DNV·GL

Certificate No:
TAP00001WE

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings

with type designation(s)
PIRTEK PE2, PIRTEK PE4/6 5000, PIRTEK PE4/6 6000

Issued to
Diesse Rubber Hoses S.p.A.
Filago BG, BG, Italy

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses

Application :

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

Type:	Temperature range:	Max. working press.:	Sizes:
PIRTEK PE2	-40°C to +100°C	250 to 450 bar	DN6 to DN25
PIRTEK PE4/6 5000	-40°C to +121°C	380/350 bar	DN10 to DN38
PIRTEK PE4/6 6000	-40°C to +121°C	420 bar	DN10 to DN38

Issued at **Høvik** on **2019-10-10**
This Certificate is valid until **2024-10-09**.
DNV GL local station: **Italy/Malta CMC**

Approval Engineer: **Adel Samiei**

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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Job Id: **262.1-030890-1**
Certificate No: **TAP00001WE**

Product description

Four types of hose assemblies:

PIRTEK PE2

Tube:	Black synthetic rubber resistant to oil
Reinforcement:	Two high tensile steel braids
Cover:	Black, synthetic rubber resistant to oils, abrasion and weather condition STANDARD,MSHA, MSHA HARC, MSHA ENDLESS, HARC, ENDLESS COVERS
Coupling:	Intertraco fitting type K DN≤19 Intertraco fitting type J DN=19 & 25

PIRTEK PE4/6 5000

Tube:	Black synthetic rubber resistant to oil
Reinforcement:	Four high tensile steel spirals up to -20, six spirals - 24
Cover:	Black, synthetic rubber resistant to oils, abrasion and weather condition STANDARD,MSHA, MSHA HARC, MSHA ENDLESS, HARC, ENDLESS COVERS
Couplings:	Intertraco couplings type J DN≤31 / Intertraco couplings type H DN=38

PIRTEK PE4/6 6000

Tube:	Black synthetic rubber resistant to oil
Reinforcement:	Four high tensile steel spirals up to -16, six spirals -20 and -24
Cover:	Black, synthetic rubber resistant to oils, abrasion and weather condition STANDARD,MSHA, MSHA HARC, MSHA ENDLESS, HARC, ENDLESS COVERS
Couplings:	Intertraco couplings type J DN≤25/ Intertraco couplings type H DN>25

Coupling Material: 11SMnPb30 EN 10277-3, 11SMnPb37 EN 10277-3, 36SMnPb14 EN 10277-3, C45 EN 10277-2, S355J2 EN 10277-2, X2CrNiMo 17-12-2 EN 10088-3 (AISI 316)

Hoses are manufactured by: Diesse Rubber Hoses S.p.A.
Couplings are manufactured by: Intertraco (Italia) S.p.a., Suzzara MN, Italy

Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the holder (named as manufacturer) of this certificate.

Maximum working pressure as below:

Size		PIRTEK	PIRTEK	PIRTEK
DN	DASH	PE2	PE4/6 5000	PE4/6 6000
06	-4	450	-	-
08	-5	420	-	-
10	-6	390	380	420
12	-8	350	380	420
16	-10	290	380	420
19	-12	280	380	420
25	-16	250	350	420
31	-20	-	350	420
38	-24	-	350	420

Hose assemblies are suitable for use with:

- Hydraulic fluids in accordance with ISO 6734-4 (with exception of HFD-R, HFD-S and HFD-T) at temperature ranging on the front page
- Water based fluids at temperature ranging from -40°C to 70°C
- Water at temperature ranging from 0°C to 70°C

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required.

Hose assemblies covered by this certificate shall not be installed in system with pressure below atmospheric or vacuum condition.

The hoses are to be mounted in accordance with the manufacturer's instructions.

The cover of hoses for gaseous applications shall be pin-pricked.

Production testing

All hose assemblies delivered under the DNV GL type approval scheme shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to this type approval certificate.

Type Approval documentation

PIRTEK PE4/6 5000:
PIRTEK PE4/6 6000:

Tests carried out

Fire test, burst test, Dimensional check test, Change in length test, Cold flexibility test, Oil resistance test, Cover adhesion test, Ozone resistance test, Impulse test

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- hose manufacturer's name or trademark;
- date of manufacture (month/year);
- designation type reference (PIRTEK endurance series: PE2, PE4, PE6)
- nominal diameter;
- pressure rating;
- temperature rating.

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.