DNV·GL

Certificate No:
TAD000014Y

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Mud and Cementing Equipment

with type designation(s)
2" Black Eagle Flexible Hoses for Mud, Cementing and Chemical Injection (2580N-32V80)

Issued to
Parker Hannifin Manufacturing Germany GmbH & Co. KG - Polyflex Division Europe
Lampertheim, Hessen, Germany

is found to comply with
DNVGL-OS-E101 – Drilling facilities, Edition January 2018

Application :

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.
Product(s) covered in this certificate are: mud flexible hoses, cementing flexible hoses and chemical injection flexible hoses.

Issued at **Høvik** on **2019-07-01**
This Certificate is valid until **2024-06-30**.
DNV GL local station: **Augsburg**

Approval Engineer: **Sinisa Sedlan**

for **DNV GL**

Zeinab Sharifi
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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Reference standard

API Spec 7K, Drilling and Well Servicing Equipment, 6th edition.

Manufacturing location

Hose manufacturer and assembly plant:
- Parker Hannifin Manufacturing Germany GmbH & Co. KG - Polyflex Division Europe
  An der Tuchbleiche 4, 68623 Lampertheim (Hüttenfeld), Germany

Product description

Mud, cementing and chemical injection hose assemblies including:
- unbonded flexible hose
- end termination
- end connection - type approved by DNV GL (ref. certificate TAD00000R7)
  - Union 2" Figure 1502

Structure	Hose nominal size	Max design pressure	Tempe-rature range	Core tube ID (hose ID)	Hose OD	FSL
2580N-32V80	2"	5 000 psi (mud) 10 000 psi (cementing/ chemical injection)	-20/82°C (mud/ cementing) -40/70°C (chemical injection)	50.5 mm	84.5 mm	1

Application/Limitation

This type approval is valid only for hose assemblies whose end connections are covered in type approval certificate TAD00000R7, and which are manufactured during the period of validity of type approval certificate TAD00000R7.
Parts of the union connection that are not integral to the hose assembly (nuts, seals) shall also be covered by TAD00000R7.

Conditions and limitations from type approval certificate TAD00000R7 are applicable for the end connections.

Type Approval documentation

Tests carried out

Design verification testing for FSL 1 performed according to Sec. 9.7.10 in API Spec. 7K 6th edition. The final burst pressure of the hose is 24887 psi.
Reference is made to SwRI® Report 18267.01.009, dated June 18, 2019.

Production testing

1. Assembling of end terminations on hose bodies shall be according to procedures written and maintained by Parker Polyflex Division Europe.
2. Production testing as described in API Spec. 7K shall be followed.
3. DNV GL Product Certificate shall be issued for use on DNV GL class vessels and rigs with notation DRILL, DRILL(N), WELL-1, WELL-2, WELL(N).

Marking of product

For traceability the following marking is to be carried out on each product:

- All equipment shall be clearly marked with identification and serial number which relates the equipment to certificates and fabrication documentation.
- Markings in accordance with API spec. 7K, 6th ed.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.