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AMENDMENT 2
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Latex, rubber — Determination of total solids content

AMENDMENT 2: Determination at temperatures higher than 105 °C

Latex de caoutchouc — Détermination des matières solides totales

AMENDEMENT 2: Détermination à des températures supérieures à 105 °C

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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 2 to ISO 124:1997 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 3, *Raw materials (including latex) for use in the rubber industry*.

Latex, rubber — Determination of total solids content

AMENDMENT 2: Determination at temperatures higher than 105 °C

1 Scope

Page 1, Subclause 4.2

Replace “or 105 °C ± 5 °C” by “or at any temperature from 105 °C to 160 °C, accurate to ± 5 °C”.

Page 2, Clause 6

At the end of the introductory paragraph, add the following sentence:

> “For synthetic rubber latex dried in accordance with 6.1, a higher drying temperature can be used by agreement between the interested parties in order to shorten the drying time (see Annex B).”

Page 2, Subclause 6.1, second paragraph

In the first sentence, after “heat it at 70 °C ± 2 °C for 16 h or at 105 °C ± 5 °C for 2 h”, insert:

> “or at a higher temperature (from 110 °C ± 5 °C to 160 °C ± 5 °C) for a shorter drying time (see Annex B)”.

After “Return the dish to the oven for 30 min if the original drying temperature used was 70 °C ± 2 °C, or for 15 min if the drying temperature was 105 °C ± 5 °C”, add:

> “or for 10 min if the drying temperature was from 110 °C ± 5 °C to 160 °C ± 5 °C”.

In the last sentence, add “or 10 min” between “Repeat the drying procedure for periods of 30 min or 15 min” and “as appropriate”.

Page 4

Add new Annex B.

Page 5

Add new Annex C.

Annex B
(informative)

Drying conditions for synthetic latices at atmospheric pressure

B.1 Suitable drying conditions for various synthetic latices have been determined, i.e. conditions which give a constant mass. These are summarized in Table B.1. The conditions given for each latex are not to be considered as required conditions, but as recommended conditions for the measurement of total solids content.

B.2 CR (chloroprene rubber) latex should not be heated at more than 130 °C because of possible decomposition.

Table B.1 — Drying conditions at 130 °C and 160 °C

Latex [a]	Drying time min	
	130 °C	160 °C
X-SBR	40	20
CR	30	Not applicable [b]
VP	40	20
SBR	40	20
X-SBR (with antidegradant)	40	20
NBR (with antidegradant)	40	20
X-NBR	40	20
X-NBR (with antidegradant)	40	20
X-MBR	40	20

[a] "X-" means "carboxylated".

[b] See Clause B.2.

Annex C
(informative)

Precision

C.1 The precision of this method using drying temperatures higher than 105 °C was determined in accordance with ISO/TR 9272. Refer to this document for terminology and explanations of statistical concepts.

C.2 The precision details in this precision statement give an estimate of the precision of this test method with the materials used in the particular interlaboratory programme as described below. The precision parameters should not be used for acceptance/rejection testing of any group of materials without documentation that the parameters are applicable to those particular materials and the specific test protocol of this test method.

C.3 The precision results are given in Table C.1. The precision is expressed on the basis of a 98 % confidence level for the values established for repeatability r and reproducibility R.

C.4 The results given in Table C.1 are average values and give an estimate of the precision of this test method as determined in an interlaboratory test programme conducted in 2004. Eleven laboratories performed triplicate analyses on three materials: X-SBR-1, X-SBR-2 and CR. Each participating laboratory was required to carry out the test on each of these three materials, which had been given to the participants in the ITP, using the drying temperatures and times given in Table C.1.

C.5 A type 1 precision was determined, based on the sampling method used for the latex materials in the ITP.

C.6 **Repeatability:** The repeatability r (in measurement units) of this test method has been established as the appropriate value tabulated in Table C.1. Two single test results, obtained in the same laboratory under normal test conditions, that differ by more than the tabulated value of r (for any given level) shall be considered to have come from different (non-identical) sample populations.

C.7 **Reproducibility:** The reproducibility R (in measurement units) of this test method has been established as the appropriate value tabulated in Table C.1. Two single test results, obtained under normal test conditions, that differ by more than the tabulated value of R (for any given level) shall be considered to have come from different (non-identical) sample populations.

C.8 **Bias:** In test method terminology, bias is the difference between an average test value and the reference (or true) test property value.

Reference values do not exist for this test method since the value (of the test property) is exclusively defined by the test method. Bias, therefore, cannot be determined for this particular test method.

Table C.1 — Precision of test method at drying temperatures of 130 °C and 160 °C

Conditions	Material [a]	Mean value [b]	Within laboratory		Between laboratories	
			r	(r)	R	(R)
160 °C 20 min	X-SBR-1	50,7	0,46	0,91	0,46	0,91
	X-SBR-2	50,6	0,20	0,39	0,38	0,75
	CR	50,1	0,18	0,36	0,33	0,66
130 °C 40 min	X-SBR-1	50,7	0,21	0,41	0,25	0,49
	X-SBR-2	50,6	0,08	0,16	0,11	0,22
	CR	50,2	0,12	0,24	0,40	0,80
160 °C 30 min	X-SBR-1	50,6	0,04	0,08	0,16	0,32
	X-SBR-2	50,6	0,05	0,09	0,16	0,32
	CR	50,0	0,11	0,23	0,43	0,86
130 °C 50 min	X-SBR-1	50,7	0,10	0,20	0,18	0,36
	X-SBR-2	50,6	0,04	0,08	0,14	0,28
	CR	50,2	0,09	0,19	0,56	1,12
$p = 11$, $q = 3$, $N = 2$						
r = repeatability (in measurement units) (r) = repeatability (in percent of mean level) [c] R = reproducibility (in measurement units) (R) = reproducibility (in percent of mean level) [c]						

[a] "X-" means "carboxylated".

[b] Solids content in % (m/m).

[c] As the actual measurement units are %, these values represent percent relative, i.e. percent of a percent.