



Type Approval Certificate

This is to certify that the undernoted product(s) have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER Ontop B.V.
Oude Veerseweg 23
4332 SH MIDDELBURG
The Netherlands

PRODUCT DESCRIPTION Exhaust Gas System

PRODUCT TYPE METALOTERM AD / AM

APPLICATION Twin-walled, insulated, modular, stainless steel,
exhaust gas piping system for internal combustion engines.

RATINGS & SIZES	Type	METALOTERM AD	METALOTERM AM
	Size range	DN 130 [mm] – DN 1000 [mm]	
	Max. pressure	5000 Pa	
	Max. working temp.	up to 600°C	
	Outer liner	ASTM 304 (1.4301)	254 SMO (1.4547)
	Inner liner	ASTM 316L (1.4404)	ASTM 316L(1.4404)
	Insulation	Mineral fibre / wool, min. 37.5 [mm]	

STANDARDS Rules and Regulations for Classification of Ships, July 2017
Rules and Regulations for Classification of Special Service Craft,
July 2017

Certificate No. 18/30002

Issue Date 03 September 2017

Expiry Date 02 September 2022

Sheet 1 of 3



M.P. Breef
Rotterdam Technical Support Office

Lloyd's Register EMEA
K.P. Van der Mandelelaan 41a, 3062MB Rotterdam

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STANDARDS (cont'd)

Following tests were carried out according to DIN EN 1856-1: September 2003, Chimneys - Requirements for metal chimneys - Part 1: System chimney products:-

- gas tightness (6.3);
- thermal resistance (6.4.3).

OPERATIONAL
LIMITATIONS

1. The surface temperature of the exhaust system is not to exceed 220°C, not insulated parts and / or connections to a different piping system are to be efficiently lagged to minimize the risk of fire and to prevent damage by heat. Where lagging is oil-absorbing or may permit the penetration of oil, the lagging is to be encased in sheet metal or equivalent.
2. This modular exhaust gas system is considered acceptable for use on ships, classed or intended for Classification with Lloyd's Register, provided that the relevant system requirements with regard to fire-safety and watertight integrity are complied with. For penetration of fire divisions LR-type approved pipe penetrations are to be used.
3. The installation and assembly of the modular exhaust gas system is to be carried out in accordance with the instructions of the manufacturer.
4. Supporting of the METALOTERM AD/AM modular exhaust system is to be carried out in accordance with the Installation Diagrams in the brochure "Metaloterm AD, Total Solutions in Flue Systems". Consideration is to be given to static- and dynamic angles of inclination, as applicable.

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Sheet 2 of 3



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This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate.

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with Lloyd's Register Type Approval System.

A periodical assessment of the Product Quality Assurance will be required to maintain the validity of the Type Approval of the product. This assessment by LR Surveyor is required 30 months after the date of issue of this Certificate.

Certificate No.	18/30002
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Sheet	3 of 3



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