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Certificate for Welding Consumable CM-B98

Project: Supplementary List of Certified Welding Consumables

Client: Kobe Steel, Ltd. Office: Yokohama

Ibaraki Plant

Clients Order Number: - Date: 01 July 2024

Order Status: Completed

Inspection Dates

First: 21 February 2024 Final: 17 May 2024

This certificate is issued to the above Client to certify that the undersigned Surveyor to this Society did at their request attend their Ibaraki Plant and Fujisawa Plant on and between the dates shown above for the purpose of examining and testing below noted welding consumable.

Trade Name: CM-B98

Welding Process: Manual Electrode

Welding Position: DVuO Joint Type: BF

Specification: CM-B98 [M – Manufacturer's specification]

A weld metal assembly was prepared using the welding consumable of lot number A027387, and specimens machined from the assembly according to the specification were tested using calibrated measuring and testing equipment in the presence of the undersigned with results satisfying the requirements of the specification as follows.

Mechanical Properties of Deposit Metal

| | Dia. [mm] | Re [N/mm²] | Rm [N/mm²] | A [%] | CVN Impact [J] | Test Temp. | Stress Relief | |
|----------|-----------|------------|------------|-------|----------------|------------|---------------|--|
| Spec. | 2.6-5.0 | ≥ 460 | ≥ 550 | ≥ 19 | - | - | 690±14°Cx1hr | |
| Obtained | 4.0 | 598 | 690 | 26 | - | - | 690±14°Cx1hr | |

Chemical Analysis of Deposit Metal [WT %]

| | Chemical Analysis of Deposit Metal [111 70] | | | | | | | | | |
|----------|---|----------|----------|-----------|-----------|----|-----------|-----------|----|--|
| | С | Si | Mn | P | S | Ni | Cr | Мо | Cu | |
| Spec. | 0.05-0.12 | 0.80 max | 0.90 max | 0.030 max | 0.025 max | - | 1.00-1.50 | 0.40-0.65 | - | |
| Obtained | 0.07 | 0.60 | 0.79 | 0.008 | 0.002 | - | 1.35 | 0.53 | - | |

The works of the manufacturer was inspected and found in satisfactory order. The process of manufacture, including supervision, quality control and record keeping were of adequate standard and storage condition and facilities were found to be satisfactory as well.



M. Wakamori Surveyor to Lloyd's Register Group Limited

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