



Type Approval Certificate Extension

This is to certify that Certificate No. 03/00080(E1) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Bermad Inc.
PLACE OF PRODUCTION	9424 West Little York Road TX 77040 Houston Texas United States of America (USA)
DESCRIPTION	Hydraulically-operated Valves
TYPE	400 Series (Elastomeric type)
SPECIFIED STANDARDS	Lloyd's Register's Rules and Regulations for the Classification of Ships; ASME/ANSI B 16.34 - 2013; Fire tested to ISO 6182 Part 5 - Requirements on test methods for deluge valves; UL-260 - Safety dry pipe and deluge valves for fire protection services
APPLICATION	Fire protection systems for industrial, marine and offshore installations, for use in deluge water and foam systems, pressure control deluge, remote-operated monitors, pressure control, pressure sustaining, sprinkler systems, pressure reducing hydrants and fire pump relief systems

Certificate No.	03/00080(E2)
Issue Date	23 October 2013
Expiry Date	7 August 2018
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P.F. Moysey
Marine Technology & Engineering Services, London
Lloyd's Register EMEA

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RATINGS

Diameter (inch):	1½ to 16
(DN):	40 to 400
Design Pressure (bar):	40
Working Pressure (bar):	<21
(PSI):	<300
Working Temperature (°C):	<60

Body material:

Epoxy-coated Ductile Iron to ASTM A536 Grade 65-45-12 or GGG

Optional materials:

Cast Steel to ASTM A216 Grade WCB;

Cast Steel to ASTM A352-03 Grade LCC;

Cast Stainless Steel to ASTM A351 Grade CF8M;

Cast Ni Al Bronze to ASTM B148 Grade C95800;

Duplex Stainless Steel to ASTM A890 Grade 4A and 5A;

254 SMO A351 Grade CK-3MCuN, CN-3MN;

Hastelloy C276 ASTM B366 Grade C276;

Titanium to ASTM B367 Grade C2.

OTHER CONDITIONS

Fittings are to be selected and installed in accordance with the manufacturer's instructions and recommendations.

Material impact tests and weld non-destructive tests are to be carried out in accordance with the Rules.

Due care should be taken not to over-stress the fittings when tightening the bolts.

The piping system is to be tested in accordance with the Rules on completion of installation.

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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."

The attached Design Appraisal Document No. 03/00080(E2) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 03/00080(E1) to which this extension should be attached.

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