

Type Approval Certificate Extension

This is to certify that Certificate No. 03/20028 (E2) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

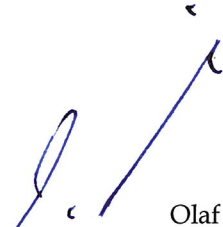
PRODUCER	REIFLEXA P. Reischl GmbH & Co. KG Am Knick 5 22113 Oststeinbek Germany
DESCRIPTION	Rubber expansion joint consisting of: Tube : NBR (nitrile), seamless, electrically conductive Reinforcement : galvanised steel wire cord, CR rubberised Cover : Chloroprene CR Flanges : carbon steel, zinc plated and yellow chromated
TYPE	GS (Yellow Steel)
APPLICATION	+ Oil fuel, lubricating oil and other flammable liquids + Sea* - and fresh water cooling lines + Ballast lines in machinery spaces and duct keels + Bilge lines in duct keels only + Cargo lines for MDO and lubricating oil carrier + Cargo lines inside cargo oil tanks of oil tankers + All other non-essential pipe lines

*Where fitted in sea water lines in machinery compartments, guards are to be provided which will effectively enclose, but not interfere with the action of the expansion joint and which will reduce to the minimum practicable any flow of water in the event of failure of the flexible element.

The expansion joints are to be installed in well visible and accessible locations and protected against over extension and compression and against mechanical damage. The adjoining pipes are to be suitably aligned, supported, guided and anchored.

The producer's instructions and recommendations are to be considered.

Certificate No.	03/20028 (E3)
Issue Date	28 June 2013
Expiry Date	06 March 2018
Sheet	1 of 2


Olaf Schmidt
Hamburg Design Support Office
Lloyd's Register EMEA

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

TESTS	Fire test according to ISO 15540 Hydraulic-pressure impulse test similar to ISO 6803 Burst pressure test according to Lloyd's Register Rules
STANDARD	Lloyd's Register Rules and Regulations for the Classification of Ships, Edit. 2012
RATINGS	MAWP: 16 bar at max. service temperature of 60°C, DN 25 to DN 400 MAWP: 10 bar at max. service temperature of 100°C, DN 25 to DN 600 <u>Restrictions for oil fuel, lubrication oil and other flammable liquids</u> MAWP: 10 bar at max. service temperature of 90°C, DN 25 to DN 250

"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. HMD 10046-03, Issue No. 3, dated 28.06.2013 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 03/20028 (E2) to which this extension should be attached.

Certificate No.	03/20028 (E3)
Issue Date	28 June 2013
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Sheet	2 of 2


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Marine Design Appraisal Document

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Email: hamburg-design-support@lr.org

Date
28 June 2013

Please quote this reference number on all future communications
HPC 0810453/29238-13/OS/HR

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2002
ISSUED TO: REIFLEXA P. REISCHL GMBH & CO. KG
FOR: RUBBER COMPENSATOR TYPE GS (YELLOW STEEL)
TYPE APPROVAL CERTIFICATE NO. 03/20028 (E3)**

**This Marine Design Appraisal Document supersedes and cancels
document number HMD 10046-03, Issue No. 2, dated 23.05.2013**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System, 2002, and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Form LR2571	Application for Type Approval and/or Marine Equipment Directive Certification from Lloyd's Register EMEA (LR)	29.01.2013
Typ GS	Catalogue Sheet	undated
-	Confirmation Letter	20.10.2008

TEST REPORT

HPC 0810453	Visit Report - LR Hamburg Port	11.03.2013
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FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.

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