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Gas cylinders — Classification of imperfections arising during the manufacture of seamless steel and aluminium alloy gas cylinders

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National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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TECHNICAL REPORT

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Gas cylinders — Classification of imperfections arising during the manufacture of seamless steel and aluminium alloy gas cylinders

Bouteilles à gaz — Classification des imperfections de fabrication des bouteilles à gaz en acier et en alliage d'aluminium sans soudures

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 58, *Gas cylinders*, Subcommittee SC 3, *Cylinder design*.

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Introduction

Based on a resolution taken by ISO/TC 58/SC 3 at its 54th meeting in Sydney, a particular working group, WG 34, was created with the following tasks:

a) consider the issue of the manufacturing defects and imperfections at the time of manufacture in International Standards for seamless steel and aluminium alloy cylinders;

b) develop requirements that are verifiable, measurable, and practicable;

c) put forward proposals for how to include such requirements in SC 3 International Standards, no later than the next revision of the International Standards, e.g. as an annex in the design standards or within the main body of the text.

SC 3 asked that WG 34 take the current defect annexes of ISO 9809-1, ISO 9809-2, and ISO 9809-3 for seamless steel and ISO 7866 for seamless aluminium alloy cylinders as a starting point.

In order to address the SC 3 resolution, it was further decided to create this Technical Report.

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Gas cylinders — Classification of imperfections arising during the manufacture of seamless steel and aluminium alloy gas cylinders

1 Scope

This Technical Report specifies the procedure on how to evaluate and treat the most commonly found manufacturing imperfections on seamless steel and aluminium alloy gas cylinders at visual inspection at the stage of product acceptance.

Annex A contains a template for the relevant cylinder design International Standards (i.e. ISO 9809-1, ISO 9809-2, and ISO 9809-3 for seamless steel and ISO 7866 for seamless aluminium alloy cylinders). It further contains information on how to implement the provisions into other cylinder design standards.

2 Explanatory introduction and provisions for the implementation into the cylinder design standards

It is intended that the provisions laid out in this Technical Report should be followed by ISO/TC 58/SC 3 working groups dealing with the design standards for seamless steel (ISO 9809-1, ISO 9809–2, and ISO 9809–3) and aluminium alloy gas cylinders (ISO 7866) at the next revision of these International Standards.

The tables in Annex A are based on the current "Defect Annexes" of ISO 9809-1, ISO 9809–2, and ISO 9809–3 for seamless steel cylinders and ISO 7866 for seamless aluminium alloy cylinders. Those imperfections applicable for the ISO 9809 series are contained in Tables A.1 and A.2, and those applicable for ISO 7866 are contained in Tables A.3 and A.4.

They are written in such a way that they can also be incorporated in other design standards as a normative annex.

The provisions of this Techincal Report should also serve as a basis for a future annex to each of the other relevant design standards (other than ISO 9809-1, ISO 9809–2, ISO 9809–3, and ISO 7866) for seamless cylinders and tubes.

If incorporated in other design standards the content of the columns "Type of imperfection", "Description", and "Note" in Tables A.1, A.2, A.3, and A.4 (which were established by WG 34) should remain unchanged.

The tables should be reviewed by the other relevant ISO/TC 58/SC 3 working groups, in particular, the column "Decision at the time of inspections and follow-up actions" and the three imperfection levels. Where necessary, these conditions can be adapted to reflect the conditions appropriate to their product.

If the individual working groups intend to adopt other typical manufacturing imperfections specific to their product, they can do so, provided the structure of the tables and the remaining provisions are followed.

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