DNV·GL

Certificate No:
TAS000009T

TYPE EXAMINATION CERTIFICATE

This is to certify:

That the Exhaust Hoses

with type designation(s)
AG 2100 Marine Wet Exhaust

Manufactured by
Trelleborg Industri AB
Trelleborg Skåne Län, Sweden

is found to comply with
ISO/DIS 13363 - Rubber or plastic hoses for marine wet exhaust systems - Specification
SAE J2006 - Marine Exhaust Hose

Application :

The hoses are intended for use in marine-engine wet-exhaust systems (where the exhaust gases are mixed with the discharge of cooling water).

This Certificate is valid until **2020-06-30**.

Issued at **Høvik** on **2016-01-12**

for **DNV GL**

DNV GL local station: **Gothenburg**

Approval Engineer: **Tom Berg-Nielsen**

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 Examination Certificate and not to the approval of equipment/systems installed.

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Product description

The hose is made with an inner tube of rubber, reinforced by a layer of high strength synthetic cord and helix wire. The helix wire is wound around the synthetic cord. A rubber layer is put between the helix wires and is covered by a new layer of high strength synthetic cord. A rubber layer forms the cover.

Materials:

Inner liner:	Smooth black CR rubber
Reinforcement :	Synthetic textile and steel helix
Outer cover:	CR rubber, textile impression, corrugated or smooth
Sizes (ID):	32, 40, 45, 50, 60, 63, 76, 90, 102, 127, 152, 205 mm
Smooth hose:	from 32 mm to 152 mm
Corrugated hose:	from 76 mm to 205 mm

Hoses with bore sizes up to 127 designed and tested in accordance with the principles given in standard ISO 13363:2004 and are found to comply with the standard (Type 2B) The heat resistance test is performed in compliance with the requirements given for hard wall type 2B hoses.
Internal diameter and minimum bend radius of hoses with nominal bore up to 127 are in accordance with table 2 in ISO 13363:2004.
Hoses with bore sizes 152 & 205 are designed and tested in accordance with the principles given in SAE J2006.

Application/Limitation

Maximum working pressure:

Type	Size	Maximum working pressure
Smooth	32 to 127 mm	5 bar
	152 mm	3 bar
Corrugated	76 mm	3 bar
	90 to 152 mm	2 bar
	205 mm	1.5 bar

Gas flow temperature for hoses with nominal bore up to 127 shall be 580°C ± 30°C.

Hoses with bore sizes 152 & 205 mm shall not be installed wherever compliance with ISO 13363 is required.

The hoses are approved for use as exhaust gas hoses for combustion engines on yachts.

The exhaust gas shall be water cooled.

Production test as per described in ISO13363 Annex C (per 10 batches) shall be performed.

Type Examination documentation

Tests carried out

Acc. ISO/DIS 13363: Dimensional check, burst pressure, flexibility, ozone resistance, adhesion, abrasion, heat resistance, ageing, tensile strength and elongation break, accelerated ageing, compression set and resistance to liquids test

Acc. SAE J2006: Adhesion, abrasion and high temperature test

Marking of product

For traceability to this type examination certificate the products are to be marked with:

- Manufacturers name or trade mark
- Type designation.
- Further marking to the manufacturer's option.

Certificate Retention Survey

For retention of the Type Examination Certificate, DNV GL Surveyor shall perform a survey before the expiry date of this certificate to verify that the conditions for the type approval are complied with.