



DET NORSKE VERITAS

TYPE EXAMINATION CERTIFICATE

CERTIFICATE NO. S-6615
This Certificate consists of 3 pages

This is to certify that the
Exhaust Hoses
with type designation(s)
AG 2100 Marine Wet Exhaust

Manufactured by
Trelleborg Industri AB
TRELLEBORG, 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 may be used in marine wet exhaust systems
(Where the exhaust gases are mixed with the discharge of cooling water)

Place and date
Høvik, 2011-05-30

for DET NORSKE VERITAS AS

Marianne Spæren
Head of Section



Local Office
Malmö

This Certificate is valid until
2015-06-30

Mohsen Mohebbi
Surveyor

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: S-6615
File No.: 273.10
NPS Job No.: 262.1-004190-3

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 wire 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 205 millimetres are designed and tested in accordance with the principles given in standard ISO 13363 and are found to comply with the standard even though the standard only covers hoses with bore size up to 127 millimetres.

The heat resistance test is performed in compliance with the requirements given for hard wall type 2B hoses.

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

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

The exhaust gas shall be water cooled.

Each hose to be pressure tested to 1, 5 times the maximum design pressure.



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Type Examination documentation

- Trelleborgs test reports received with letter dated October 28, 1999
- DNV witnessed test report dated February 25, 2000
- Manufacturers catalogue "AG2100 Marine Wet Exhaust Corrugated" and "AG2100 Marine Wet Exhaust Smooth"
- Trelleborgs test reports dated 1999-09-06 and 1999-08-26
- DNV witnessed test report dated 2000-02-25
- Test report F711091 from SP Technical Research Institute of Sweden dated 2007-06-13
- DNV's retention survey report dated 2007-10-30
- Retention survey report dated 2011-05-17

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 Surveyor shall perform a survey before the expiry date of this certificate to verify that the conditions for the type approval are complied with.

END OF CERTIFICATE