

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings**with type designation(s)  
**G119-8K**

Issued to

**NK Co., Ltd.**  
**Busan, Republic of Korea**

is found to comply with

**DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems****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.****Temperature range:** -60°C to +100°C**Max. working press.:** 175 kg/cm<sup>2</sup>**Sizes:** 1/2" (DN 12,7mm)Issued at **Høvik** on **2019-04-10**This Certificate is valid until **2023-12-31**.for **DNV GL**DNV GL local station: **DNV Pusan Station**Approval Engineer: **Adel Samiei**

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**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.



## Product description

Flexible rubber hose with permanently fitted couplings. The inner tube is made of NBR, and the hose has one braid of steel wire reinforcement. The outer cover is made of an oil and weather resistant rubber.

Hoses manufacturer: Parker Hannifin Connectors Ltd., 77, 4-gil Yusangongdan, Yangsan-si, Gyeongsangnam-do, 50592 Korea.

Couplings: part number 630KW1218 according to drawing number 0906-002  
Coupling material: carbon steel grade SWCH 10A

Couplings manufacturer: NK Co., Ltd., Pusan, P.R. Korea

## 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.

Approved for use for high pressure CO<sub>2</sub> fire extinguishing system, Nitrogen and Inergen systems.

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.

The hose assemblies must only be fitted in places where they are always accessible and shall be mounted in accordance with the manufacturer's instructions.

Hose assemblies covered by this certificate shall not be used in system subject to pressure below atmospheric or vacuum condition.

The hoses shall be pin pricked according to manufacturer's written procedure.

## 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

### Tests carried out

Dimensional check, Change in length, Cold bend, Cover adhesion, Ozone resistance, Impulse test, Burst (and Burst test at -60°C), Pin pricking & Endurance 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;
- 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.