

Type Approval Certificate Extension

This is to certify that Certificate No. 08/10093(E1) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	RYCO Hydraulics
PLACE OF PRODUCTION	RYCO Hydraulics Pty. Ltd. 19 Whitehall Street, Footscray, Victoria 3011 Australia RYCO Hydraulics Sdn. Bhd. Plot 207, Kuala Ketil Industrial Estate, 09300 Kuala Ketil, Kedah Darulaman, Malaysia RYCO Hydraulics (Dalian) Ltd. 38 Ying Ri Road, Ying Cheng Zi Industrial Zone, Gan Jing Zi District, Dalian 116036 China
DESCRIPTION	Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings, Designations: Avenger H13A, Diehard H13D, Slider H13S
TYPE	SAE 100R13
APPLICATION	For use on ships and offshore installations classed with Lloyd's Register, as short lengths in systems of fresh and seawater, water based hydraulics, pneumatics, fuel and lube oil.
DESIGN CODE STANDARD	Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships (July, 2013) Part 5, Chapter 10 of Lloyd's Register's Rules and Regulations for the Classification of Mobile Offshore Units (September 1996 plus Notices Nos. 1, 2, 3, 4, 5 & 6 as applicable) Fire Resistant Testing according to ISO 15540/15541
RATINGS	Sizes: DN 19 to DN 51 (see below) Maximum Working Pressure: 350 bar (see below) Service Temperature: -40°C to +121°C (see below) Coupling Material: Carbon Steel AISI/SAE 12L14 (Standard), Stainless Steel (Option) Electroplated Fe/Zn12c acc. to AS1789
Certificate No.	08/10093(E2)
Issue Date	01 October 2013
Expiry Date	30 September 2018
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 N. Nagamune
 Yokohama Technical Support Office
 Lloyd's Register Group Limited

Lloyd's Register Group Limited, registered office:
71 Fenchurch Street, London EC3M 4BS

OTHER CONDITIONS

The hoses may be used for the following working conditions

AVENGER H13A	DN (mm)	Max. Pressure (bar)
H1312A	19	350
H1316A	25	350
H1320A	31	350
H1324A	38	350
H1332A	51	350
Temperature Range: -40°C to +121°C		

DIEHARD H13D	DN (mm)	Max. Pressure (bar)
H1312D	19	350
H1316D	25	350
H1320D	31	350
H1324D	38	350
H1332D	51	350
Temperature Range: -40°C to +121°C		

SLIDER H13S	DN (mm)	Max. Pressure (bar)
H1312D	19	350
H1316D	25	350
H1320D	31	350
H1324D	38	350
H1332D	51	350
Temperature Range: -40°C to +121°C		

Where synthetic rubber hoses are used for oil fuel supply to burners, the hoses are to have external wire braid protection in addition to the integral wire braid

Carbon steel couplings are to be normalised for temperatures below -10°C.

In all cases the hoses are to be installed in accordance with the manufacturer's instructions and tested to the satisfaction of the attending surveyor.

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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 Group Limited of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. 08/10093(E2) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 08/10093(E1) to which this extension should be attached.

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