DNV·GL

Certificate No:
TAP000003B

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gaskets and Sealings

with type designation(s)
DeltaV-Seal

Issued to
Otechos AS
Tvedestrand, Norway

is found to comply with
Det Norske Veritas' Rules for Classification of Ships Pt.4, Ch.6 "Piping Systems"

Application :

Metallic gaskets approved for use with ASME B16.5 and EN 1092-1 bolted flanges.

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

Temperature range:	**See cert.**
Max. working press.:	**See cert.**
Design:	**Flat metallic gasket**
Sizes:	**1/2" - 12" / DN15 - DN300**

This Certificate is valid until **2019-10-04**.

Issued at **Høvik** on **2015-10-05**

for **DNV GL**

DNV GL local station: **Kristiansand S**

Approval Engineer: **Simon Ratcliffe**

Marianne Spæren Marveng
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

Flat metallic gaskets approved for use with ASME B16.5 and EN 1092-1 bolted flanges.
External diameters of centring rings are in accordance with ASME B16.20 and EN 1514-2.

Approved sizes and pressure classes:

ASME B16.5 Class 150 & Class 300
½", ¾", 1", 1¼", 1½", 2", 2½", 3", 3½", 4", 5", 6", 8", 10", 12".

EN 1092-1 PN6, PN10, PN16, PN25, PN40
DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN125, DN150, DN200, DN250, DN300.

Materials:

Carbon steel	EN 10025-2	S235, S275, S355
Stainless steel	EN10028-7	1.4401, 1.4404, 1.4432, 1.4435

Application/Limitation

Maximum permitted pressure and temperature according to the flange design standard and pressure rating.

This approval has not covered the gasket recommended bolt torque values.

Type Approval documentation

Tests carried out

Bolt torque test (1", 2", 4"), leakage and burst test (1", 6"), pressure pulsation and vibration test (1", 6", 12"), damaged flange leakage test (2")

Marking of product

Each gasket is to be marked with:

- The manufacturer's name or trademark;
- Gasket material;
- DN or NPS size designation;

- PN or pressure rating class.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform a survey every second year and before the expiry date of this certificate to verify that the conditions for the type approval are complied with.