

# DIN EN ISO 21028-2:2018-07 (E)

## Cryogenic vessels - Toughness requirements for materials at cryogenic temperature - Part 2: Temperatures between -80 degrees C and -20 degrees C (ISO 21028-2:2018)

---

Contents	Page
European foreword.....	3
<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014 on the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment.....</b>	<b>4</b>
Foreword.....	5
Introduction.....	6
<b>1 Scope.....</b>	<b>7</b>
<b>2 Normative references.....</b>	<b>7</b>
<b>3 Terms and definitions.....</b>	<b>7</b>
<b>4 Symbols.....</b>	<b>8</b>
<b>5 Requirements for steels with specified yield strength <math>\leq 460</math> N/mm<sup>2</sup>.....</b>	<b>9</b>
5.1 General.....	9
5.2 Temperature adjustments.....	10
5.3 Procedure for base material <10 mm thick.....	10
<b>6 General test requirements.....</b>	<b>11</b>
6.1 General.....	11
6.2 Sub-sized specimens.....	11
6.3 Sub-sized specimens for components from which it is impossible to extract specimens of section size equal to reference thickness.....	11
<b>7 Welds.....</b>	<b>12</b>
<b>8 Requirements for aluminium and aluminium alloys, copper and copper alloys and austenitic stainless steels.....</b>	<b>12</b>
<b>Annex A (informative) Case proposal — Technical justification for temperature adjustment term.....</b>	<b>25</b>
<b>Annex B (informative) Example of calculation of the lowest temperature authorized during operation.....</b>	<b>27</b>
<b>Bibliography.....</b>	<b>29</b>