



Lloyd's
Register

Type Approval Certificate Extension

This is to certify that Certificate No.08/10092 (E3) for the undernoted product(s) has/have been extended and renumbered in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER RYCO Hydraulics.

PLACE OF PRODUCTION RYCO Hydraulics Pty. Ltd.
99 Calarco Drive, Derrimut, Victoria, 3026 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:
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.

Certificate No. 08/10092 (E4)

Issue Date 27 December 2018

Expiry Date 26 December 2023

Sheet 1 of 3



Chng Teck Wee
South Asia Technical Support Office
Lloyd's Register Singapore Pte. Ltd.

*Lloyd's Register Asia
2 Science Park Drive, #02-05/06 Ascent, Singapore 118222*

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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: 140 to 350 bar (see below)

Service Temperature: -40°C to +121°C (see below)

Coupling Material: Carbon Steel AISI
Stainless Steel (Option)

Electroplated Fe/Zn12c acc. to AS1789

OTHER CONDITIONS

The hoses may be used for the following working conditions

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

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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.

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 Singapore Pte. Ltd. of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No. 08/10092(E4) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous **Certificate No. 08/10092(E3)** to which this extension should be attached.

Certificate No. 08/10092 (E4)
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