



Design Appraisal Document

Lloyd's Register EMEA
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Date
16 December 2016

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LLOYD'S REGISTER TYPE APPROVAL SYSTEM, 2014.
Issued to: UNI Coupling B.V.
for: Mechanical Pipe Couplings
Type "UNI-Plastgrip" - PN10 & "UNI-Combigrrip" – PN10
TYPE APPROVAL CERTIFICATE No. 1630023

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System, 2014 and this Design Appraisal Document forms part of the Certificate.

1. The manufacturer's Technical manual is to be observed for fitting / disassembly instructions. Piping with joints is to be adequately adjusted, aligned and supported. Supports or hangers are not to be used to force alignment of piping at the point of connection.
2. The thickness for steel or non-ferrous pipes where used with UNI-Combigrrip- and UNI-Plastgrip couplings is to be in compliance with the minimum thickness as per the relevant tables in the Rules. The minimum thickness for the PVC, PE or ABS plastic pipes is to be in compliance with a recognised (inter)national standard.
3. It is noted that the plastic pipes will be provided with a Stainless Steel support sleeve as indicated in the Technical Manual.
4. It should be noted that UNI-Combigrrip- and UNI-Plastgrip couplings are not designed to adsorb additional lateral forces or axial buckling load. The maximum distances between pipe supports are to be considered. Suitable provisions for expansion of pipes are to be provided to compensate axial pipe movement.
5. Pipe couplings are not to be used where they are not readily visible or accessible in accordance with the requirements of the relevant Rules.
6. It is noted that pressure pulsation tests have not been carried out and the couplings shall not be used in systems in which pulsation loads are present or likely to occur.
7. The maximum allowable temperature and/or working pressure of the couplings could be limited by the typical temperature and pressure limits for the thermoplastic pipes used.
8. The installation is to be to the Surveyor's satisfaction.

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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APPROVAL DOCUMENTATION

PQA-ROT1612104	Production Quality Assessment Form	21 March 2016
Form LR6606	Approval Services-Request for Quotation	16 Oct 2014
Version 2.10	Technical Manual	--
--	Detail plans of couplings (16 sheets)	--
--	Testing conditions (5 sheets)	--
--	Part number system (3 sheets)	--

TEST REPORTS

2016-04-25	Final-Test Plan-UNI Couplings Tightness test, Pull out test and Burst test according IACS P2.11 / Lloyd's Register Type Test Specification Number 2, May 2015, Appendix 4.
2015-09-07	Final-Test-Plan-Report-Pipe Couplings-UNI Couplings Tightness test, Vibration (Fatigue) test, Burst pressure test, Pull out test. Vacuum test and repeated assembly test according IACS P2.11 / Lloyd's Register Type Approval System Test Specification Number 2, May 2015, Appendix 4.
2014-08-014	Final -Test-Plan-Report-Pipe Couplings-UNI Couplings as applicable for the type UNI-GRIP with steel and non-ferrous pipes of PN16, PN10 and PN6. Tightness test, Vibration (Fatigue) test, Burst pressure test, Pull out test. Vacuum test and repeated assembly test according IACS P2.11 / Lloyd's Register Type Approval System Test Specification Number 2, May 2015, Appendix 4.

Test Results # 1 and # 2 on coupling with diameter 39-43 mm,	07 March 2016
Test Results # 5 and # 6 on coupling with diameter 157-165 mm,	07 March 2016
Test Results # 7 and # 8.2 on coupling with diameter 157-165 mm,	08 March 2016
Test Results # 9 on coupling with diameter 88-96 mm,	07 March 2016
Test Results # 10 on coupling with diameter 88-96 mm,	07 March 2016
Test Results #11 and # 12.2 on coupling with diameter 88-96 mm,	08 March 2016
Test Results #3 and # 4.2 on coupling with diameter 39-43 mm,	08 March 2016
Test Results # 4.1 on coupling with diameter 39-43 mm,	07 March 2016
Test Results # 8.1 on coupling with diameter 157-165 mm,	07 March 2016
Test Results #12.1 on coupling with diameter 88-96 mm,	07 March 2016

Test Results # 1 and # 2 on coupling with diameter 39-43 mm,	07 Oct. 2016
Test Results # 3 and # 4 on coupling with diameter 39-43 mm,	07 Oct. 2016
Test Results # 5 and # 6 on coupling with diameter 39-43 mm,	07 Oct. 2016
Test Results # 7 on coupling with diameter 39-43 mm,	07 Oct. 2016
Test Results # 8 and # 9 on coupling with diameter 88-96 mm,	07 Oct. 2016
Test Results #12 and # 13 on coupling with diameter 88-96 mm,	07 Oct. 2016
Test Results # 14 on coupling with diameter 88-96 mm,	07 Oct. 2016

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Test Results # 15 and # 16 on coupling with diameter 157-165 mm,
Test Results # 17 and # 18 on coupling with diameter 157-165 mm,
Test Results # 19 and 20 on coupling with diameter 157-165 mm,
Test Results # 21 on coupling with diameter 157-165 mm,

07 Oct. 2016
07 Oct. 2016
07 Oct. 2016
07 Oct. 2016

J.M. du Bois
Senior Specialist
Marine Technology & Engineering Services, Rotterdam



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