



Approval No. NKY-3546
Certificate No. TA22366E

NIPPON KAIJI KYOKAI

Certificate OF TYPE APPROVAL

Article: Welding Consumables for Steels for Low Temperature Service
Brand: Cryo-Shield LNG
Applicant: ESAB SeAH Corp.
56, Jeongdong-ro 62beon-gil, Seongsan-gu, Chang-won-si,
Gyeongsangnam-do, Korea
Manufacturer: ESAB SeAH Corp.
56, Jeongdong-ro 62beon-gil, Seongsan-gu, Chang-won-si,
Gyeongsangnam-do, Korea
Grade: KSWL92G(C)
KSWL92G(C) -YP420M-TS690M
Welding Process: Semi-Automatic Welding (MAG Welding)
Welding Positions and Max. Diameter of Wire: See Table 1 below
Current: DCEP
Shielding Gas: CO₂
Remarks: 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 Weld | | Fillet Weld | |
|--------------------|----------------|----------------------|----------------|
| Flat: | 1.2mm | Flat: | 1.2mm |
| Horizontal: | 1.2mm | Horizontal Vertical: | 1.2mm |
| Overhead: | 1.2mm | Horizontal: | 1.2mm |
| Vertical Upward: | 1.2mm | Horizontal Overhead: | 1.2mm |
| Vertical Downward: | Not Applicable | Overhead: | 1.2mm |
| | | Vertical Upward: | 1.2mm |
| | | 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 16 March 2023.

Issued at Tokyo on 24 May 2022.



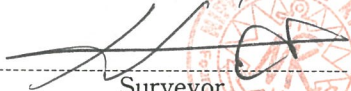

Y. Takao
General Manager
Material and Equipment Department

- Notes: (1) The validity of this certificate may be renewed by endorsement on the attached sheet upon completion of the annual inspections.
(2) This certificate was rewritten because of addition of grade of welding consumable.

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Table 2 Mechanical Properties

| Deposited Metal Test | | | | |
|---------------------------------------|----------------------------------|----------------|--------------------------|----------------------------------|
| Tensile Test | | | Impact Test | |
| Tensile strength (N/mm ²) | Yield point (N/mm ²) | Elongation (%) | Testing temperature (°C) | Minimum mean absorbed energy (J) |
| 690 min. | 420 min. | 25 min. | -196 | 27 |

| | |
|--|---|
| <p>The validity of this certificate has been renewed until <u>2024.03.16</u> .</p> <p>Date: <u>2023.08.24</u></p> <p> Surveyor</p>  | <p>The validity of this certificate has been renewed until _____ .</p> <p>Date: _____</p> <p>_____ Surveyor</p> |
| <p>The validity of this certificate has been renewed until <u>2025.03.16</u> .</p> <p>Date: <u>2023.09.28</u></p> <p> Surveyor</p>  | <p>The validity of this certificate has been renewed until _____ .</p> <p>Date: _____</p> <p>_____ Surveyor</p> |
| <p>The validity of this certificate has been renewed until _____ .</p> <p>Date: _____</p> <p>_____ Surveyor</p> | <p>The validity of this certificate has been renewed until _____ .</p> <p>Date: _____</p> <p>_____ Surveyor</p> |
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