following software information:				
		 A description of the system hardware, e.g. block diagram, type of computer(s), type of network, if not described in the operating manual: 				
		 A description of the software environment for the metrologically relevant software, e.g. the operating system required drivers, etc. 				
		 A description of all legally relevant software functions, legally relevant parameters, switches 				
		 A description of the relevant measuring algorithms (e.g. stable equilibrium, price calculation, rounding algorithms): 				
		 Software identification that is clearly assigned to the metrologically relevant functions; 				
		 A description of the relevant menus and dialogues, and set of commands and parameters: 				
		 The securing measures foreseen (e.g. checksum, singature audit trail); 				
		 Securing measures (including a detailed description of the protective interface, loading procedure and the securing measures against accidental or intentional changes; 				
		 In case of long-term storage or transmission of data via networks: a description of the data sets and protection measures, memory storage device(s), etc. 				
3.6	Observe	Ancillary devices:				
		Ancillary devices shall not affect the indicated totalisation(s) representing a bulk load for a transaction.				
3.6.1	<u>A.5.5</u>	Zero-setting:				
I		Instrument tare weigh after each discharge				

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				1		1	
Requirement (R 107-1)	Test procedure	Totalizing hopper weigher checklist	Passed	Faile	ed	Rem	arks
	<u>Observe</u>	Zero-setting -devices:	Present		Not-Present		
		Initial zero-setting	[]			[]	
		Automatic zero-setting	[]			[]	
		Semi-automatic zero-setting	[]			[]	
		Non-automatic zero-setting	[]			[]	
		Zero-tracking - not more than one	[]			[]	
	A.5.5.5	Accuracy of zero-setting \leq 0.25 d_t					
		Effect of zero-setting device does not alter the maximum weighing capacity					
	<u>A.5.5.2</u>	Overall effect of:					
		Zero-setting range < 4%				=	%
		Initial zero-setting < 20%				=	%
36.1.3	<u>A.6.8.1</u>	Control of zero-setting:					
	Observe	An interlock shall be provided to stop an automatic operation if the zero indication varies by or more than:					
		 <u>1 dt on instruments with an automatic zero-setting</u> device, or 					
		 <u>0.5 d</u> on instruments with a semi-automatic or non- automatic zero-setting device 					
		Semi-automatic zero-setting device shall function only when the instrument is in stable equilibrium (3.3.7).					
		A non-automatic or semi-automatic zero-setting device shall not be operable during automatic operation					
3.6.1.4	A.5.5.6	Stability of automatic zero-setting device	I				
	<u>Observe</u>	Automatic zero-setting operates:					
ļ		At start of automatic operation:					
		As part of automatic weighing cycle, or					
		After a programmable interval					
		Only when stable equilibrium R107-1 (3.3.7)					
		Sufficiently often to maintain zero within 0.5 d_t					
		When operating as part of every weighing cycle, it is not possible to disable or set at time intervals					
		Maximum programmable time interval:					
		Specified by the manufacturer					
		Not greater than the value necessary to ensure that the zero error is not greater than $0.5 d_{l_2}$					
	Observe	automatic zero-setting capable of:					
		automatic zero-setting after allocated time interval, or					
		stopping the instrument to enable zero-setting, or					
		generating information to overdue zero-setting					

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Requirement (R 107-1)	Test procedure	Totalizing hopper weigher checklist	Passed	Failed	Remarks
3.7	A.1.4	Descriptive markings:			
3 7.1	<u>Observe</u>	Markings shown in full:			
•		Identification mark of the manufacturer			
		Identification mark of the importer (if applicable)			
		Serial number and type designation of the instrument			
		Product description			
		Product density (kg/dm ³)			
		Load receptor (hopper) volume (dm ³)			
		Control scale interval (if applicable) = g or kg or t			
		Electrical supply voltage (V)			
		Electrical supply frequency (Hz)			
		Pneumatic/hydraulic pressure (if applicable) (kPa or bar)			
		software identification			
3 7.2	Observe	Markings shown in code:			
I		Type approval sign			
		Indication of the class of accuracy: 0.2, 0.5, 1 or 2			
		Totalisation scale interval d_t (g or kg or t)			
		Maximum capacity Max (g or kg or t)			
		Minimum capacity Min (g or kg or t)			
		Minimum totalized load \sum_{min} (g or kg or t)			
3 7.3	<u>Observe</u>	Supplementary markings:			
•		Any additional markings	enter in ren	narks	
37.4	Observe	Presentation of descriptive markings:			-
		Indelible and of size, shape and clarity that allows easy reading			
		Shown in an official language in accordance with national legislation.			
		Grouped together in a clearly visible place either on a descriptive plate or sticker fixed permanently near the indicating device, or on a non removable part of the instrument itself			
		In case of a plate or sticker which is not destroyed when removed, a means of securing shall be provided.			
		Shown on a programmable display, with:		1	1
		 at least Max, Min and dt shall be displayed as long as the instrument is switched on. 			
		 the other marking may be shown on manual commend 			
		 access automatically and non-erasably recorded 			
		 made evident by an audit trail 			
		Programmable display markings need not be repeated on the data plate, if they are shown on or indicated near the display of the weighing result			

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Requirement (R 107-1)	Test procedure	Totalizing hopper weigher checklist	Passed	Fail	ed	Remarks		
<u>38</u>	<u>A.1.4</u>	Verification marks						
	<u>Observe</u>	Position of verification marks:						
3.8.1		Cannot be removed without damaging the marks						
		Allows easy application of marks						
		Visible without the instrument having to be removed						
3.8.2		Verification mark support which ensures conservation of the marks						
42	<u>A.1.5</u>	Functional requirements						
4 2.1	<u>Observe</u>	 Acting upon significant faults: 						
		 Instrument is made inoperative automatically, or 						
		 Visual or audible indication is provided automatically and is continuous until the user takes action or the fault disappears 						
		 Totalized load information is retained when a significant fault occurs 						
4 2.2	<u>Observe</u>	Indicator display test:						
		For displays other than non-segmented displays, upon switch-on all relevant signs of indicating device are active and non-active for sufficient time to be checked by operator						
4.2.5		No indication or transmission of weighing results during warm-up time, and						
		Automatic operation is inhibited						
<u>4 2.6</u>	<u>A.7.2.2</u>	Interfaces						
	<u>Observe</u>	Interfaces when fitted:						
		Has no adverse effect on functions, indications and transmission of data by connected peripheral devices						
		Functions performed or initiated through the interface meet relevant requirements of Clause 3.						
		A protective interface prevents the introduction into the instrument data that can influence the instruments metrological properties or measurement results						
4.2.7	A.6.6	AC mains supply failure:	_					
	Observe	Metrological information to be retained for at least 24 hours						
	Observe	Switch-over to emergency power supply shall not cause significant fault						
4.2.8	A.6.7	Voltage variations of external or plug-in (AC or DC) power supply	Present []	Not-	Present []		
		Battery power supply:	Present []	Not-	Present []		
	Observe	When below the specified voltage value:						
	Observe	Continues to function correctly, or						
	<u>Observe</u>	Is automatically put out of service						

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R	<u>equirement</u> (R 107-1)	<u>Test</u> procedure	Totalizing hopper weigher checklist	Passed	Failed	Remarks		
<u>5</u>	<u>1.1</u>	<u>A.1.1</u>	Documentation includes:					
		Metrological characteristics of the instrument						
			A standard set of specifications for the instrument					
		A functional description of the components and devices						
			Drawings, diagrams and general software information explaining the construction and operation					
		Details of fractions P _i (modules tested separately)						
		Any document or other evidence that the design and construction of the instrument complies with the requirements of the recommendation						
5.	1.3		Examination of:					
		Documents						
		Functional checks						
		Test reports from other authorities						
6	4	A.5.1.1	Instruments subjected to material tests in accordance with:					
			Separate verification method as in A.5.2, or					
			Integral verification method as in A.5.3					

Use this space to detail remarks from the checklist

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