INTERNATIONAL STANDARD ISO 20421-1:2006
TECHNICAL CORRIGENDUM 1

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Cryogenic vessels — Large transportable vacuum-insulated vessels —

Part 1: Design, fabrication, inspection and testing

TECHNICAL CORRIGENDUM 1

Récipients cryogéniques — Récipients transportables isolés sous vide de grande contenance —

Partie 1: Conception, fabrication, inspection et essais

RECTIFICATIF TECHNIQUE 1

Technical Corrigendum 1 to ISO 20421-1:2006 was prepared by Technical Committee ISO/TC 220, *Cryogenic vessels.*

Page 2, Clause 2

Replace the normative references ISO 15613, ISO 15614-1, ISO 15614-2, ISO 15614-3, ISO 17636, ISO 21010, ISO 21011 and ISO 21013-1 with the following:

ISO 15613, *Specification and qualification of welding procedures for metallic materials — Qualification based on pre-production welding test*

ISO 15614-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys*

ISO 15614-2, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 2: Arc welding of aluminium and its alloys*

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ISO 15614-3, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 3: Fusion and pressure welding of non-alloyed and low-alloyed cast irons* 1)

ISO 17636, *Non-destructive testing of welds — Radiographic testing of fusion-welded joints*

ISO 21010, *Cryogenic vessels — Gas/materials compatibility*

ISO 21011, *Cryogenic vessels — Valves for cryogenic service* 1)

ISO 21013-1, *Cryogenic vessels — Pressure-relief accessories for cryogenic service — Part 1: Reclosable pressure-relief valves* 1)

Insert the following footnote at the bottom of the page:

"1) To be published."

Page 12, 10.2.3.1.3

In the first paragraph, replace "10^4" with "10^9".

Page 24, 10.3.6.4.1

In the last paragraph, delete "except".

Page 44, 10.3.6.7.4

Replace the first paragraph with the following:

"All nozzles shall be attached to the vessel wall with a full penetration weld unless the attachment weld is maintained at atmospheric temperatures at all times or the weld is not subjected to thermal cycling."

Page 65, B.2.1

Replace the second paragraph with the following:

"The principal stresses f_1 and f_2 acting tangentially to the surface at the point under consideration should be calculated from the following equations:

$$f_1 = 0{,}5 \times \left(\sigma_1 + \sigma_2 + \sqrt{(\sigma_1 - \sigma_2)^2 + 4 \times \tau^2} \right)$$

$$f_2 = 0{,}5 \times \left(\sigma_1 + \sigma_2 - \sqrt{(\sigma_1 - \sigma_2)^2 + 4 \times \tau^2} \right)$$

where

σ_1 is the circumferential stress,

σ_2 is the meridional stress (longitudinal in a cylindrical shell),

τ is the shear stress."

Page 103, H.2.1.1

In the first line after Equation (H.1), replace "$Z = 0{,}5\sqrt{D_a / l_b}$" with "$Z = 0{,}5\pi\left(D_a / l_b\right)$".

Replace Equation (H.2) with the following:

$$n = 1{,}63\left(\frac{D_a^3}{l_b^2\left(s-c\right)}\right)^{0{,}25} \qquad \text{(H.2)}$$