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AMENDMENT 1  
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**Gas cylinders — Refillable seamless  
steel tubes for compressed gas  
transport, of water capacity  
between 150 l and 3 000 l — Design  
construction and testing**

**AMENDMENT 1: Requirements for  
design of tubes for embrittling gases**  
(standards.iteh.ai)

*Bouteilles à gaz — Tubes en acier sans soudure rechargeables  
d'une contenance en eau de 150 l à 3 000 l pour le transport des  
gaz comprimés — Conception, construction et essais*

*AMENDEMENT 1: Exigences de conception des tubes destinés aux  
gaz fragilisants*



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

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# Gas cylinders — Refillable seamless steel tubes for compressed gas transport, of water capacity between 150 l and 3 000 l — Design construction and testing

## AMENDMENT 1: Requirements for design of tubes for embrittling gases

Page 3, Clause 4, Symbols

Add the following symbol and corresponding definition to the table:

$R_{m \max}$	guaranteed maximum value of tensile strength, in megapascals
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Page 11, 11.3

Replace subclause 11.3, as follows: [ISO 11120:1999/Amd 1:2013](https://standards.iteh.ai/catalog/standards/sist/a3850718-b59e-43ba-bc31-060176432457/iso-11120-1999-amd-1-2013)

### 11.3 Design

The guaranteed minimum thickness of the cylindrical shell shall be calculated by the Lamé-von Mises formula in accordance with 7.1 except that:

$$F = \frac{f}{R_e / R_g}$$

where

$$f = 0,65 \text{ for } R_{m \max} \leq 890 \text{ MPa}$$

$$f = 0,61 \text{ for } 890 \text{ MPa} < R_{m \max} \leq 950 \text{ MPa}$$

$R_e/R_g$  shall not exceed 0,85.

The value of  $f$  shall be fixed at the time of designing the tube and shall not be established or changed retrospectively when the tube has been heat treated and qualified by physical testing. The value of  $f$  shall be defined according to guaranteed maximum strength  $R_{m \max}$ , as above.

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