



Lloyd's
Register

Type Approval Certificate

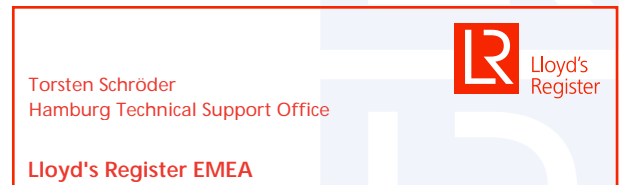
This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER	ThorSud s.p.a. Via M. Bellisario, 54 66050 San Salvo (CH) Italy
DESCRIPTION	Mandrel built tank cleaning hose designed for cleaning of tanks with the application of rotating head. Normally assembled with BUTTERWORTH couplings. Due to its peculiar structure the hose in working condition is not subject to elongation.
TYPE	DELAWARE 30N
APPLICATION	For cleaning of oil and chemical tanks in the marine environment.
STANDARD	International Safety Guide for Oil Tankers and Terminals (ISGOTT) 4 th Ed. Par.9.1.4 Manufacturer specifications: DELAWARE 30N Control Plan (ISO 1402; ISO 1817; ISO 48; ISO 37; ISO 7326 method 3; ISO 8031; ISO 10619-1)

Certificate No.	15/20097
Issue Date	14 September 2015
Expiry Date	13 September 2020
Sheet	1 of 2

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS



Torsten Schröder
Hamburg Technical Support Office
Lloyd's Register EMEA

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RATINGS

Inner diameter [mm]	Outside diameter [mm]	Working pressure [bar]	Temperature range [°C]
38	54	20	-30 to 95
51	67	20	-30 to 95

"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."

The Design Appraisal Document No. HTS/ENS 33296-15 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Certificate No. 15/20097
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