



EC TYPE EXAMINATION (MODULE B) CERTIFICATE

This is to certify that:

LLOYD'S REGISTER VERIFICATION LIMITED (LRV), specified as a "notified body" under the terms of The Merchant Shipping (Marine Equipment) Regulations S.I. 1999 No. 1957, did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the essential Fire protection requirements of Marine Equipment Directive (MED) 96/98/EC as modified by Commission Directives 98/85/EC, 2001/53/EC, 2002/75/EC, 2002/84/EC, 2008/67/EC, 2009/26/EC, 2010/68/EU, 2011/75/EU, 2012/32/EU, 2013/52/EU, 2014/93/EU and 2015/559 subject to any conditions in the Design Appraisal Document attached hereto.

Manufacturer	Raccorderie Metalliche S.p.A.
Address	Strada sabbionetana 59 46010 Campitello di Marcaria (MN) Italy
Annex A1 Item	A.1/3.26b PENETRATIONS THROUGH 'A' CLASS DIVISIONS - PIPE, DUCT, TRUNK ETC PENETRATIONS
Product Type	PIPE PENETRATION (STANDARD FIRE TEST)
Product Description	Single Metallic Pipe Penetration - Types: "RM DRAIN F1, RM DRAIN M1, RM DRAIN M2, RM DRAIN M3 and RM DRAIN M4," for applications in A-Class steel bulkheads and decks
Specified Standard	IMO Res. MSC.307(88) 2010 FTP Code, Annex 1, Part 3

The attached Design Appraisal Document (schedule) forms part of this certificate. This certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

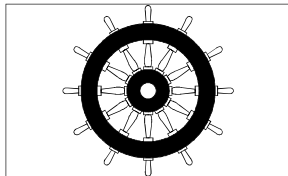
Date of issue 23 June 2016 Expiry date 22 June 2021

Certificate No. MED 1650184 Signed 

Sheet No. 1 of 6 Name M. Farrier
For and on behalf of Lloyd's Register Verification
LRV EC Distinguishing No. 0038

Note:

This certificate is not valid for equipment; the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify the notified body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.



0038/yy

Subject to compliance with the conditions in the attached Design Appraisal Document (schedule), which forms part of this certificate, and those of Articles 10.1(i) and 11 of the Directive, the Manufacturer is allowed to affix the "Mark of Conformity" to the Product described herein.
yy Last two digits of year mark affixed.

This certificate is issued under the authority of the MCA.

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ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. MED 1650184

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

APPROVAL DOCUMENTATION

Materials Research Centre for Fire Resistance and Protection, C.S.N.I. Sc.a.r.I. Divisione LAB, Genova, Italy, Test Reports No. 512112A16/1 Issue 01 dated 2 March 2016, No. 611092A16/1 Issue 01 dated 2 March 2016 and No.512140A16/1 Issue01 dated 2 March 2016

Manufacturers Technical Handbook January 2015

CONDITIONS OF CERTIFICATION

1. For use in conjunction with A-60 steel bulkheads and decks with an A-60 approved insulation arrangement, suitable for the fire rating of the division. For applications in A-0, A-15 or A-30 Class bulkheads and decks, the penetrations and pipes shall be fitted with A-60 insulation arrangements as-tested, on the penetration itself (including any pipe insulation) on both sides of the division, and for a minimum of 200mm around the penetration on the plate, on the underside of decks and on both sides of bulkheads
2. Pipe penetration "RM DRAIN Type F1" consists of: stainless steel pipe fitting with a mid-positioned overlapping steel flange (200mm O.D. x 5mm thick), continuously welded to the bulkhead or deck, with a stainless steel pipe fitted to each side of a DN40 to DN 100 O.D. stainless steel pipe fitting (161mm to 381mm long). Pipe fittings are connected to stainless steel pipes of same diameter with push-fit socket couplings. Each coupling set fitted in fire tests were protected by pipe insulation sections and fitted with a ring gasket, type: EPDM
3. Pipe penetration "RM DRAIN Type M1" consists of: stainless steel pipe fitting with an outer steel sleeve/coaming 45mm long, fixed to middle of a DN40 to DN 100 O.D. stainless steel pipe fitting (125mm to 205mm long), with the sleeve welded to the bulkhead or deck. Pipe fittings are connected to stainless steel pipes of same diameter with push-fit socket couplings. Each coupling set fitted in fire tests were protected by pipe insulation sections and fitted with a ring gasket, type: EPDM
4. Pipe penetration "RM DRAIN Type M2" consists of: stainless steel pipe fitting DN40 to DN 100 O.D. with an outer steel sleeve/coaming 45mm long, fitted on socket coupling side, welded to the bulkhead or deck. Pipe fittings are connected to stainless steel pipes of same diameter with push-fit socket couplings. Each coupling set fitted in fire tests were protected by pipe insulation sections and fitted with a ring gasket, type: EPDM
5. Pipe penetration "RM DRAIN Type M3" consists of: stainless steel pipe fitting DN40 to DN 100 O.D. with an outer steel sleeve/coaming 45mm long, fitted on socket coupling side, welded to the bulkhead or deck. Pipe fitting is a 90° elbow type and is connected to stainless steel pipes of same diameter or a second 90° elbow fitting, with push-fit socket couplings. Each coupling set fitted in fire tests were protected by pipe insulation sections and fitted with a ring gasket, type: EPDM



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6. Pipe penetration "RM DRAIN Type M4" consists of: stainless steel pipe fitting with an outer steel sleeve, 100mm long, placed in middle of a DN40 to DN 100 O.D. stainless steel pipe fitting (180mm to 260mm long), with the sleeve welded to the bulkhead or deck. Pipe fittings are connected each side to stainless steel pipes of same diameter with push-fit socket couplings. Each coupling set fitted in fire tests were protected by pipe insulation sections and fitted with a ring gasket, type: EPDM
7. Further details of approved penetrations and insulation arrangements in bulkheads and decks are as described in Tables 1 and 2 below. In all cases, the total insulated length includes the insulation fitted on the plate on both sides of the bulkhead or deck. The type of insulation applied on the bulkhead and deck was "PAROC Marine Fire Slab 100" (100kg/m³ density, 60mm thick bulkhead and 40mm thick deck) preformed sections and an equivalent approved insulation system may be accepted. A slab of the same insulation 300mm x 300mm was fitted around the penetration and was applied to the plate on the non-insulated side of the division. The type of insulation applied to the pipework was "PAROC Pro Section 140" (140kg/m³ density, 50mm thick) and an equivalent approved insulation system may be accepted. The insulation length fitted on the pipe and penetration was measured from the face of the bulkhead or deck and was fitted on both sides of the division and fully covered the EPDM seals and all pipe joints. In addition, for underdeck pipework only, a second layer of "PAROC Pro Section 140" preformed sections were added for a shorter distance below the deck
8. Penetrations are to be separately approved by the Administration for the type of pipe services and their operating pressures, on a case by case basis
9. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype
10. Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place
11. Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place



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TABLE 1
APPROVED ARRANGEMENTS IN STEEL BULKHEADS

Pipe Penetration Type	Nominal Pipe Dia. "DN" (mm)	Fire Rating	Penetration length (mm)	Pipe coaming thickness (mm)	Total Insulated Length for Bulkhead (mm)	Description of penetration
RM DRAIN Type F1 Stainless Steel	40mm	A-60	161	Flange 5.0	500	Straight pipe with welded mid flange connection to division.
RM DRAIN Type F1 Stainless Steel	100mm	A-30	381	Flange 5.0	800	Straight pipe with welded mid flange connection to division.
RM DRAIN Type M1 Stainless Steel	40mm	A-60	125	8.0	400	Straight pipe with welded mid sleeve connection to division.
RM DRAIN Type M1 Stainless Steel	100mm	A-15	205	8.0	600	Straight pipe with welded mid sleeve connection to division.
RM DRAIN Type M2 Stainless Steel	40mm	A-60	108	5.75	400	Straight pipe with welded socket sleeve connection to division.
RM DRAIN Type M2 Stainless Steel	100mm	A-30	198	7.5	560	Straight pipe with welded socket sleeve connection to division.
RM DRAIN Type M3 Stainless Steel	40mm	A-60	Each bend 106 projected length	5.75	400 (measured from bulkhead)	Two 90° bend pipes with welded socket sleeve connection to division.
RM DRAIN Type M3 Stainless Steel	100mm	A-30	Each bend 231 projected length	7.5	650 (measured from bulkhead)	Two 90° bend pipes with welded socket sleeve connection to division.
RM DRAIN Type M4 Stainless Steel	40mm	A-60	180	8.0	300	Straight pipe with welded mid sleeve connection to division.
RM DRAIN Type M4 Stainless Steel	100mm	A-30	260	8.0	770	Straight pipe with welded mid sleeve connection to division.



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TABLE 2
APPROVED ARRANGEMENTS IN STEEL DECKS

Pipe Penetration Type	Nominal Pipe Dia. "DN" (mm)	Fire Rating	Penetration length (mm)	Pipe coaming thickness (mm)	Total Insulated Length for Deck (mm)	Description of penetration
RM DRAIN Type F1 Stainless Steel	40mm	A-60	161	Flange 5.0	500 *150 second layer	Straight pipe with welded mid flange connection to division.
RM DRAIN Type F1 Stainless Steel	100mm	A-60	381	Flange 5.0	800 *200 second layer	Straight pipe with welded mid flange connection to division.
RM DRAIN Type M1 Stainless Steel	40mm	A-60	125	8.0	400 *100 second layer	Straight pipe with welded mid sleeve connection to division.
RM DRAIN Type M1 Stainless Steel	100mm	A-60	205	8.0	600 *150 second layer	Straight pipe with welded mid sleeve connection to division.
RM DRAIN Type M2 Stainless Steel	40mm	A-60	108	5.75	400 *100 second layer	Straight pipe with welded socket sleeve connection to division.
RM DRAIN Type M2 Stainless Steel	100mm	A-60	198	7.5	560 *200 second layer	Straight pipe with welded socket sleeve connection to division.
RM DRAIN Type M3 Stainless Steel	40mm	A-60	Each bend 106 projected height	5.75	400 (measured from deck). *100 second layer	Two 90° bend pipes with welded socket sleeve connection to division.
RM DRAIN Type M3 Stainless Steel	100mm	A-60	Each bend 231 projected height	7.5	650 (measured from deck). *100 second layer	Two 90° bend pipes with welded socket sleeve connection to division.
RM DRAIN Type M4 Stainless Steel	40mm	A-60	180	8.0	500 *100 second layer	Straight pipe with welded mid sleeve connection to division.
RM DRAIN Type M4 Stainless Steel	100mm	A-60	260	8.0	1000 *200 second layer	Straight pipe with welded mid sleeve connection to division.

* For underdeck pipework only, a second layer of "PAROC Pro Section 140" preformed sections were added for a shorter distance below the deck.



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PLACE OF PRODUCTION

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Italy



Martin Farrier
Lead Specialist
Statutory Fire & Safety
Southampton Technical Support Office, Marine & Offshore
For and on behalf of Lloyd's Register Verification
LRV EC Distinguishing No. 0038

**NOTIFIED BODY CERTIFICATE
TRANSFER OF RESPONSIBILITY**



Certificate No: 0525-MED-DE-MED 1650184

This certificate transfers Lloyd's Register Verification Ltd. (0038)

Certificate No: MED 1650184

Issued on: 23 June 2016

to the responsibility of EU Notified Body No. 0525

(Lloyd's Register Deutschland GmbH)

Date of Original Certificate: 23 June 2016

Date of Current Certificate: 30 December 2020

Date of Certificate Expiry: 22 June 2021

Antje Herms-Bondzio

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LR2020.D.2020.11