

**MARINE DIVISION**  
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Certificate N°:  
13000/A1 BV

The attached Schedule forms part of the certificate

File Number : ACE 01/737/02  
Product Code : 2505H

**BUREAU  
VERITAS**

## CERTIFICATE OF TYPE APPROVAL

*This is to certify that the product identified below was found to be in compliance with the relevant hereunder stated Regulations & standards*

### INSTRUMENTATION AND COMMUNICATION CABLES

Type: TIOI 60(250)V.

**MANUFACTURED BY:**

**Suzhou Draka Cable Co. Ltd.**  
Suzhou - CHINA

**SPECIFIED REGULATIONS & STANDARDS :**

BV Rules for the Classification of Steel Ships.

IEC 60092-375, IEC 60092-376, IEC 60092-359, IEC 60332-1, IEC 60332-3 Cat. A/B/C, IEC 60754-1/2, IEC 61034.

**The Approval is valid until : 22/07/2008**

BUREAU VERITAS SHANGHAI

**Bill Chen**  
BVN Leader Surveyor



At Paris la Défense, on : 05/01/2004

**J.BENOIT**  
For the Secretary

This Certificate remains valid until the date stated on, hereunder, unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory into service.

This Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested.

This Certificate is not valid without the stamp of the above mentioned BUREAU VERITAS Inspection Center.

The manufacturer should notify BUREAU VERITAS of any modification or changes to the equipment in order to obtain a valid Certificate.

The latest published Regulations or Standards referred to, above, and the Marine Division General Conditions are applicable.



**BUREAU  
VERITAS**  
MARINE DIVISION

File Number : ACE 01/737/02

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

1.1 - Rating Voltage: 250V

1.2 - Product Range:

TYPE	Number of Pairs	Cross Sectional Areas (mm <sup>2</sup> )	Temp. Class °C	Remarks
(Low Smoke Halogen Free) <b>TIOI 60 (250) V</b>	1 to 37	0.5 to 1.5	85	250V Flame retardant according to IEC 60332-1 & IEC 60332-3 (Categories A/B/C)

1.3 - Product Description:

Flame retardant single and multi-pair instrumentation and control cable, XLPE insulation, with or without Aluminium foil overall or individual & overall screened with tinned copper drain insert, low smoke halogen free thermoplastic bedded, plain copper wire braided, low smoke halogen free thermoplastic sheathed.

### 2. DESIGN DRAWINGS and/or SPECIFICATIONS

Documents filed in ACE 01/116/01 & 02, ACE 01/737/02.

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

According to test reports:

- QC 001/98 dated 09/05/98, 03/06/98
- QC 003/98 dated 04/06/1998
- Flame retardant test for categories A, B & C dated 05/06/07-1998
- HV 6489/ HV 6488/ HV 6486 dated 23.10.2000
- 5218 dated 23.10.2000
- EF002 dated 29.06.1999
- EL 002 dated 19.12.1999
- E 017 dated 12/16.12.1999
- 6017 dated 15.12.1999
- 1006 dated 15/21.11.2000



Test report n° CT02-0371A-2 issued by China National Centre for Quality Supervision and Test of Electric Wire and Cable on 05.23.2002.

### 4. MATERIALS and/or COMPONENTS REQUIRED TO BE TYPE APPROVED

Nil.

**5. OTHER MATERIALS and/or COMPONENTS**

Nil.

**6. APPLICATION / LIMITATION OF USE**

BV Rules for the Classification of Steel Ships.

**7. PRODUCTION SURVEY REQUIREMENTS**

Arrangements shall be made for a Society's Surveyor to carry out, on a periodic basis, visits of the Manufacturer's premises and product audits.

**8. ON BOARD INSTALLATION & MAINTENANCE REQUIREMENTS**

- BV Rules for the Classification of Steel Ships.
- IEC 60092 series.

**9. MARKING FOR IDENTIFICATION**

The cable shall be marked on the surface outer sheath, in a durable legible and visible manner, with the following information through the length of cable:

- 1) Voltage grade,
- 2) Cable symbol,
- 3) Cable size,
- 4) Manufacturer's name or trade mark,
- 5) Year of manufacture.

**10. OTHERS**

10.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the cables at any time and that **Suzhou Draka Cable Co. Ltd., Suzhou - China**, will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the cables and the conditions of this approval.

10.2 - This certificate supersedes the Type Approval Certificate n° 13000/A0 BV issued on 22/07/2003 by the Society.

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BUREAU VERITAS SHANGHAI

