

Type Approval Certificate Extension

This is to certify that Certificate No. 08/10092(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 H12A, Diehard H12D, Slider H12S
TYPE	SAE 100R12
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 10 to DN 63 (see below) Maximum Working Pressure: 210 to 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.	08/10092(E2)
Issue Date	01 October 2013
Expiry Date	30 September 2018
Sheet	1 of 3



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 H12A	DN (mm)	Max. Pressure (bar)
H1206A	10	350
H1208A	12	350
H1210A	16	350
H1212A	19	350
H1216A	25	350
H1220A	31	275
H1224A	38	255
H1232A	51	210
Temperature Range: -40°C to +121°C		

DIEHARD H12D	DN (mm)	Max. Pressure (bar)
H1206D	10	350
H1208D	12	350
H1210D	16	350
H1212D	19	350
H1216D	25	350
H1220D	31	275
H1224D	38	255
H1232D	51	210
H1240D	63	140
Temperature Range: -40°C to +121°C		

SLIDER H12S	DN (mm)	Max. Pressure (bar)
H1206S	10	350
H1208S	12	350
H1210S	16	350
H1212S	19	350
H1216S	25	350
H1220S	31	275
H1224S	38	255
H1232S	51	210
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.

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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.

"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. 08/10092(E2) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 08/10092(E1) to which this extension should be attached.

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