

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Gas combination

with trade name
Thermanit X / M12

Manufacturer
voestalpine Böhler Welding Germany GmbH
Hamm, Germany

is found to comply with
DNV GL rules for classification – Ships

with this approval

Grade	*
Current	DC +
Approved diameter	0,8 - 1,6mm
Positions	PA, PB, PF, PC (1G, 1F, 2F, 3Gu, 3Fu, 2G)
Remarks	*) Wire acc. EN ISO 14343-A : G 18 8 Mn Wire acc. AWS A5.9 ER307 (mod.) For Gas metal arc welding (GMAW). Impact test at -20°C average value > 47J

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2020-12-31**.

Issued at **Hamburg** on **2016-07-29**

DNV GL local station: **Essen**

for **DNV GL**

Approval Engineer: **Dietmar Liebich**

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Thorsten Lohmann
Head of Section

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