



Certificate number : WM 28798/43/A.0

File number : 28798 N 2022

## TYPE APPROVAL CERTIFICATE

as per Bureau Veritas Marine & Offshore Classification Rules

This certificate is issued to

**TIEN TAI ELECTRODE (KUN SHAN) CO., LTD.**

Kunshan City (Jiangsu Province) - CHINA

for the product

**Covered Electrode for Manual Metal Arc Welding**

<b>Designation</b>	: TNM-9
<b>Grade</b>	: N90
<b>Description</b>	: Basic covering
<b>Diameter</b>	: 2.6, 3.2, 4.0mm
<b>Welding current</b>	: AC/DCEP
<b>Welding position</b>	: All positions for butt and fillet welding except vertical downwards (PA, PF, PC, PE, PD, PB)
<b>Remark</b>	: Welding for 9Ni steel. Deposited metal tested with Remin 420 N/mm <sup>2</sup> , Rm min 670 N/mm <sup>2</sup> , A5min 22%. Charpy-V min KV 47 J at - 196 °C. Butt weld tested with Rm min. 690 N/mm <sup>2</sup> , Charpy-V min KV 47 J at - 196 °C. When used for units classed with Bureau Veritas, qualification 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 will expire on: 02 Nov 2023**

**For Bureau Veritas Marine & Offshore,**

Local office: BV SHANGHAI

Issued on 02 Nov 2022

Surveyor: I. Wang

**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.