

NIPPON KAIJI KYOKAI

Approval No. NKY-2226 Certificate No. TA201173E

Certificate OF

TYPE APPROVAL

Article:

Welding Consumables for High Tensile Steels for Hull and Steels for

T .

Low Temperature Service

Brand:

MX-55LF

Applicant:

Kobe Steel, Ltd., Ibaraki Plant

Ibaraki, Osaka, Japan

Manufacturer:

Kobe Steel, Ltd., Ibaraki Plant

Ibaraki, Osaka, Japan

Grade:

KSW54G(C)

KSWL3G(C)

Welding Process:

Semi-Automatic Welding (MAG Welding)

Welding Positions and Max. Diameter of Wire:

See Table 1

Current:

DCEP

Shielding Gas:

 CO_2

Remark:

For annual inspection, mechanical properties are to comply with the

requirements specified in Table 2

Table 1 Welding Positions and Max. Diameter of Wire for Both Grades

| Butt W | eld | Fillet Weld | |
|--------------------|----------------|----------------------|----------------|
| Flat: | Not Applicable | Flat: | 1.6mm |
| | | Horizontal Vertical: | 1.6mm |
| Horizontal: | Not Applicable | Horizontal: | Not Applicable |
| Overhead: | Not Applicable | Horizontal Overhead: | Not Applicable |
| | | Overhead: | Not Applicable |
| Vertical Upward: | Not Applicable | Vertical Upward: | Not Applicable |
| Vertical Downward: | Not Applicable | Vertical Downward: | Not Applicable |

THIS IS TO CERTIFY that the above mentioned welding consumable has been approved by the NIPPON KAIJI KYOKAI in accordance with the requirements of the Society's Rules.

This Certificate will remain in force until 26 October 2020. Issued at Tokyo on 8 October 2020.

Y. Takao

General Manager

Material and Equipment Department

Note: (1) The validity of this certificate may be renewed by endorsement on the attached sheet upon completion of the annual inspections.

(2) The certificate was rewritten because of change of Welding positions of Wire.



Table 2 Mechanical Properties

| Deposited Metal Test | | | | | | |
|--------------------------------|---------------------|----------------|---|--|--|--|
| | | | | | | |
| Tensile strength (N/mm²) | Yield point (N/mm²) | Elongation (%) | Testing temperature $(^{\circ}\!$ | Minimum mean absorbed energy (J) | | |
| 490~660 | 375 min. | 22 min. | -40 -60 | 47 34 | | |

| The validity of this certificate has been renewed | | The validity of this certificate has been renewed | |
|---|------------------------|---|---|
| until | 2 6 . OCT. 2021 | | until |
| | Date: 2 8, SEP 3 | 020 | Date:Surveyor |
| The validity of this certificate has been renewed | | enewed | The validity of this certificate has been renewed |
| until | 26. OCT. 2022 | • | until |
| | Date: 27. SEP | | Date: |
| | Surveyor | SSNK . | Surveyor |
| The validity of this certificate has been renewed | | The validity of this certificate has been renewed | |
| until | 26. OCT. 2023 | • | until |
| | Date: 26, SEP. | AND | Date: |
| | Surveyor | ASSNY: | Surveyor |
| The validity of this certificate has been renewed | | The validity of this certificate has been renewed | |
| until 26. OCT. 2024 - | | until | |
| Date: 29, SEP 2027 | | Date: | |
| | Surveyor | SSNK. | Surveyor |
| The validity of this certificate has been renewed | | The validity of this certificate has been renewed | |
| until | 2 6, OCT, 2025 | • | until |
| Date: 24. SEP. 2024 Surveyor | | Date: | |
| | | SSNK | Surveyor |