



Marine & Offshore
Division

Certificate number: 04899/E0 BV

File number: ACE 14/481/04

Product code: 2557D

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

3M E.C.C. Europa B.V.
Amersfoort - NETHERLANDS

for the type of product

SHRINK CONNECTOR INSULATORS

Type: HDT, HDT-A.

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 19 Jan 2020

For BUREAU VERITAS,

At BV GRONINGEN, on 19 Jan 2015,

John Mondt



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to 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 judgement, 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.

The electronic version is available at: <http://www.veristarm.com/veristarmb/jsp/viewPublicPdfTtypepec.jsp?id=3gfiqz79yp>

BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Heat Shrinkable Connector Insulators delivered by all 3M subsidiaries.

With high shrink ratio for multicore insulated cables 0.6/1 kV.

Type: HDT, HDT-A.

- without adhesive when located in dry spaces.
- with hot melt adhesive for protection against water penetration in wet spaces.

. HDT sizes:

Expanded ID (min.) mm	Recovered ID (max.) mm
12.0	3.0
19.0	6.0
30.0	8.0
38.0	12.0
48.0	15.0
85.0	26.0
115.0	36.0

. HDT-A sizes:

Expanded ID (min.) mm	Recovered ID (max.) mm
12.0	3.0
19.0	6.0
30.0	8.0
38.0	12.0
48.0	15.0
65.0	22
85.0	26.0
115.0	38.0
128.0	37.0

2. DOCUMENTS AND DRAWINGS:

According to documents filed in ACE 14/481/04.

3. TEST REPORTS:

- According to test reports N°s:

- D-596-0/1862
- IM2-01
- IT2-01
- N° 421
- N° IT-1

- filed in ACE 14/481/04.

4. APPLICATION / LIMITATION:

BV Rules for the Classification of Steel Ships.

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5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The Shrink Connector Insulators, types HDT, HDT-A are to be supplied by **3M E.C.C. Europa B.V.** in accordance with the type described in this certificate.

5.2 - This type of product is within the category DBV of Bureau Veritas Rule Note NR320.

5.3 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT:

According to Manufacturer's Specifications.

7. OTHERS:

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time, and that **3M E.C.C. Europa B.V., Amersfoort - The Netherlands**, will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 04899/D0 BV issued on 03/05/2007 by the Society.

*** END OF CERTIFICATE ***