



CGA C-8—2017
STANDARD FOR
REQUALIFICATION OF
DOT-3HT, CTC-3HT, AND
TC-3HTM SEAMLESS STEEL
CYLINDERS

EIGHTH EDITION

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Work Item 16-019
Cylinder Specifications Committee

NOTE—Technical changes from the previous edition are underlined.

NOTE—Appendix A (Normative) is a requirement.

NOTE—Appendix B (Informative) is for information only.

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1 Introduction

This publication provides information on the requalification of DOT-3HT, CTC-3HT, and TC-3HTM seamless steel cylinders.

2 Scope

This publication has been prepared to advise cylinder users and requalification facilities regarding the requirements for establishing their own cylinder inspection procedures and standards. This publication is general in nature, although specific limits are given. Rejection or acceptance for continued use, in accordance with these limits, represent accepted practice that has proven satisfactory for the continuance of these cylinders in service.

3 Definitions

For the purpose of this publication, the following definitions apply.

3.1 Publication terminology

3.1.1 Shall

Indicates that the procedure is mandatory. It is used wherever the criterion for conformance to specific recommendations allows no deviation.

3.1.2 Should

Indicates that a procedure is recommended.

3.1.3 May

Indicates that the procedure is optional.

3.1.4 Will

Is used only to indicate the future, not a degree of requirement.

3.1.5 Can

Indicates a possibility or ability.

4 U.S. Department of Transportation and Transport Canada regulations

The Hazardous Materials Regulations of the U.S. Department of Transportation (DOT) (Title 49 of the U.S. *Code of Federal Regulations* [49 CFR] Part 180 Subpart C) and Transport Canada (TC) (Clause 24 of CSA B339, *Cylinders, spheres, and tubes for the transportation of dangerous goods*) require that cylinders be periodically requalified to ensure their suitability for continued service [1, 2].¹ These regulations and this publication require that a cylinder is condemned when it leaks; when internal or external corrosion, denting, bulging, or evidence of rough usage exists to the extent that the cylinder integrity is likely to have been compromised; or when the cylinder fails to pass the hydrostatic requalification.

Seamless steel cylinder requalification requirements in these regulations or this publication vary depending on design and the type of service (pressure, commodity, etc.) for which the cylinder is authorized. All seamless steel cylinders require a periodic visual examination and most require a periodic hydrostatic requalification. The requalification criteria for acceptance or rejection also vary. For the majority of steel cylinders, including specifications DOT-3HT and CTC-3HT cylinders, the permanent expansion limit shall not exceed 10% of the total expansion. For cylinders manufactured to TC-3HTM, the permanent expansion shall not exceed 5% (see CSA B339, clause 24 (1.3.1)) [2]. Additional requirements for all 3HT series cylinders are that the elastic expansion (total expansion minus permanent expansion) at requalification shall not exceed the elastic expansion at manufacture by more than 5%.

Requalification of cylinders shall be performed only by an authorized DOT or TC facility.

¹ References are shown by bracketed numbers and are listed in order of appearance in the reference section.