IDSurvey
Testing · Inspection · Certification

bki

CORRIGENDA No. 1
Part 1 Seagoing Ships

# RULES FOR MATERIALS

## Volume V

March 2025


Jl. Yos Sudarso No. 38-40, Tanjung Priok
Jakarta 14320 - Indonesia
rules@bki.co.id
www.bki.co.id

# Foreword

This Corrigenda No. 1 2025 provide amendments to the Rules for Materials (Pt.1, Vol.V), January 2025 edition.

Amendments to the preceding edition are marked by strikethrough, red color, and expanded text. However, if the changes involve the whole section or sub-section, normally only the title will be in red colour. These amendments are to be read in conjunction with the requirements given in the January 2025 Edition of this Rules.

This publication is available in electronic version at www.bki.co.id. Once downloaded, this document will be uncontrolled. Please check the latest version on the website.

Further queries or comments concerning these Guidance are welcomed through communication with BKI Head Office.

# Corrigenda No. 1 – March 2025

## Section 4 Steel Plates, Strips, Section, and Bars

### B. Normal and Higher Strength Hull Structural Steels

#### 6. Mechanical properties

**6.1** For tensile testing either the upper yield strength $R_{eH}$ or, where this is not stipulated, the 0,2 percent proof stress $R_{p0,2}$ is to be determined and the material is considered to satisfy the requirements if one of these values meets or exceeds the prescribed minimum value for the yield strength $R_e$.

**6.2** The results obtained from tensile tests shall comply with the appropriate requirements of Table 4.7 and Table 4.8.

**Table 4.7 Mechanical properties for normal strength steels**

| Grade | Yield strength $R_{eH}$ [N/mm$^2$] min. | Tensile strength $R_m$ [N/mm$^2$] | Elongation [1] $A_5$ (at $L_o = 5,65 \cdot \sqrt{S_0}$) [%] min. | Notched bar impact energy [5] Test temp [°C] | KV [J] min. t ≤ 50 [mm] long. | KV [J] min. t ≤ 50 [mm] transv. | KV [J] min. 50 < t ≤ 70 [mm] long. | KV [J] min. 50 < t ≤ 70 [mm] transv. | KV [J] min. 70 < t ≤ 100 [mm] long. | KV [J] min. 70 < t ≤ 100 [mm] transv. |
|---|---|---|---|---|---|---|---|---|---|---|
| KI-A | 235 | 400 - 520[2] | 22[1] | + 20 | – | – | 34[4] | 24[4] | 41[4] | 27[4] |
| KI-B | | | | 0 | 27[3] | 20[3] | 34 | 24 | 41 | 27 |
| KI-D | | | | – 20 | 27 | 20 | 34 | 24 | 41 | 27 |
| KI-E | | | | – 40 | 27 | 20 | 34 | 24 | 41 | 27 |

t = thickness of product [mm]

[1] Required elongation for flat tensile test specimens with gauge length $L_0$ = 200 mm, width = 25 mm and a thickness equal to the product thickness:

| t [mm] | ≤ 5 | > 5 ≤ 10 | > 10 ≤ 15 | > 15 ≤ 20 | > 20 ≤ 25 | > 25 ≤ 30 | > 30 ≤ 40 | > 40 ≤ 50 |
|---|---|---|---|---|---|---|---|---|
| Elongation $A_{200}$ mm [%] | 14 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |

[2] For Grade KI–A sections the upper limit for the specified tensile strength range may be exceeded up to 570 N/mm$^2$, irrespective of product thickness.

[3] Notch impact tests are generally not required for Grade KI–B steels with thickness of 25 mm or less.

[4] For Grade KI–A products with thickness in excess of 50 mm, notch impact tests are not required provided that the steel has been fine grain treated and normalised. TM rolled steels may also be supplied without notch impact testing provided that BKI has waived the need.

[5] See B.6.3 and B.6.4

**6.3** The minimum impact energy requirements relate to Charpy V-notch impact test specimens, which are taken in either the longitudinal or transverse directions. Generally only longitudinal test specimens need be prepared and tested. For special applications, if required by BKI or the purchaser, transverse specimens are to be tested. The requirements in respect of the transverse test specimens shall be guaranteed by the manufacturer.

The tabulated values are for standard specimens 10 mm × 10 mm. For plate thicknesses lower than 10 mm, the requirement for performing a notch impact test may be waived with the approval of BKI or sub-size specimens with reduced requirements may be taken as follows:

Specimen dimensions 10 mm x 7,5 mm:

— 5/6 of the tabulated value

Specimen dimensions 10 mm x 5,0 mm:

— 2/3 of the tabulated value

Correction: The number should be changed from 7 mm to 70 mm due to a typo, and a footnote should be added to indicate the correction

*end*