

CERTIFICATION Informs

An Urgent Bulletin from CSA Group

Ref No: I18-080

Elevator Equipment No. 25

Date: July 13, 2018

Existing Certification not affected

Apply any time to have your products evaluated

Announcing: Publication of List of Technical Requirements (LTR) D-002-2018 - Elevator Buffers

Class No: 2411 06, ELEVATOR EQUIPMENT - Oil Buffers
2411 86, ELEVATOR EQUIPMENT - Oil Buffers – Certified to US Standards

To purchase the Standard, visit us at www.shop.csa.ca

Who is affected?

Manufacturers of elevator buffers.

What do you do?

1. This publication outlines certification revisions that do not affect your currently certified product designs.
2. Please contact CSA technical staff if you have questions or need information concerning this publication and how it applies to you.
3. If you would like to arrange for an evaluation of new products to the revisions, initiate a certification project by contacting our Client Services Centre at 1-866-797-4272. Please supply appropriate supporting documentation*. If testing is needed, we will inform you of the samples required.

*which includes technical information, company name, address, factory locations and CSA file number or master contract number (if assigned), and any other relevant documentation.

Introduction:

This LTR replaces Technical Information Letter (TIL) CSA M-05 dated September 20, 2004, which had exceeded its prescribed period of validity and had not been incorporated into a standard. The TIL M-05 had already been withdrawn on August 28, 2014 through Informs Elevator Equipment No. 19.

This LTR also introduces new certification requirements on Elastomeric Buffers, as per Safety Code on Elevators and Escalators ASME A17.1-2016/CSA B44-16.

For questions specific to your file or products contact your CSA Group technical staff associate.

Go to <http://www.csagroup.org/services/testing-and-certification/product-listing/> and enter your Master Contract # and the class numbers associated with this Informs to view your certified products.

For technical questions on this Informs

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ATTACHMENT 1



List of Technical Requirements [LTR]

Elevating Devices

LTR Number

D-002-2018

Subject – Keywords

Elevator Buffer

Background & Rationale

This List of Technical Requirements (LTR) replaces Technical Information Letter (TIL) CSA M-05 dated September 20, 2004, which had exceeded its prescribed period of validity and had not been incorporated into a standard. The TIL CSA M-05 had been withdrawn on August 28, 2014 through Informs Elevator Equipment No. 19.

This LTR will be used until technical requirements are incorporated into a CSA standard suitable to be used for conformity assessment.

Technical Issue

1.0 Scope

This LTR covers buffers designed to stop a descending car or counterweight from travel beyond its normal limit by absorbing and dissipating the kinetic energy of the car or counterweight, including oil buffer and elastomeric buffer.

The buffers covered in the LTR are intended for installation in passenger and freight elevator in accordance with ASME A17.1/CSA B44-16 Safety Code for Elevators and Escalators. The oil buffers may be with and without auxiliary electrical circuits to signal their status to an elevator controller.

Requirements

2.0 Requirements

2.1 General

- 2.1.1 This LTR shall be used in conjunction with Safety Code ASME A17.1/CSA B44-16, standards CSA B44.1/ASME A17.5 and C22.2 No. 0 to evaluate buffers.
- 2.1.2 Buffers shall comply with the applicable requirements of Safety Code ASME A17.1/CSA B44-16.
- 2.1.3 Oil buffers provided with electrical circuits to signal the status of the buffer shall comply with CSA Standards C22.2 No. 0 and CSA B44.1/ASME A17.5.

2.2 Definitions

- 2.2.1 Definitions shall be in accordance with Safety Code ASME A17.1/CSA B4416 and standard CSA C22.2 No. 0 unless otherwise specified.

2.3 Construction

2.3.1 Oil Buffers

Oil buffers shall comply with the following requirements of Safety Code ASME A17.1/CSA B44-16:

Clause No.	<u>Title</u>
2.22.4.1	Stroke
2.22.4.1.1	Stroke
2.22.4.1.2	Stroke
2.22.4.2	Retardation
2.22.4.3	Factor of Safety for Oil-Buffer Parts
2.22.4.4.	Slenderness Ratio for Members Under Compression as Columns
2.22.4.5	Plunger Return Requirements
2.22.4.6	Means for Determining Oil Level
2.22.4.7	Type Testing
2.26.4.3.1	Electrical Equipment and Wiring for gravity-return and spring-return type oil buffers incorporating optional return position switches

2.3.2 Oil Buffers with Electrical Circuits

- 2.3.2.1 The electrical enclosure or compartment of an oil buffer shall comply with Clauses 4, 5, 6, 7, and 9 of standard CSA B44.1/ASME A17.5.
- 2.3.2.2 The electrical enclosure or compartment of an oil buffer intended outdoor use shall comply the applicable requirements of Standard CSA C22.2 No. 94.2/UL50E for an outdoor use enclosure type designation.
- 2.3.2.3 An oil buffer shall comply with CSA Standard C22.2 No. 0.4.
- 2.3.2.4 A means to terminate a bonding conductor shall be provided in accordance with Clause 17.3(c) of CSA B44.1/ASME A17.5.
- 2.3.2.5 The electrical enclosure or compartment shall be provided with a means to facilitate the connection of a field wiring method compatible with the requirements of section 38 of CSA Standard C22.1 or article 620 of NFPA 70 for use in the hoist-way.
- 2.3.2.6 The connection means of Clause 2.3.2.5 shall comply with Clauses 15.1(a), 15.3 to 15.7 and 15.8.2, as applicable, of CSA B44.1/ASME A17.5.
- 2.3.2.7 Supply connections that are provided by knockout, twist-out or conduit opening shall comply with the requirements of CSA Standard C22.2 No. 0.
- 2.3.2.8 Material for the support of bare live parts shall comply with Clause 11 of CSAB44.1/ASME A17.5.
- 2.3.2.9 Internal wiring shall comply with Clause 14 of CSA B44.1/ASME A17.5.
- 2.3.2.10 Electrical components shall comply with Clause 3.1 of CSA B44.1/ASME A17.5.
- 2.3.2.11 Electrical spacings shall comply with Clause 16 of CSA B44.1/ASME A17.5.

2.3.3 Elastomeric Buffers

Elastomeric buffers shall comply with the following requirements of Safety Code ASME A17.1/CSA B44-16:

Clause No.	<u>Title</u>
2.22.5.1	Retardation
2.22.5.2	Return Speed
2.22.5.3	Deformation
2.22.5.4	Full Compression
2.22.5.5	Type Tests and Certification for Elastomeric Buffers
2.22.5.6	Buffer Marking Plate

2.4 Marking

2.4.1 Oil buffers shall be plainly marked in a permanent manner with the following information:

- (a) rated maximum and minimum load in kg in accordance with Clause 2.22.4.11(a) of safety code ASME A17.1/CSA B44;
- (b) maximum rated striking speed in m/s in accordance with Clause 2.22.4.11(a) of safety code ASME A17.1/CSA B44;
- (c) permissible range in viscosity of the buffer oil to be used in Saybolt Seconds Universal at 38°C in accordance with Clause 2.22.4.11(b) of safety code ASME A17.1/CSA B44;
- (d) viscosity index number of the oil to be used in accordance with Clause 2.22.4.11(c) of safety code ASME A17.1/CSA B44;
- (e) the pour point in degrees Celsius of the oil to be used in accordance with Clause 2.22.4.11(d) of safety code ASME A17.1/CSA B44;
- (f) rated stroke of the buffer in mm in accordance with Clause 2.22.4.11(e) of safety code ASME A17.1/CSA B44;
- (g) composition of the gas for gas-spring return type buffers in accordance with Clause 2.22.4.11(f) of safety code ASME A17.1/CSA B44;
- (h) manufacturers identification, such as company name, registered trade-name and file number, in accordance with Clause 2.22.4.11(g) of safety code ASME A17.1/CSA B44
- (i) contact electrical rating(s), if provided, in accordance with Clauses 20.1(a), 20.3 and 20.4 of CSA B44.1/ASME A17.5;
- (j) terminal identification in accordance with Clause 20.9 of CSA B44.1/ASME A17.5;
- (k) required oil level(s) in accordance with Clause 8.3.2.4.4 of safety code ASME A17.1/CSA B44-16 and Clause 20.10 of CSA B44.1/ASME A17.5;
- (l) certification / listing mark per clause 8.3.1.3 of safety code ASME A17.1/ CSA B44-16.
- (m) the phrase “ B44 – 00” adjacent to the certification / listing mark in accordance with clause 8.3.1.3 of safety code ASME A17.1/ CSA B44-16.

Note: The ‘00’ is replaced by the year indicating edition of the standard to which the buffer was tested.

2.4.2 Oil buffers shall be provided with separate drawings for the following:

- (a) installation instructions for oil buffers when required in accordance with Clause 2.5.3;
- (b) connection wiring diagram, where the connection is not obvious, in accordance with Clauses 20.1(c) and 20.9 of CSA B44.1/ASME A17.5.

2.4.3 Elastomeric buffers shall be plainly marked in a permanent manner with the following information:

- (a) rated maximum and minimum load in kg in accordance with Clause 2.22.5.6 (a) of safety code ASME A17.1/CSA B44;
- (b) rated maximum striking speed in m/s in accordance with Clause 2.22.5.6 (a) of safety code ASME A17.1/CSA B44;

- (c) manufacturers identification, such as company name, registered trade-name and file number, in accordance with Clause 2.22.5.6 (c) of safety code ASME A17.1/CSA B44;
- (d) any specific conditions of use for elastomeric buffers in accordance with Clause 2.22.5.6(d) of safety code ASME A17.1/CSA B44;
- (e) rated maximum stroke (compression) of the buffer in accordance with Clause 2.22.5.6(e) of safety code ASME A17.1/CSA B44;
- (f) certification / listing mark per clause 8.3.13.7 of safety code ASME A17.1/ CSA B44-16.
- (g) the phrase “ B44 – 00” adjacent to the certification / listing mark in accordance with clause 8.3.1.3 of safety code ASME A17.1/ CSA B44-16.

Note: The '00' is replaced by the year indicating edition of the standard to which the buffer was tested.

2.5 Tests for oil buffers

- 2.5.1 Representative samples of each production model for each type of oil buffer shall be subjected to the tests of Clause 2.5.5. The test samples shall include oil buffers with the longest stroke for each model and the complete load range of the test sample shall be within the maximum and minimum range for the oil portings of the buffer in accordance with Clauses 2.22.4.7.2, 8.3.2.2 and 8.3.2.4.3 of Safety code ASME A17.1/CSA B44-16. Tests shall be performed with each type of oil marked for use with the buffer, per clause 2.4.1 (c), (d) and (e) of this LTR.
- 2.5.2 Testing equipment, test facilities and instrumentation shall be in accordance with Clauses 8.3.2.3, 8.3.2.4.1 of safety code ASME A17.1/CSAB44-16.
- 2.5.3 The test sample shall be installed in accordance with the installation drawings specified in Clause 2.4.2(b). Brackets for the stability of tall oil buffers shall be installed in accordance with Clause 8.3.2.4.2 of safety code ASME A17.1/CSA B44.
- 2.5.4 The test sample shall be filled with oil to simulate normal operating conditions without any special adjustments in accordance with Clauses 8.3.2.4.3 and 8.3.2.4.4 of safety code ASME A17.1/CSA B44-16.
- 2.5.5 Each test sample shall be subjected to the following tests specified in safety code ASME A17.1/CSAB44-16:
 - (a) retardation tests of Clause 8.3.2.5.1
 - (b) strength tests of Clause 8.3.2.5.2
 - (c) oil leakage tests Clause 8.3.2.5.3
 - (d) plunger return tests of Clause 8.3.2.5.4
 - (e) tests for lateral movement of Clause 8.3.2.5.5
- 2.5.6 Oil buffers provided with electrical circuits to signal the status of the buffer shall be subjected to the temperature and dielectric strength tests of Clause 19.1 of CSA B44.1/ASME A17.5-14.

2.6 Tests for elastomeric buffers

- 2.6.1 Representative samples of each production model for each type of oil buffer shall be subjected to the tests of Clause 2.6.6;
- 2.6.2 The test sample shall be selected in accordance with Clause 8.3.13.2 of safety code ASME A17.1/CSAB44-16;
- 2.6.3 Testing equipment, test facilities and instrumentation shall be in accordance with Clauses 8.3.13.3 of safety code ASME A17.1/CSAB44-16;
- 2.6.4 The test sample shall be installed and prepared in accordance with Clauses 8.3.13.4 of safety code ASME A17.1/CSAB44-16;
- 2.6.6 Each test shall follow test procedures specified in Clause 8.3.13.5 of safety code ASME A17.1/CSAB44-16;
- 2.6.7 Tests results shall comply with Clause 8.3.13.6 of ASME A17.1/CSA B44-16.

Technical Requirements

Attachments

This LTR is applicable to the following programs (✓)			
CSA (✓)	NRTL ()	CB ()	Others: ()

Impact on Existing Certification

Class 2411-04

Experts Consulted	
Distribution of this LTR	

This LTR was issued by Leo Yang on			This LTR replaces previous LTR dated		
yyyy	Mm	dd	yyyy	mm	dd
2018	06	13	-	-	-

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