

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings**with type designation(s)
GH195

Issued to

**Eaton Germany GmbH
Baden-Baden, Baden-Württemberg, Germany**

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 :****Products approved by this certificate are accepted for installation on all vessels classed by
DNV GL.****Temperature range: -40°C up to +150°C
Max. working press.: 105 bar up to 400 bar
Sizes: DN 6 up to DN 51**Issued at **Hamburg** on **2018-07-10**This Certificate is valid until **2023-07-09**.DNV GL local station: **Augsburg**for **DNV GL**Approval Engineer: **Christian Kaemmer**

**Olaf Drews
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

GH195-Series: Flexible non-metallic hose consisting of blue chlorinated polyethylene tube, two braids of wire steel reinforcement and blue chlorinated polyethylene cover. Fire resistant acc. to ISO 15540.

Materials:

Reinforcement: Two braids of high tensile steel, wire braid
Coupling: Global TTC; Carbon steel
Tube: Synthetic chlorinated polyethylene rubber
Cover: Synthetic chlorinated polyethylene rubber

Size and pressure range:

Part Number	DN	Hose I.D.		Maximum working pressure	
		mm	inch	[bar]	[psi]
GH195-4	6	6.4	0.25	400	5800
GH195-6	10	9.5	0.38	345	5000
GH195-8	12	12.7	0.50	293	4250
GH195-10	16	15.9	0.62	250	3650
GH195-12	19	19.0	0.75	215	3125
GH195-16	25	25.4	1.00	175	2550
GH195-20	31	31.8	1.25	155	2250
GH195-24	38	38.1	1.50	125	1800
GH195-32	51	50.8	2.00	105	1525

Production places

- Eaton Germany GmbH, Dr. Reckwegstr. 1, 76532 Baden-Baden.
- Eaton Aeroquip LLC, 1830 Highway 201 South Spur, Mountain Home, Arkansas, USA.
- Eaton Corporation, 1225 W. Main Street, Van Wert, Ohio, USA.

Responsibility

Eaton Germany GmbH, Baden-Baden takes the responsibility that the design and production of the hoses, hose end fittings and manufacturing of hose assemblies are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation

Hose assemblies covered by this type approval certificate are approved for lubricating oil, crude- and fuel oil, gasoline, hydraulic systems, phosphate ester base hydraulic fluids, water.

Flexible hoses are only to be used in short lengths up to 2 m 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.

Installation

The hose assemblies must only be fitted in places where they are always accessible.
Flexible hoses of these types are not to be used on boiler fronts.
The hoses are to be mounted in accordance with the manufacturer's instructions.
It must be possible to shut off from the system all flexible hoses used in systems for compressed air, fresh water cooling applications, lube oil, fuel oil and petroleum base hydraulic oil.
Hose assemblies with couplings made of carbon steel are not to be used at temperatures below -10°C unless the material is normalized.

Type Approval documentation

Tests carried out

Production testing

All hose assemblies 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 the type approval certificate.

Marking of product

For traceability to this type approval, each hose assembly is to be marked with:

Manufacturer's name
Type, Nominal Diameter
Maximum working pressure M.A.W.P.
Date Code
Temperature Rating

Periodical assessment

For retention of the type approval certificate periodical assessments shall be carried out at production places by DNVGL surveyor.
The objective of the periodical assessment is to verify that the design and production conditions for the type approval have not been altered.

Main scope of the assessment:

- verification of the production and quality control system
- review of quality control documentation of recent deliveries
- review of drawings in production to verify any design changes which may have an impact on data specified in the type approval certificate, performance and range of application
- verification of the product marking

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate. In connection with the renewal assessment, a surveyor shall witness / review test reports with respect to the following tests on every 3rd size appropriate test reports to be submitted:

- dimensional check, change in length test,
- pressure test with 1.5 times M.A.W.P. and burst test (witnessed by DNV GL surveyor)