

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class H Penetration

with type designation(s)
HPT Retrofit System

Issued to

Trelleborg Offshore Norway AS
KROKSTADELVA, Norway

is found to comply with
DNV GL offshore standards

Application :

Approved for use as steel pipe penetration system in class H-0 steel bulkheads and steel decks for steel sleeves of minimum OD: 114 mm and maximum OD: 1016 mm

This Certificate is valid until **2019-06-30**.

Issued at **Høvik** on **2015-12-28**

for **DNV GL**

DNV GL local station: **Station Oslo Maritime and CAP**

Approval Engineer: **Ragnar Tonjer**

Petter Langnes
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.

Product description

"HPT Retrofit System",

Consisting of a steel sleeve made of two welded halves and a flexible collar "HPT Seal" covering the gap between the steel pipe and the steel sleeve.

The collar "HPT Seal" consists of reinforced rubber and is fixed to the pipe and the sleeve by use of steel bands.

The steel sleeve is bolted to the bulkhead/deck with flanges on both sides. The steel sleeve may also be fully welded to the bulkhead/deck without the use of flanges.

Application/Limitation

Approved for use as steel pipe penetration system in class H-0 steel bulkheads and steel decks.

Sleeve sizes: min. OD: 114 mm, maximum OD: 1016 mm.

Sleeve length: minimum 145 mm.

	Steel sleeve diameter	Steel sleeve diameter	Steel sleeve diameter
	114 mm	>114 mm to 219 mm	>219 mm to 1016 mm
Fire expected on one side only	Sleeve and collar on either side. Collar length: 150 mm, fixed with one steel band on sleeve and pipe.	Sleeve and collar on either side. Collar length: 200 mm, fixed with one steel band on sleeve and pipe.	Sleeve and collar on either side. Collar length: 250 mm, fixed with two steel bands on sleeve and pipe.
Fire expected on both sides	As above	As above	Sleeve and collar on both sides. Collar length: 250 mm, fixed with two steel bands on sleeves and pipe.

The retrofit sleeve system shall be installed according to drawing No. 2204957-3 Rev. 4 and/or No. KRO-001466 Rev. 1.

The penetration system is not to be used for penetrating boundaries of tanks.

The retrofit system is to be supplied with its manual for installation/application and maintenance.

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, October 2015.

Test report No. 103070.46A and 103070.46B both dated 28 November 2008, from SINTEF NBL, Trondheim, Norway.

Test reports showing welded sleeve without flange: no.103070.68-TR1 and no. 103070.68-TR2 dated 12 March 2014 from SINTEF NBL, Trondheim, Norway.

Drawing No. 2204957-3 rev. 4 dated 03 March 2010.

Drawing No. KRO-001466 Rev. 1 (showing welded sleeve to bulkhead/deck) dated 18 December 2015.

Tests carried out

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)) and NPD HC fire load/temperature curve.



Job Id: **262.1-007891-11**
Certificate No: **TAF0000062**

Marking of product

The product or packing is to be marked with name of manufacturer, type designation and fire-technical rating.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in DNVGL-CP-0338 Section 4.