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AMENDMENT 1
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Rubber, vulcanized or thermoplastic — Determination of stress relaxation in compression —

Part 1: Testing at constant temperature

AMENDMENT 1: Revised calibration schedule

Caoutchouc vulcanisé ou thermoplastique — Détermination de la relaxation de contrainte en compression —

Partie 1: Essais à température constante

AMENDEMENT 1: Programme d'étalonnage révisé

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to ISO 3384-1:2011 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analysis*.

Rubber, vulcanized or thermoplastic — Determination of stress relaxation in compression —

Part 1:
Testing at constant temperature

AMENDMENT 1: Revised calibration schedule

Replace Annex C by the following annex.

Annex C
(normative)

Calibration schedule

C.1 Inspection

Before any calibration is undertaken, the condition of the items to be calibrated shall be ascertained by inspection and recorded on any calibration report or certificate. It shall be reported whether calibration is carried out in the "as-received" condition or after rectification of any abnormality or fault.

It shall be ascertained that the apparatus is generally fit for the intended purpose, including any parameters specified as approximate and for which the apparatus does not therefore need to be formally calibrated. If such parameters are liable to change, then the need for periodic checks shall be written into the detailed calibration procedures.

C.2 Schedule

Verification/calibration of the test apparatus is a mandatory part of this part of ISO 3384. However, the frequency of calibration and the procedures used are, unless otherwise stated, at the discretion of the individual laboratory, using ISO 18899 for guidance.

The calibration schedule given in Table C.1 has been compiled by listing all of the parameters specified in the test method for the apparatus, together with the specified requirement. A parameter and requirement can relate to the main test apparatus, to part of that apparatus or to an ancillary apparatus necessary for the test.

For each parameter, a calibration procedure is indicated by reference to ISO 18899, to another publication or to a procedure particular to the test method which is detailed (whenever a calibration procedure which is more specific or detailed than that in ISO 18899 is available, it shall be used in preference).

The verification frequency for each parameter is given by a code-letter. The code-letters used in the calibration schedule are:

C requirement to be confirmed but no measurement;

N initial verification only;

S standard interval as advised in ISO 18899;

U in use.

Table C.1 — Calibration frequency schedule

Parameter	Requirement	Subclause in ISO 18899:2004	Verification frequency guide	Notes
Compression device	Two parallel, flat, highly polished plates made of corrosion-resistant material	C	N	Roughness profile *Ra* not worse than 0,4 µm has been found suitable
	Plates not to distort by more than 0,01 mm when load applied	15.2	S	
	When assembled, gap between plates not to vary by more than ±0,01 mm	15.5	S	
	Plates of sufficient size to cover test piece and allow it to expand freely	C	U	
	For ring test pieces, plates to have holes of at least 2 mm diameter through the centre portions	15.2	N	
	Device to be capable of connecting to equipment for compressing the test piece and measuring the counterforce	C	N	
Counterforce-measuring device	Capable of measuring compression forces to within 1 % of the measured value	21.2	S	
	Either a continuous-measurement system capable of keeping deformation of the test piece to within ±0,01 mm	15.2	S	
	Or a compression-testing machine applying an additional compression of no more than 1 N or 0,05 mm and capable of repeating the compression to within ±0,01 mm	21.2 or 15.2	S	
Test environment	For tests in air, an oven complying with ISO 188	See ISO 188	See ISO 188	
	For tests in liquid, a bath or closed vessel such that liquid can circulate through the holes in the compression plates	C	N	
	Means of maintaining the vessel at the required test temperature	C	N	
Temperature-measuring equipment	With temperature-sensing element fitted such that it can accurately measure the temperature of the test piece (for temperatures, see 6.5 and 7.2)	C 18	N S	

In addition to the items listed in Table C.1, use of the following is implied, all of which need calibrating in accordance with ISO 18899:

— a timer;

— instruments for determining the dimensions of the test pieces.

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