

TYPE APPROVAL CERTIFICATE

This is to certify:**That the FFTS MK4 Anchor**

with type designation(s)

**B(066)4103A0, B(066)5254A0, B(066)4116A0, B(066)4288A0 , B(066)5360A0,
B(066)5865A0, B(066)4081A0, B(066)4525A0, B(066)4026A0, B(066)4876A0,
B(066)7085A0, B(066)4008A0, B(066)4096A0, B(066)4473A0, B(066)6120A0,
B(066)4036A0, B(066)4152A0, B(066)4073A0, B(066)6397A0, B(066)7260A0 and
B(066)7269A0**

Issued to

**Bruce Anchor Ltd
Aberdeen, United Kingdom**

is found to comply with

DNVGL-OS-E301 – Position mooring, Edition July 2018**Application :****To be used for Temporary and Mobile Mooring,
as defined in DNVGL-OS-E301 Position Mooring July 2018.**Issued at **Høvik** on **2019-03-27**This Certificate is valid until **2024-03-26**.for **DNV GL**DNV GL local station: **Aberdeen**Approval Engineer: **Pierre-Eric Moulia****Inger-Helene Hals
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.



This certificate is a renewal of expired S-8050.

Product description

Drag Embedment Type Anchor.

21 sizes from 500 Kg to 40000 Kg are included in this type approval: 500, 750, 1000, 1500, 2000, 2500, 3000, 4000, 5000, 7000, 8000, 9000, 10000, 12000, 15000, 17500, 18000, 20000, 32000, 35000 and 40000 Kg.

The anchor shackles are covered by their own and separate type approval certificate.

Application/Limitation

Each delivered anchor shall be proof load tested at 50% of the minimum breaking strength of the anchor line.

This certificate does not include any geotechnical design review to establish the maximum anchor soil resistance which is site specific.

The anchors are to be used for Temporary and Mobile Mooring, as defined in DNVGL-OS-E301 Position Mooring July 2018.

The materials shall be manufactured and tested according to applicable parts of DNVGL-OS-B101, at works which have been approved by DNVGL, and delivered with EN 10.204 3.2 type material certificates.

The anchor line MBL for a given anchor size shall not be greater than twice the anchor proof load test value.

Type Approval documentation

Tests carried out

Anchor shackles are tested separately (by shackle manufacturer) according to DNVGL-OS-E302.

Fabrication of anchors shall be in accordance with DNVGL-OS-C401.

Marking of product

The anchors shall be marked according to DNVGL-OS-E301 July 2018, Ch3 Sec 2 §3.3.1

Periodical assessment

For retention of this Type Approval, a DNVGL surveyor shall perform a periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days). The objective of the periodical assessment is to verify that the conditions for the Type Approval have not been altered. (Ref DNVGL-CP-0338 Type approval scheme).