
RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part M Welding

2016 AMENDMENT NO.2

Rule No.82 27th December 2016

Resolved by Technical Committee on 27th July 2016

Approved by Board of Directors on 20th September 2016

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

Rule No.82 27th December 2016

AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

“Rules for the survey and construction of steel ships” has been partly amended as follows:

Part M WELDING

Amendment 2-1

Chapter 1 GENERAL

1.2 Tests before Welding Works

1.2.1 Execution of Tests

Sub-paragraph -3 has been renumbered to Sub-paragraph -4, and Sub-paragraph -3 has been added as follows.

3 The chemical composition is to be analyzed at an adequately equipped and completely staffed laboratory. The testing machines used for the mechanical testing of welded joints and welding consumables are to be those which have the effective certificates issued by the Society or other organization recognized by the Society in accordance with the “Rules for Testing Machines” or other standards deemed appropriate by the Society.

~~34~~ Where appropriate certifications for the welding procedure, the welder’s qualifications, the welding consumables, etc. are accepted by the Society, the tests thereof may be dispensed with by the Society’s discretion.

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

- 1.** The effective date of the amendments is 27 December 2016.

Chapter 4 WELDING PROCEDURE AND RELATED SPECIFICATIONS

4.2 Tests for Butt Welded Joints

4.2.7 Impact Tests*

Notes of Table M4.8 have been amended as follows.

Table M4.8 Impact Test Requirements for Butt Welded Joint (Rolled Steels for Lower Temperature Service)

Grade of steel	Testing temperature (°C)	A ⁽¹⁾	B, C, D, E ⁽¹⁾	
		Value of minimum mean absorbed energy ⁽³⁾ (J)	Value of minimum mean absorbed energy ⁽³⁾ (J)	
			L ⁽²⁾	T ⁽²⁾
KL24A	-40	27	41	27
KL24B	-50			
KL27	-60			
KL33	-60			
KL37	-60			
KL2N30	-70			
KL3N32	-95			
KL5N43	-110			
KL9N53	-196			
KL9N60	-196			
KLPA	-40		27	-
KLPB	-50			
KLPC	-60			
KLP2	-70			
KLP3	-95			
KLP9	-196	41		

Notes:

- (1) Position of notch as shown in **Fig.M4.4**.
- (2) L (or T) indicates that the direction of welding is transverse (or parallel) to the rolling direction of test materials.
- (3) A set of test specimens is considered to have failed if the value of absorbed energy of more than two test specimens is less than the specified value of minimum mean absorbed energy or if the value of any one of the test specimens is less than 70% of the specified value of minimum mean absorbed energy.
- ~~(4) Where requirements in Part N of the Rules apply, the impact test temperature is to be as given as follows :
 (a) Impact test temperature for KL24A through KL5N43 is to be the lower of the temperatures given in Table K3.17 specified in 3.4.5.2, Part K of the Rules.
 (b) Impact test temperature for KLPA through KLPC is to be either 5 °C below the design temperature or 20 °C whichever is less.~~

4.2.11 Retests

Sub-paragraph -3 has been amended as follows.

3 Where results of the impact test fail to satisfy the requirements and in cases other than those given in the following (1) and (2), retests may be carried out on a set of test specimens selected from the same test material as the one from which the failed test specimens were selected. In this case, the test specimens are considered to have passed the tests if the average value of absorbed energy of a total of six test specimens, including the values of the failed specimens, is not less than the value of the specified minimum mean absorbed energy and, furthermore, if the number of test specimens among the said six test specimens which are of lower energy than the specified value of minimum mean absorbed energy, and the number of test specimens which are of 70% lower energy than the specified value of minimum mean absorbed energy are not more than two and one respectively.

- (1) Where all test specimens fail to reach the specified value of minimum mean absorbed energy
- (2) Where two of the test specimens fail to reach 70% of the specified value of minimum mean absorbed energy

Chapter 6 WELDING CONSUMABLES

6.1 General

6.1.7 Retests

Sub-paragraph -2 has been amended as follows.

2 Where results of the impact test fail to meet the requirements and in cases other than those given in the following (1) and (2), retests may be carried out on a set of test specimens selected from the same test material as the one from which the failed test specimens were taken. In this case, the test specimens are considered to have passed the tests if the mean value of absorbed energy of a total of six test specimens, including the values of the failed specimens, is greater than the value of the specified minimum mean absorbed energy and, furthermore, if the number of test specimens among the said six test specimens which are of lower energy than the specified value of minimum mean absorbed energy, and the number of test specimens which are of 70% lower energy than the specified value of minimum mean absorbed energy is less than two and one respectively.

- (1) Where all test specimens fail to reach the specified value of minimum mean absorbed energy.
- (2) Where two of the test specimens fail to reach 70% of the specified value of minimum mean absorbed energy.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 1 January 2017.
2. Notwithstanding the amendments to the Rules, the current requirements apply to ships other than ships that fall under the following:
 - (1) for which the building contract is placed on or after the effective date; or
 - (2) in the absence of a building contract, the keels of which are laid or which are at *a similar stage of construction* on or after 1 July 2017; or(Note) The term “*a similar stage of construction*” means the stage at which the construction identifiable with a specific ship begins and the assembly of that ship has commenced comprising at least 50 tonnes or 1%* of the estimated mass of all structural material, whichever is the less.
* For high speed craft, “1%” is to be read as “3%”.
 - (3) the delivery of which is on or after 1 January 2021.
3. Notwithstanding the provision of preceding 2., the amendments to the Rules apply to the ships that fall under the following:
 - (1) which convert to using low-flashpoint fuels on or after the effective date; or
 - (2) which, on or after the effective date, undertake to use low-flashpoint fuels different from those which it was originally approved to use before the effective date.