

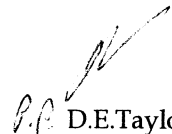


Type Approval Certificate Extension

This is to certify that Certificate No. 98/60061(E2) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

| PRODUCER | General Cable Industries, Inc. | | | | | | | | | | |
|--|--|--|---------------------|-------------|----|-------------|------|-------------|------|--|---------------------|
| PLACE OF PRODUCTION | 1600 West Main Street Willimantic CT 06226-1228 USA | | | | | | | | | | |
| DESCRIPTION | Signal cable - Twisted pair or twisted triad; cross linked polyolefin, irradiated insulation (Type P); individual shield with drain wire and tape; optional overall shield (Al/polyester tape or copper braid) with drain wire; modified chlorosulphonated polyethylene sheath (Type CP); optional armour with modified chlorosulphonated polyethylene sheath (Type CP) | | | | | | | | | | |
| TYPES | Polyrad XT | | | | | | | | | | |
| APPLICATION | Marine, offshore and industrial. | | | | | | | | | | |
| SPECIFIED STANDARD | IEEE45: 1998 IEC60332-3 (Category A) IEEE1580:2001 | | | | | | | | | | |
| TECHNICAL DETAILS | <u>Overall Aluminium/Polyester Tape Shield</u> <table><thead><tr><th><u>Conductor size (mm²)</u></th><th><u>No. of pairs</u></th></tr></thead><tbody><tr><td>0.4 (22AWG)</td><td>12</td></tr><tr><td>0.6 (20AWG)</td><td>3, 4</td></tr><tr><td>1.2 (16AWG)</td><td>5, 8</td></tr></tbody></table> <u>Overall Tinned Copper Braid Shield</u> <table><thead><tr><th><u>Conductor size (mm²)</u></th><th><u>No. of pairs</u></th></tr></thead></table> | <u>Conductor size (mm²)</u> | <u>No. of pairs</u> | 0.4 (22AWG) | 12 | 0.6 (20AWG) | 3, 4 | 1.2 (16AWG) | 5, 8 | <u>Conductor size (mm²)</u> | <u>No. of pairs</u> |
| <u>Conductor size (mm²)</u> | <u>No. of pairs</u> | | | | | | | | | | |
| 0.4 (22AWG) | 12 | | | | | | | | | | |
| 0.6 (20AWG) | 3, 4 | | | | | | | | | | |
| 1.2 (16AWG) | 5, 8 | | | | | | | | | | |
| <u>Conductor size (mm²)</u> | <u>No. of pairs</u> | | | | | | | | | | |
| Certificate No. | 98/60061(E3) | | | | | | | | | | |
| Issue Date | 2 September 2008 | | | | | | | | | | |
| Expiry Date | 21 April 2013 | | | | | | | | | | |
| Sheet | 1 of 2 | | | | | | | | | | |


P.E. D.E. Taylor



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1.0 (18AWG) 1, 2, 4, 7, 9, 10, 14, 15

TECHNICAL DETAILS
Contd.

Individual Aluminium/Polyester Tape Shield

| <u>Conductor size (mm²)</u> | <u>No. of pairs</u> |
|--|--|
| 0.4 (22AWG) | 2, 3, 12, 17, 19 |
| 0.6 (20AWG) | 1, 2, 3, 4, 19, 25 |
| 1.0 (18AWG) | 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 20, 22, 24 |
| 1.2 (16AWG) | 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 20, 22, 24 |
| 2.1 (14AWG) | 2, 4 |
| 3.3 (12AWG) | 10 |

Individual and Overall Aluminium/Polyester Tape Shields

| <u>Conductor size (mm²)</u> | <u>No. of pairs</u> |
|--|-----------------------------------|
| 0.6 (20AWG) | 2 |
| 1.0 (18AWG) | 2, 3, 4, 7, 8, 10, 12, 14, 16, 24 |
| 1.2 (16AWG) | 2, 3, 4, 8 |

Individual Aluminium/Polyester Tape Shield

| <u>Conductor size (mm²)</u> | <u>No. of triads</u> |
|--|--------------------------|
| 1.0 (18AWG) | 3, 5, 7 |
| 1.2 (16AWG) | 1, 3, 4, 5, 6, 8, 12, 16 |

Individual and Overall Aluminium/Polyester Tape Shields

| <u>Conductor size (mm²)</u> | <u>No. of triads</u> |
|--|----------------------|
| 1.2 (16AWG) | 6 |

Rated voltage: 600V

Max. conductor temperature: 100°C

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No. 98/60061(E3) and its supplementary Type Approval Terms and Conditions form part of this Certificate.


All other details remain as previous Certificate No. 98/60061(E2) to which this extension should be attached.

Certificate No. 98/60061(E3)

Issue Date 2 September 2008

Expiry Date 21 April 2013

Sheet 2 of 2


D.E. Taylor



Marine Design Appraisal Document

Lloyd's Register North America, Inc.
Miami Design Support Office
1000 South Pine Island Road
Suite 530
Plantation
Florida 33324, USA

Date
02 September 2008

Quote this reference on all future communications
MDSO/DET/O-8623

LLOYD'S REGISTER TYPE APPROVAL SYSTEM 2002
Issued to: GENERAL CABLE INDUSTRIES, INC.
For: POLYRAD XT CABLE
TYPE APPROVAL CERTIFICATE NO: 98/60061 (E3)

The undernoted documents have been reviewed for compliance with the requirements of Lloyd's Register's Type Approval System, 2002 and this Design Appraisal Document is a supplement to the Certificate.

APPROVAL DOCUMENTATION

Approval Services Request for Quotation – LR 6606NA
MMI0843032 – Inspection and Surveillance of Production Facilities Report

30 April 2008
7 August 2008

Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register North America, Inc. reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.


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

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Part 1B

Subject: Electrical Equipment (Not Environmentally Tested)

Product: Cables Control, Telecommunication and Instrumentation (Part 1B)

| Producer/Licence No. | | Description of Product | | | Cert. No. |
|--|---------------------|--|---|--|---------------------|
| Type | Details of Approval | Application | Remarks | | |
| <p>General Cable Industries, Inc. 1600 West Main Street Williamantic CT 06226-1228 USA</p> | <p>Polyrad XT</p> | <p>Twisted pair or twisted triad; cross linked polyolefin, irradiated insulation (Type P); individual shield with drain wire and tape; optional overall shield (Al/polyester tape or copper braid) with drain wire; modified chlorosulphonated polyethylene sheath (Type CP); optional armour with modified chlorosulphonated polyethylene sheath (Type CP)</p> <p><u>Overall Aluminium/Polyester Tape Shield</u> Conductor size (mm²) No. of pairs 0.4 (22AWG) 12 1.6 (20AWG) 3, 4 1.2 (16AWG) 5, 8</p> <p><u>Overall Tinned Copper Braid Shield</u> Conductor size (mm²) No. of pairs 1.0 (18AWG) 1, 2, 4, 7, 9, 10, 14, 15</p> <p><u>Individual Aluminium/Polyester Tape Shield</u> Conductor size (mm²) No. of pairs 0.4 (22AWG) 2, 3, 12, 17, 19 0.6 (20AWG) 1, 2, 3, 4, 19, 25 1.0 (18AWG) 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 20, 22, 24 1.2 (16AWG) 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 20, 22, 24 2.1 (14AWG) 2, 4 3.3 (12AWG) 10</p> <p><u>Individual and Overall Aluminium/Polyester Tape Shields</u> Conductor size (mm²) No. of pairs 0.6 (20AWG) 2 1.0 (18AWG) 2, 3, 4, 7, 8, 10, 12, 14, 16, 24 1.2 (16AWG) 2, 3, 4, 8</p> <p><u>Individual Aluminium/Polyester Tape Shield</u> Conductor size (mm²) No. of triads 1.0 (18AWG) 3, 5, 7 1.2 (16AWG) 1, 3, 4, 5, 6, 8, 12, 16</p> <p><u>Individual and Overall Aluminium/Polyester Tape Shields</u> Conductor size (mm²) No. of triads 1.2 (16AWG) 6</p> <p>Rated voltage: 600V Max. conductor temperature: 100°C</p> | <p>Marine, offshore and industrial use.</p> | <p>Expires: 21 April 2013 IEEE45: 1998 IEC60332-3 (Category A) IEEE1580:2001</p> | <p>98/60061(E3)</p> |