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MED Item number : A1/3.26(b)  
USCG Item number : 164.138  
The Certificate is not valid when printed without the file number  
indicated on page 1 of 15 sections.

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**BUREAU  
VERITAS**

**EUROPEAN COUNCIL DIRECTIVE 96/98 EC on MARINE EQUIPMENT (M.E.D.)**

## **EC TYPE EXAMINATION CERTIFICATE (CERTIFICATE OF TYPE APPROVAL)**

*This is to certify that Bureau Veritas, acting within the scope of its notification, did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the International Instruments and testing standards under the requirements of Council Directive 96/98/EC, as amended.*

**PENETRATIONS THROUGH 'A' CLASS DIVISIONS : PIPE, DUCT, TRUNK, etc  
PENETRATIONS**  
**CSD Sealings Plugs for single and multi pipes penetrations for steel, stainless steel pipes.**

**MANUFACTURED BY:**

**BEELE ENGINEERING**  
Aalten - NETHERLANDS

**REGULATIONS & STANDARDS in accordance with Council Directive 96/98/EC, as amended by Commission Directive 2002/75/EC ;  
SOLAS 74 Convention, as amended, Regs.II-2/9.3.1 - IMO Resolution MSC 61(67)[FTP Code] Annex 1 Part 3 and Annex 2 - IMO  
Resolution A.754 (18).**

**Expiry date: 12/01/2006**

**Local Office : BUREAU VERITAS ROTTERDAM**

**At Paris la Défense, on : 01/07/2004**



**J.BENOIT**  
*Signature*  
**Marine Equipment Certification Manager**  
**For BUREAU VERITAS, EC Notified Body N°0062**



The Manufacturer is advised to affix the MED Conformity Mark to approved equipment and issue a Declaration of Conformity, only when the production/product assessment module referred to in the Directive 96/98/EC, is fully complied with.  
This Certificate remains valid until its date of expiry, unless covered or revised, providing the conditions in the attached Schedule are complied with and the equipment remains satisfactory in service. This Certificate does not apply to equipment which has been varied or modified from the specimen issued.  
Should the specified standards be amended during the validity of this Certificate, the product(s) here to be re-approved prior to when being placed on board vessels to which the amended standards apply.  
This Certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division. Any Person not a party to the contract pursuant which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgment, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

Issued under the authority of the French Maritime Administration.

BV mod. A4E 516 July 2004



## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

#### **CSD Sealing Plugs for single and multi pipes penetrations for steel, stainless steel pipes**

Composed of steel penetration sleeve continuously welded to the bulkhead or deck (symmetrically or non-symmetrically as per the manufacturer's drawings). The sleeve is sealed on both ends with CSD sealing plugs (FRR or FRR/SIL rubber type) and insulated with minimum 25 mm thick of rockwool, wrapped around with aluminium foil and tied with steel wire mesh and wire ties.

Pipes may also have to be insulated after penetrations endings in accordance with the Manufacturer's drawings listed in § 2.

Conduit sleeve length as follows :

L = 120 mm for conduit sleeves maximum 2" ;

L = 160 mm for conduit sleeves diameter above 2" ;

Pipes outer diameter up to 219 mm

### 2. DESIGN DRAWINGS and/or SPECIFICATIONS

2.1 - Sealing plus are to be installed according to the Manufacturer's drawings N° PL056E, PL058E, PL060E, PL062E, PL063E (all dated 03.06.00), PL065E rev.1 dated 15.12.00, PL067E and PL069E (both rev.1 dated 15.12.00).

2.2 - Manual(s) for installation, use and maintenance is/are to be stamped by the Society's Surveyor and supplied in the language prescribed by the Maritime National Administration to whom the ship is registered.

2.3 - Manufacturing documentation: to be stamped by the Society's Surveyor.

### 3. TYPE TEST REPORTS / LABORATORY RECOGNITION STATUS

3.1 - N° 106394VA, N° 106393B, both issued on 15.06.1999, N° 114524 issued on 26.09.2000, N° 115365 issued on 30.09.2000, N° 115541/A issued on 01.12.2000 from Warrington Fire Research Centre, UK., in accordance with IMO Resolution A.754 (18).

3.2 - N° 2000-CVB-R00984 (horizontal test) and N° 2000-CVB-R00912 (vertical test), issued May 2000 from TNO Laboratories, The Netherlands, in accordance with IMO Resolution A.754 (18).

3.3 - In-house tests N° 0005-B018 (horizontal test), dated 13.01.1999, & N° 0006-B025 (vertical test), dated 20.06.2000, form the applicant for "steel pipe A-0 penetration with FRR plugs".

### 4. MATERIALS or COMPONENTS REQUIRED TO BE TYPE APPROVED or TYPE TESTED

Non-combustible insulating mineral wool : to be EC type approved and to bear the  mark.

The fire tests were conducted with mineral wool minimum density 110 kg/m<sup>3</sup>; any alternative previously proven and approved A-class insulation giving at least an equivalent insulation performance can be used (in accordance with fax DW991203F 1 dated 03.12.1999 from Warrington Fire Research Centre, UK).

### 5. OTHER MATERIALS and/or COMPONENTS

5.1 - FRR rubber : technical report N° 34075, dated 25.05.1999, from RAPPRA Technology Ltd. in accordance with NES 711 (Naval Engineering Standard), NES 713 and BS ISO 4589 Parts 2 and 3;

5.2 - FRR/SIL rubber : technical report N° 34738, dated 05.10.1999, from RAPPRA Technology Ltd. in accordance with NES 711 (Naval Engineering Standard), NES 713 and BS ISO 4589 Parts 2 and 3;

### 6. APPLICATION / LIMITATION OF USE

- 6.1 - Approved for use as pipe penetrations in A-0/A-60 class steel and aluminium (penetration coaming fully insulated) divisions.
- 6.2 - Approval valid for ships having to comply with SOLAS 74 Convention, as amended, and for units having to comply with IMO Resolution A649 (The "MODU Code").
- 6.3 - Watertight up to 2.5 bars in accordance with in-house tests N° 9910-015 to -018, dated 14.10.1999, from the Manufacturer (tests witnessed by Lloyd's Register).

## 7. PRODUCTION SURVEY REQUIREMENTS

- 7.1 - Arrangements shall be made for a Society's Surveyor to carry out, on a periodic basis, visit of the Manufacturer's (BEELE ENGINEERING Works, Netherlands) premises and product audits.
- 7.2 - The production conformity assessment module shall either be "D, production quality assurance" or "E, product quality assurance" or "F, product verification".
- 7.3 - Each manufactured equipment is to bear the  $\otimes$  conformity mark and number of the Notified Body undertaking surveillance module (where BV, 0062).
- 7.4 - Each equipment or batch of equipment is to be supplied with its manual (or instruction) for installation, use and maintenance in the language required by the Ship's Flag Administration.

## 8. ON BOARD INSTALLATION & MAINTENANCE REQUIREMENTS

- 8.1 - The Manufacturer's instruction manual should be kept on board.
- 8.2 - The fitting aboard to be the same as used for the test.

## 9. MARKING FOR IDENTIFICATION

- $\otimes$  conformity mark and number of the Notified Body undertaking surveillance module (where BV, 0062).
- Last two digits of year mark affixed.

In pursuance of the EU/US MRA+, and in accordance with the Council Decision 2004/425/EC of 21 April 2004, the manufactured item(s) can be affixed with the USCG conformity marking, subject to the authorization of the Conformity Assessment Body undertaking surveillance module.

## 10. OTHERS

10.1 - This approval is given on the understanding that the Manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper methods of fitting and general maintenance of the approved equipment and the conditions of this approval.

10.2 - This certificate supersedes EC Type Examination Certificate N° 10742/A3 EC issued on 2002-07-01 by the Society.

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BUREAU VERITAS ROTTERDAM



DIRECTIVE 96/98 EC

Marine Equipment

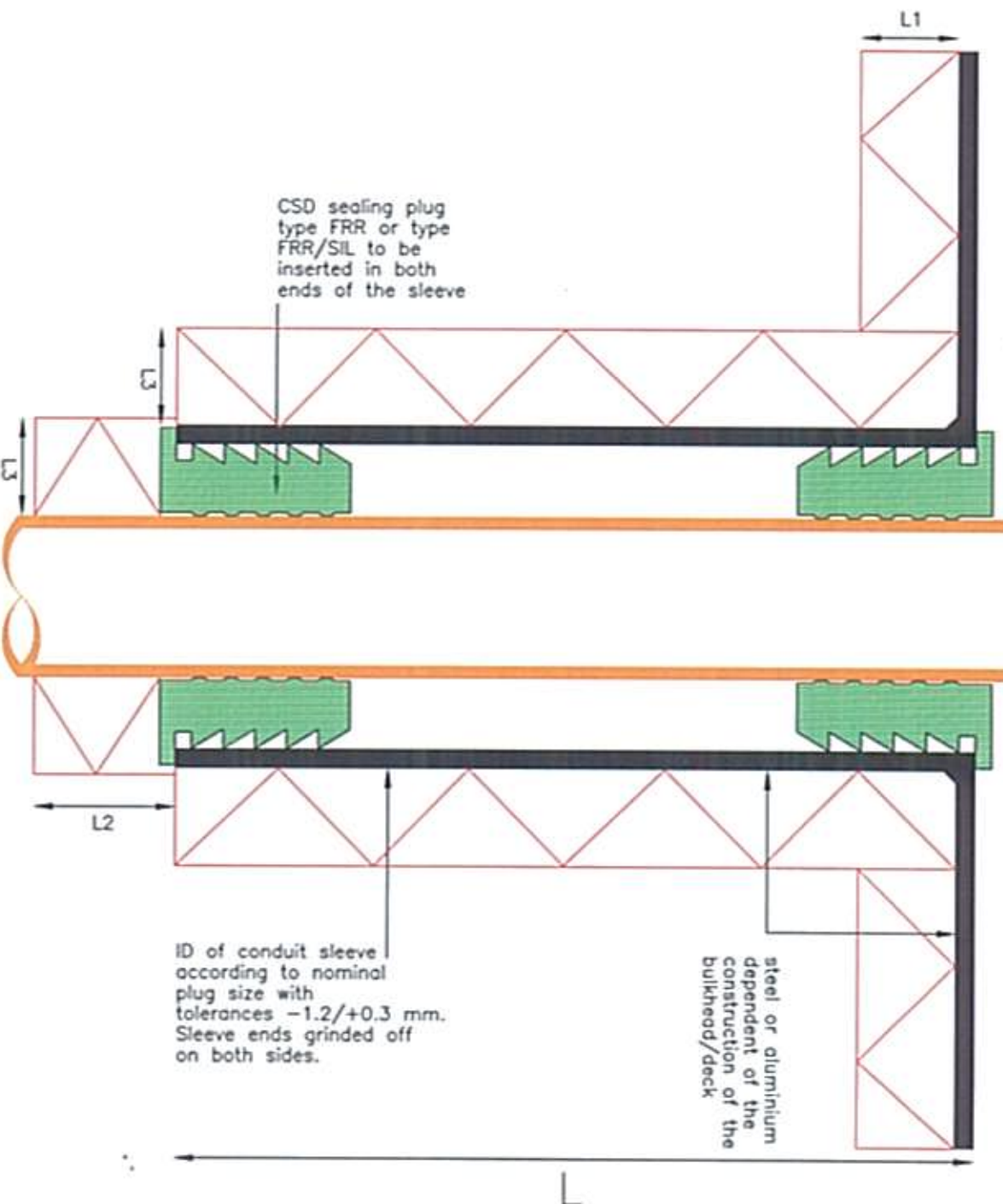
REVIEWED

010702

NB 0062 - File N° Axi: 4018/030/001

TAC: 10244/ELC

A0-A60 class penetrations  
for steel, stainless steel  
and GRP pipes sealed with  
CSD (multi-) sealing plugs



CSD sealing plug  
type FRR or type  
FRR/SIL to be  
inserted in both  
ends of the sleeve

ID of conduit sleeve  
according to nominal  
plug size with  
tolerances  $-1.2/+0.3$  mm.  
Sleeve ends grinded off  
on both sides.

steel or aluminium  
dependent of the  
construction of the  
bulkhead/deck

- L = 150 mm for conduit sleeves max. 2" 250 mm for conduit sleeves above 2"
- L1 = approved A-60 deck insulation
- L2 = none for service pipes up to 3" 200 mm for service pipes 3" up to 6" 400 mm for service pipes above 6"
- L3 = density minimal 110 kg/m<sup>3</sup>; thickness minimal 25 mm

# A0-A60



Description: lay-out A60 class pipe penetrations

Mat.: FRR-FRR/SIL

Ref.: JAB

Date: 03.06.00

Scale: 1:2

Rev. 1

JAB

Rev. 2

JAB

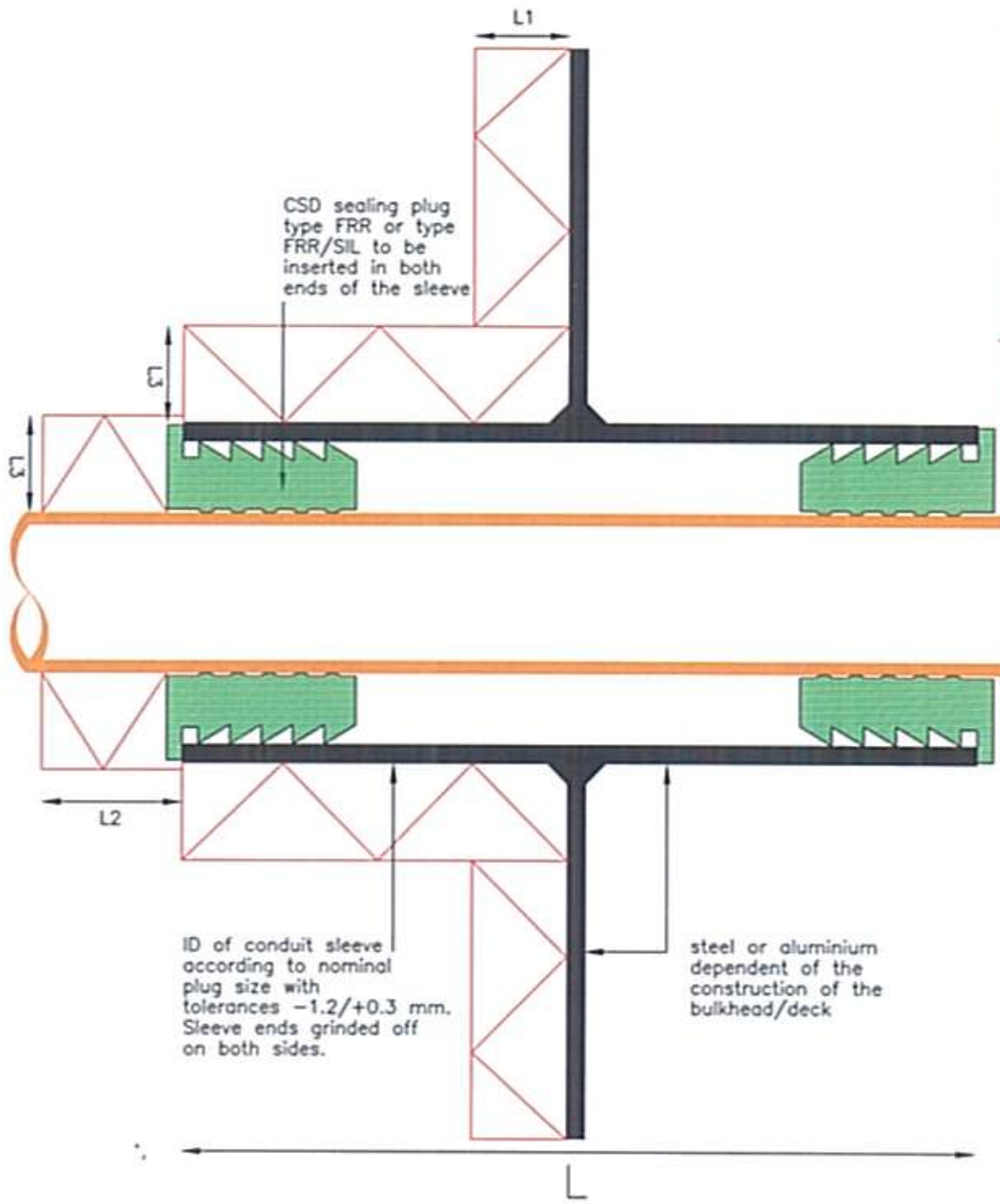
PL058E

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DIRECTIVE 96/98 EC  
Marine Equipment  
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0109 02  
NB 0062 - File N°Atti. 4404/1820/007  
TAC 102042/EC

A0-A60 class penetrations  
for steel, stainless steel  
and GRP pipes sealed with  
CSD (multi-) sealing plugs



- L = 150 mm for conduit sleeves max. 2" - 250 mm for conduit sleeves above 2"
- L1 = approved A-60 deck insulation
- L2 = none for service pipes up to 3" - 200 mm for service pipes 3" up to 6" - 400 mm for service pipes above 6"
- L3 = density minimal 110 kg/m<sup>3</sup>; thickness minimal 25 mm

# A0-A60



Description: lay-out A60 class pipe penetrations

Mat.: FRR-FRR/SIL

Ref.: JAB

Date: 03.06.00

Scale: 1:2

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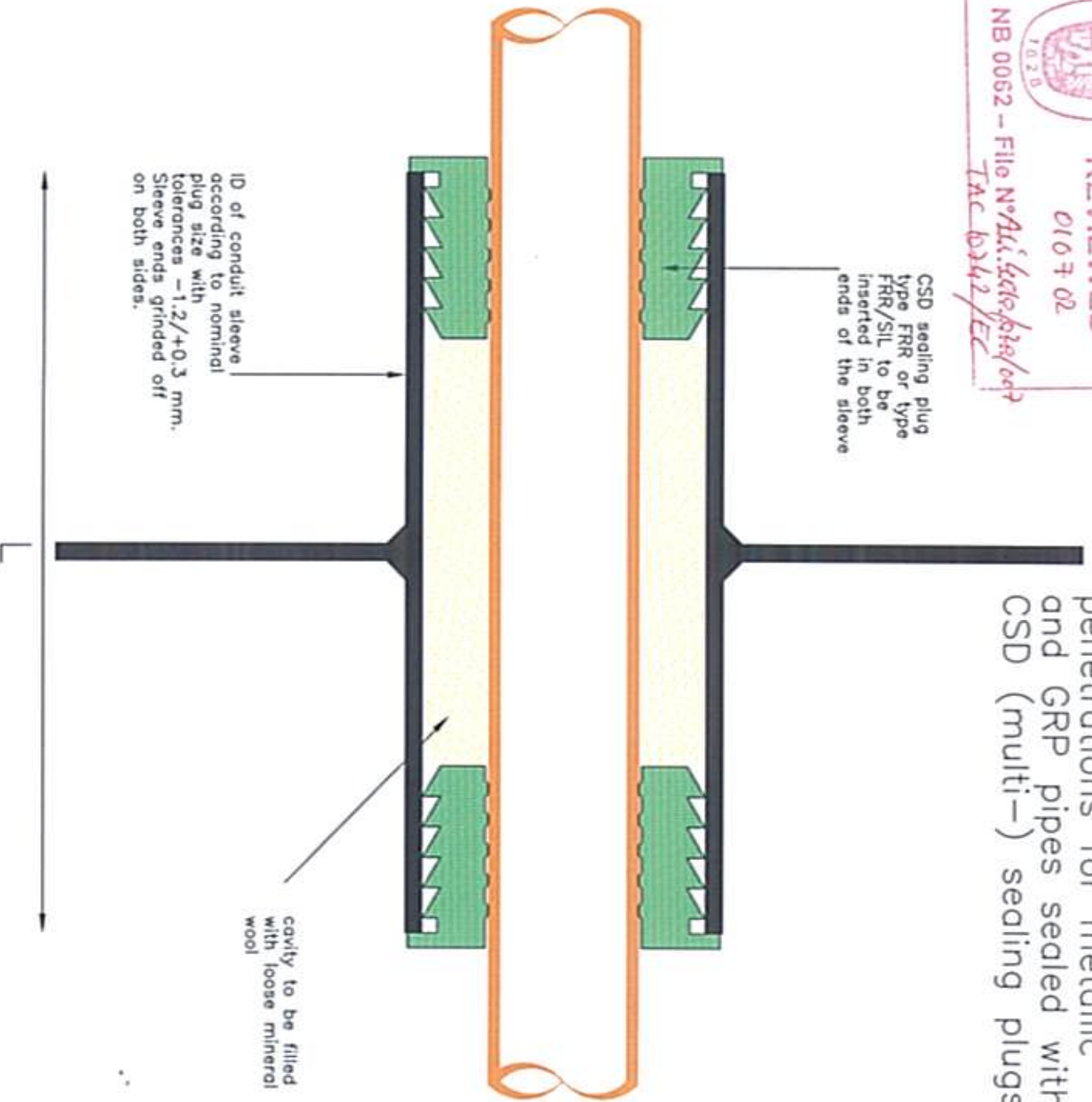
Rev. 1  
Rev. 2

JAB  
JAB

PL060E

  
**DIRECTIVE 96/98 EC**  
 Marine Equipment  
**REVIEWED**  
 010702  
 NB 0062 – File No. *Al. Gato/John/007*  
*TAC 0342/EC*

A0 class deck and bulkhead  
 penetrations for metallic  
 and GRP pipes sealed with  
 CSD (multi-) sealing plugs



L = 150 mm for conduit sleeves max. 2"  
 250 mm for conduit sleeves above 2"

A0



Description: lay-out A0 class pipe penetrations	
Mat.: FRR-FRR/SIL	
Ref.: JAB	Date: 03.06.00
Rev. 1	Scale: 1:2
Rev. 2	JAB
PL062E	

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Marine Equipment

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01 07 02

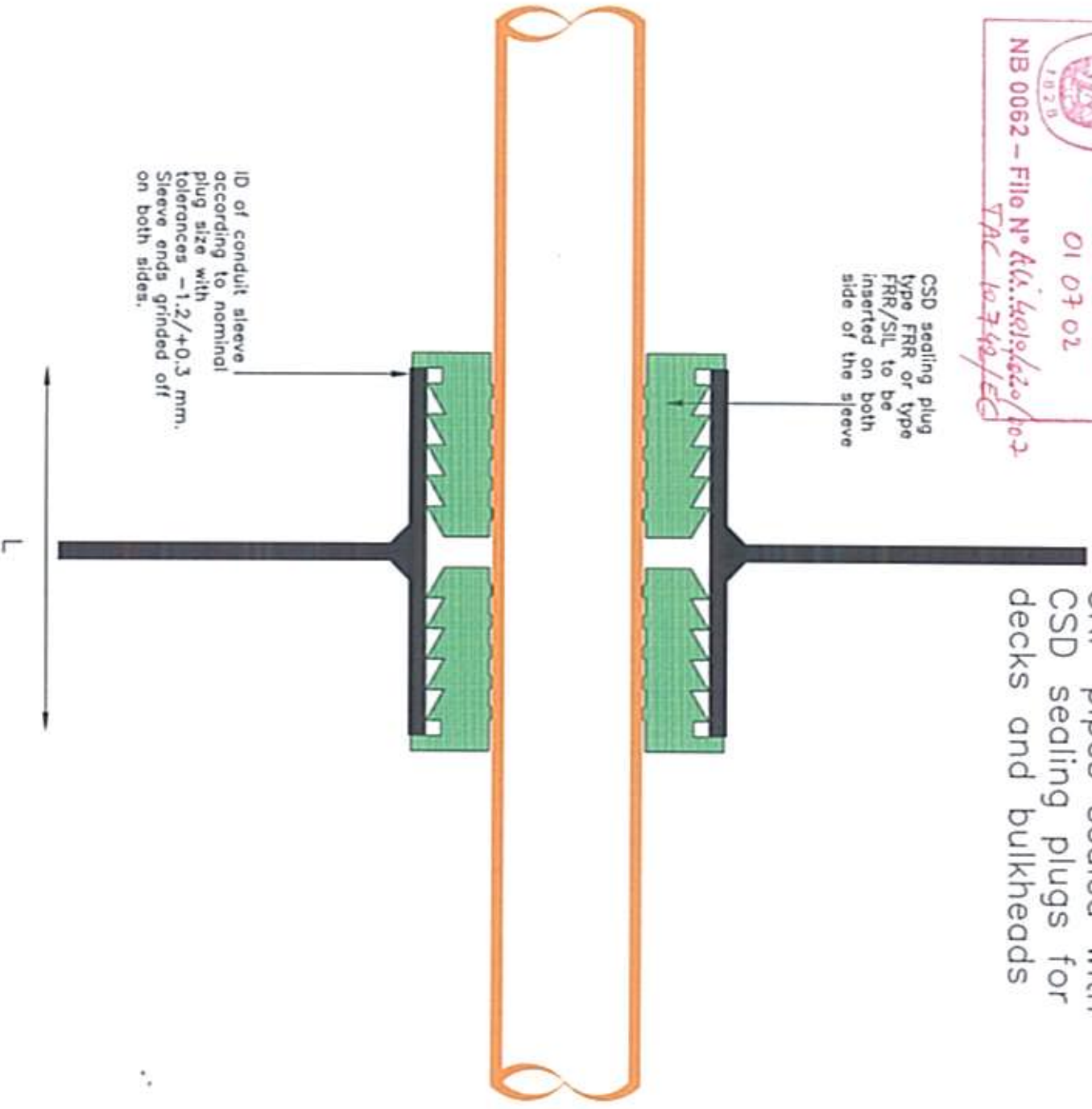
NB 0062 – File N° Atk.:44010620/102

TAC 10349/EG

A0 class penetrations for steel, copper and GRP pipes sealed with CSD sealing plugs for decks and bulkheads

CSD sealing plug type FRR or type FRR/SIL to be inserted on both side of the sleeve

ID of conduit sleeve according to nominal plug size with tolerances  $-1.2/+0.3$  mm. Sleeve ends grinded off on both sides.



sleeves ID up to 170 mm L=120 mm  
sleeves ID above 170 mm L=160 mm

# A0

STEEL/COPPER/GRP PIPES



Description: lay-out A0 class pipe penetrations

Mat.: FRR-FRR/SIL

Type: CSD

Scale: 1:2

Ref.: JAB

Date: 03.06.00

Project:

Rev. 1

JAB

Rev. 2

JAB

## PL063E

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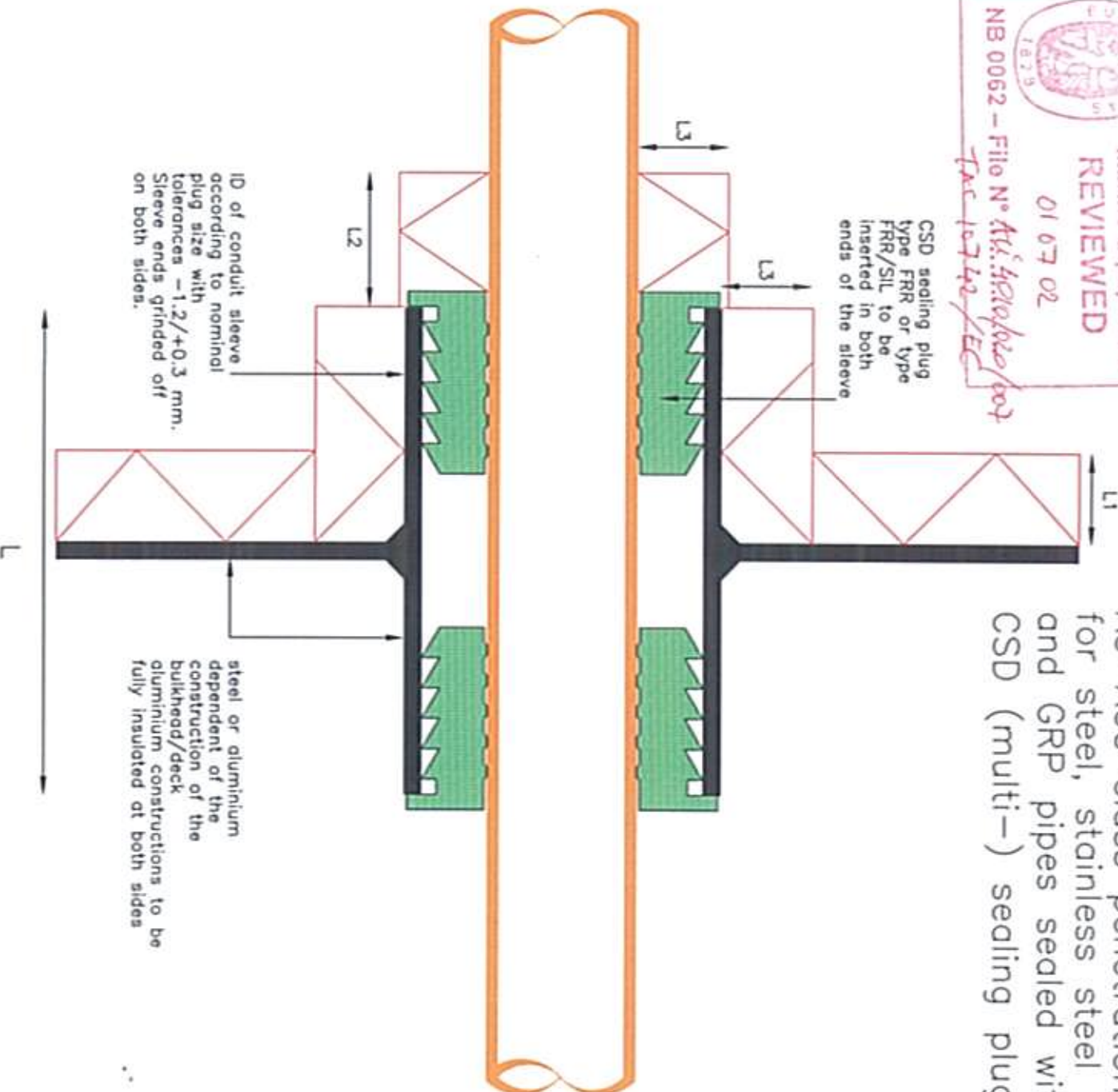


DIRECTIVE 95/98 EC  
Marine Equipment  
REVIEWED

01 07 02

NB 0062 - Filio N° *At: 49101010101*  
*Fac 10742/EG*

A0-A60 class penetrations  
for steel, stainless steel  
and GRP pipes sealed with  
CSD (multi-) sealing plugs



- L = 120 mm for sleeves up to 2" and 160 mm above 2"
- L1 = approved A-60 bulkhead insulation
- L2 = none for service pipes up to 1"  
200 mm for service pipes 1" up to 3"  
300 mm for service pipes 3" up to 6"  
400 mm for service pipes above 6"
- L3 = density minimal 110 kg/m<sup>3</sup>; thickness minimal 25 mm

# A0-A60



sealing systems

Description: lay-out A60 class pipe penetrations

Mat.: FRR

Ref.: JAB

Date: 27.07.00

Scale: 1:2

Rev. 1 15.12.00

JAB

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Rev. 2

JAB

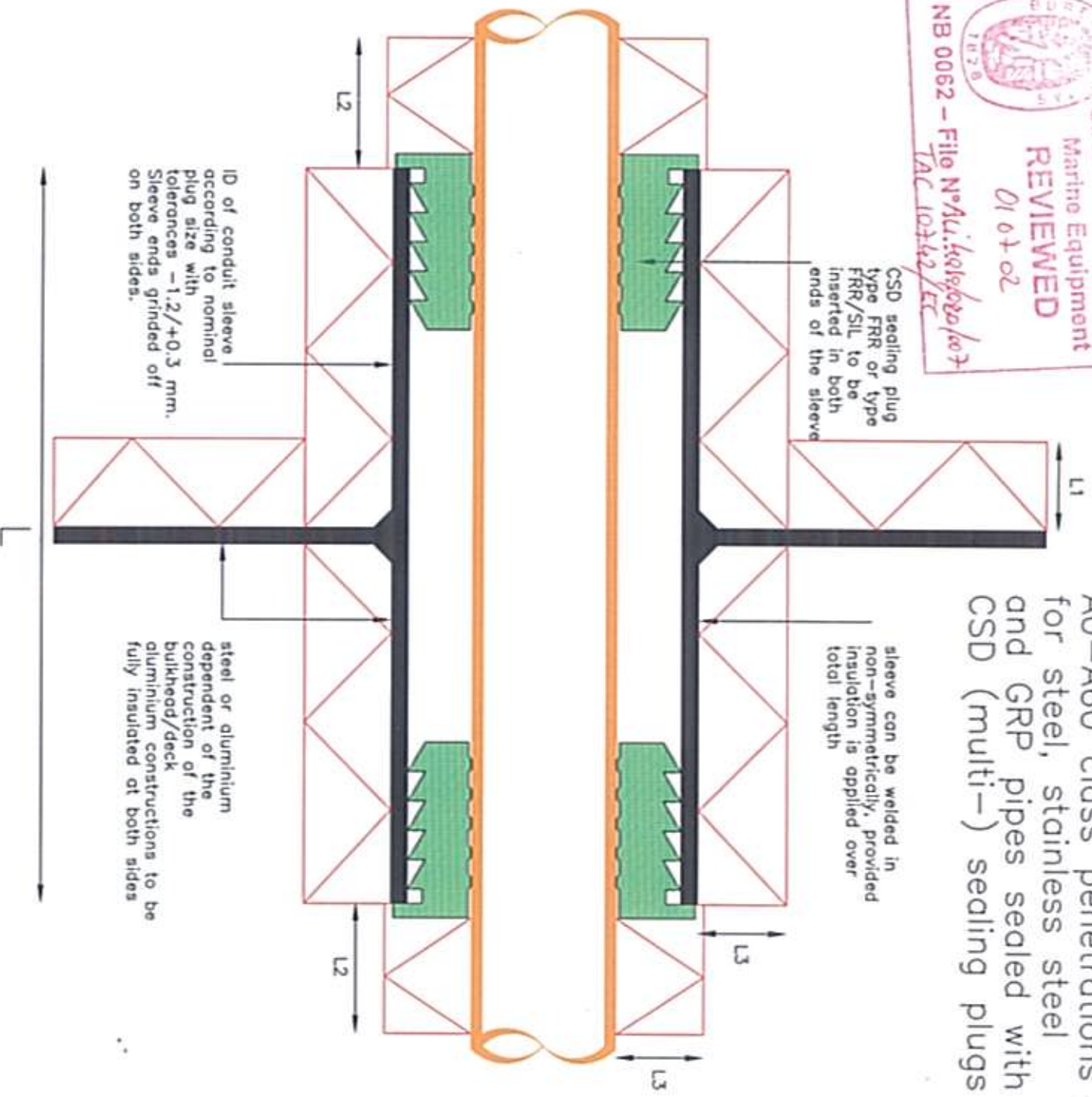
PL065E





DIRECTIVE 96/98 EC  
 Marine Equipment  
**REVIEWED**  
 01 01 02  
 NB 0062 - File N° Au. 4019/020/1007  
 TAC 10242/EC

A0-A60 class penetrations  
 for steel, stainless steel  
 and GRP pipes sealed with  
 CSD (multi-) sealing plugs



- L = 150 mm for conduit sleeves max. 2" 250 mm for conduit sleeves above 2"
- L1 = approved A-60 bulkhead insulation
- L2 = none for service pipes up to 3" 100 mm for service pipes 3" up to 6" 200 mm for service pipes above 6"
- L3 = density minimal 110 kg/m<sup>3</sup>; thickness minimal 25 mm

# A0-A60



Description: lay-out A60 class pipe penetrations

Mat.: FRR-FRR/SIL

Ref.: JAB

Date: 03.06.00

Scale: 1:2

Rev. 1

JAB

Rev. 2

JAB

PL056E

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DIRECTIVE 96/98 EC

Marine Equipment

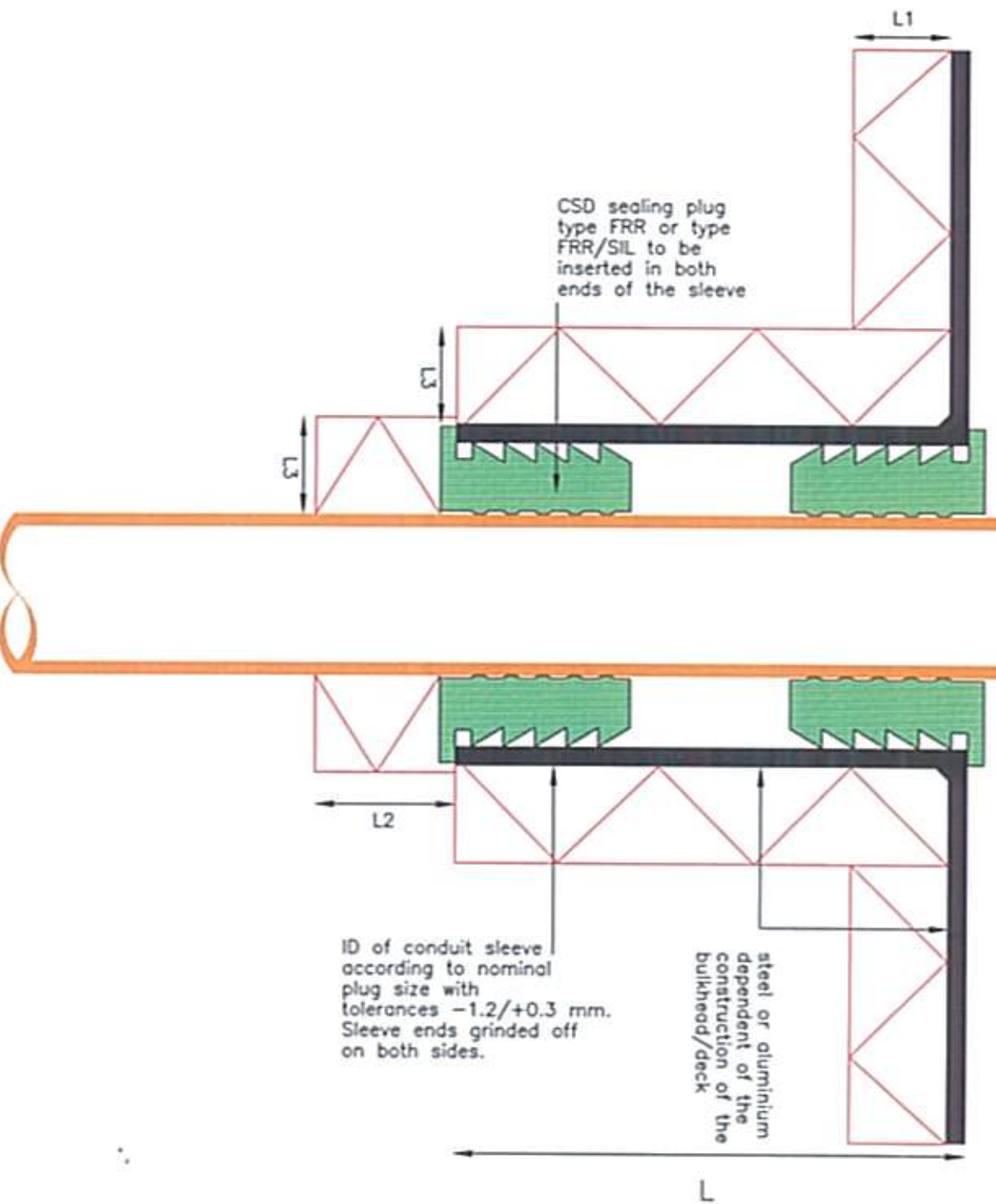
REVIEWED

01 07 02

NB 0062 - File N° Ats: 5406/010/007

TAC 10742/ET

A0-A60 class penetrations  
for steel, stainless steel  
and GRP pipes sealed with  
CSD (multi-) sealing plugs



- L = 120 mm for sleeves up to 2" and 160 mm above 2"
- L1 = approved A-60 deck insulation
- L2 = none for service pipes up to 1"  
200 mm for service pipes 1" up to 3"  
300 mm for service pipes 3" up to 6"  
400 mm for service pipes above 6"
- L3 = density minimal 110 kg/m<sup>3</sup>; thickness minimal 25 mm

# A0-A60



Description: lay-out A60 class pipe penetrations

Mat.: FRR-FRR/SIL

Ref.: JAB

Date: 27.07.00

Scale: 1:2

Rev. 1 15.12.00

JAB

Rev. 2

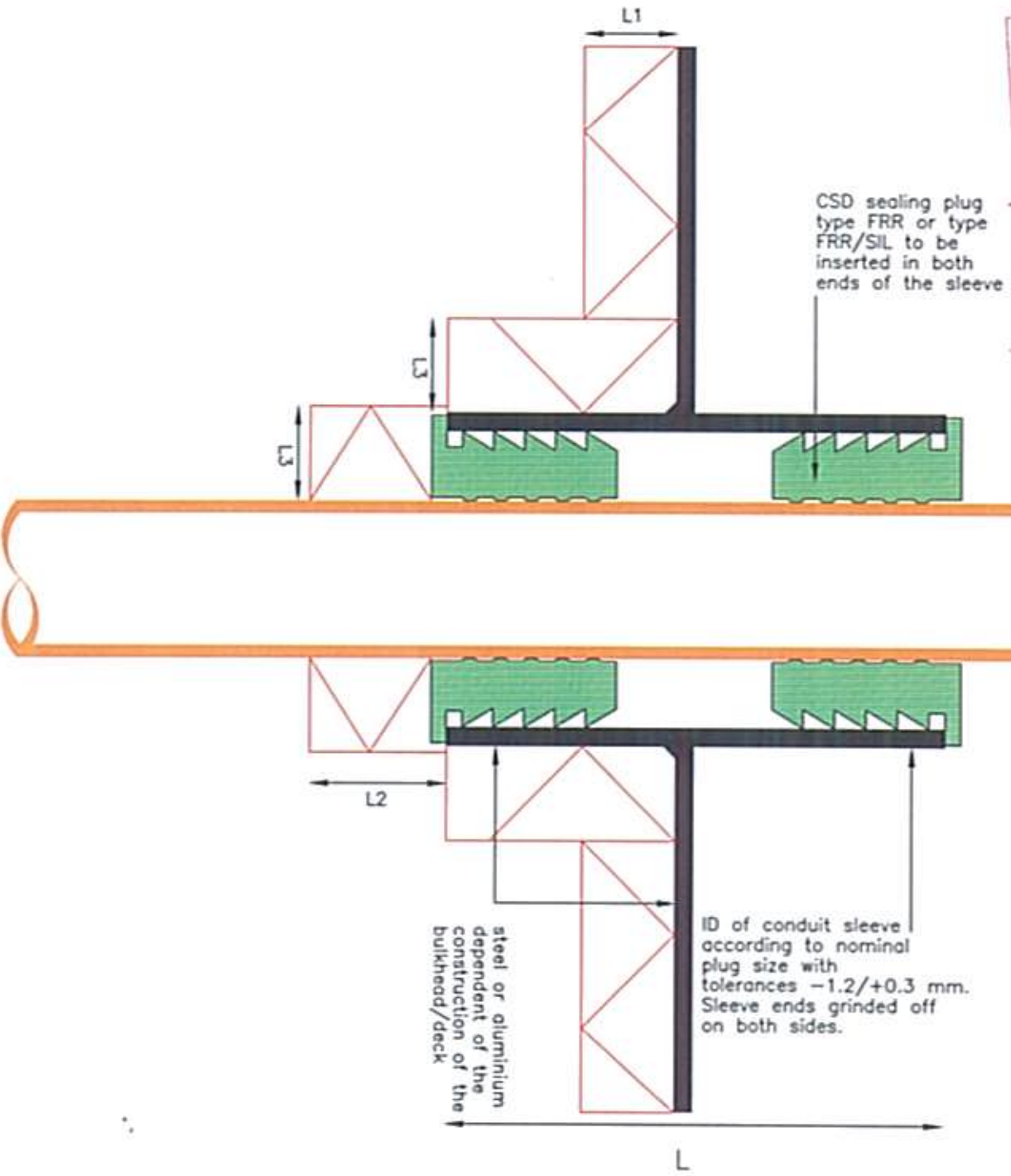
JAB

PL067E

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**DIRECTIVE 96/98 EC**  
 Marine Equipment  
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 01 of 02  
 NB 0062 - File N° *Ar:14214/03/10/1*  
*YMC 10141/EC*

A0-A60 class penetrations  
 for steel, stainless steel  
 and GRP pipes sealed with  
 CSD (multi-) sealing plugs



- L = 120 mm for sleeves up to 2" and 160 mm above 2"
- L1 = approved A-60 deck insulation
- L2 = 100 mm for service pipes up to 1"
- 300 mm for service pipes 1" up to 3"
- 400 mm for service pipes 3" up to 6"
- 500 mm for service pipes above 6"
- L3 = density minimal 110 kg/m<sup>3</sup>; thickness minimal 25 mm

# A0-A60

**Description:** lay-out A60 class pipe penetrations

**Mat.:** FRR-FRR/SIL

**Ref.:** JAB

**Date:** 27.07.00

**Scale:** 1:2

**Rev. 1** 15.12.00

JAB

**Rev. 2**

JAB

**PL069E**



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