



Certificate number : WM 12263/37/L.0

File number : 12263 N 2015

## TYPE APPROVAL CERTIFICATE

as per Bureau Veritas Marine & Offshore Classification Rules

This certificate is issued to

**TIEN TAI ELECTRODE CO., LTD.**

TAINAN CITY - TAIWAN

for the product

### Wire / Flux Combination for Submerged Arc Welding

|                         |                                                                                                                                                                                                                                                                                     |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Designation</b>      | : TW-2209/TFS-330                                                                                                                                                                                                                                                                   |
| <b>Grade</b>            | : 2205M                                                                                                                                                                                                                                                                             |
| <b>Description</b>      | : Solid wire / Flux                                                                                                                                                                                                                                                                 |
| <b>Diameter</b>         | : 2.4, 3.2, 4.0 mm                                                                                                                                                                                                                                                                  |
| <b>Welding current</b>  | : DC(+)                                                                                                                                                                                                                                                                             |
| <b>Welding position</b> | : Flat butt weld (PA bw)                                                                                                                                                                                                                                                            |
| <b>Remark</b>           | : Deposited metal tested with specified Charpy V min average KV 40 J at -60°C. When used for units classed with Bureau Veritas and where Charpy V impact tests are required at -60C, approval tests of welding procedures are to be conducted on samples made with this consumable. |

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements of Bureau Veritas Marine & Offshore Rules on Materials and Welding for the Classification of Marine Units.

This certificate is a renewal of certificate N° WM 12263/37/K.0 expiring on 05/08/2026

**This certificate will expire on: 05 Aug 2027**

**For Bureau Veritas Marine & Offshore,**

Local office: BV TAIPEI

Issued on 31 Jul 2026

Surveyor: R. YIN

**This certificate was created electronically and is valid without signature**



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.