

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Wire/Gas combination**with trade name
Thermanit 18/17 E Mn / M12Manufacturer
voestalpine Böhler Welding Germany GmbH
Hamm, Germanyis found to comply with
DNV GL rules for classification – Ships
DNV GL class programme DNVGL-CP-0069 – Type approval – Welding consumables

with this approval

Grade	VL 317 L*
Current	DC(+)
Approved diameter	0.8 - 1.2mm
Positions	All, including vertical-downwards
Remarks	*) Wire acc. AWS A5.9 ER317L (mod.) For Gas metal arc welding (GMAW). Impact test at -196°C average value > 32J

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.Issued at **Hamburg** on **2021-07-12**This Certificate is valid until **2025-12-31**.for **DNV**DNV local station: **Essen**Approval Engineer: **Dietmar Liebich**

Thorsten Lohmann
Head of Section

Any significant change in design or construction may render this Certificate invalid.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

