

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000007N
Revision No:
1

This is to certify:

That

TMK ARTROM SA
30, Draganesti Street,
Slatina, Olt County, 230119,
Romania

is an approved manufacturer of
Steel Pipes and Fittings

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

| | |
|---------------------------------------|--|
| Product | Pipes |
| Application area | Pipes for pressure systems, Pipes for low-temperature service, Boiler and superheater tubes |
| Steel type | Carbon and carbon-manganese, Alloy, See page 2 |
| Manufacturing method | Seamless hot / cold formed |
| Max. outer diameter | 244.5 mm |
| Max. wall thickness | 60 mm |
| Heat treatment condition | See page 2 |
| Additional approval conditions | See page 2 |

Manufacturer(s) approved by this certificate is/are accepted to deliver according to DNV GL, DNV and GL rules. Materials to be applied to DNV GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2019-06-24**

for **DNV GL**

This Certificate is valid until **2022-06-30**.

DNV GL local station: **Galatz**

Approval Engineer: **Christian Wildhagen**

Thorsten Lohmann
Head of Section



Job Id: **263.11-005247-2**
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Particulars of the approval

Pipes for pressure systems ²⁾

Pipes for low-temperature service ³⁾

Boiler and superheater tubes ⁴⁾

| Steel type | Manufacturing method ¹⁾ | Max. outer diameter [mm] | Max. wall thickness [mm] | Heat treatment condition |
|------------|------------------------------------|--------------------------|--------------------------|--------------------------|
| C and C-Mn | CFS, HFS | 244.5 | 60 | Acc. standard |
| Alloy | CFS, HFS | 244.5 | 60 | Acc. standard |

Remarks:

- ¹⁾ HFS: hot finished seamless
CFS: cold finished seamless
- ²⁾ Pipes for pressure systems
Suitable pipe grades shall be selected from the following recognized standards:
ISO 9329 Parts 1 and 2, ISO 9330 Parts 1 and 2, EN 10216 Parts 1 to 3, EN 10217 Parts 1 to 3, EN 10305 Part 1 and 2, ASTM A53, ASTM A106, ASTM A135, ASTM A335, JIS G3454, JIS G3455, JIS G3456 or JIS G3458
- ³⁾ Pipes for low-temperature service
Suitable pipe grades shall be selected from the following recognized standards:
ISO 9329 Part 3, ISO 9330 Part 3, EN 10216 Part 4, EN 10217 Part 6, ASTM A333, ASTM A334 or JIS G3460
- ⁴⁾ Boiler and superheater tubes
Suitable pipe grades shall be selected from the following recognized standards:
ISO 9329 Part 2, ISO 9330 Part 2, EN 10216 Part 2, EN 10217 Part 2, ASTM A178, ASTM A209, ASTM A210, ASTM A213, JIS G3461, JIS G3462 or JIS G3463

Special conditions:

Including automatic non-destructive testing in lieu of hydraulic testing according to relevant standard