



CERTIFICATE NUMBER
17-LD1653734-PDA

DATE
12 Jul 2017

ABS TECHNICAL OFFICE
London Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of

HAWKE INTERNATIONAL

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Cable, Glands and Accessories**

Model: **Accessory Types Hawke International 375, 383, 389, 390, 475, 476, 477, 479, 480, 481, 482, 487, 489, 490, 491, 492, 493.**

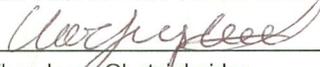
This Product Design Assessment (PDA) Certificate 17-LD1653734-PDA, dated 12/Jul/2017 remains valid until 11/Jul/2022 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING



Theodoros Chatzigeorgidis
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

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Tier: 3 - Type Approved, unit certification not required TC

Product: Cable, Glands and Accessories

Model: Accessory Types Hawke International 375, 383, 389, 390, 475, 476, 477, 479, 480, 481, 482, 487, 489, 490, 491, 492, 493.

Intended Service:

ABS classed vessels and offshore facilities in accordance with the listed ABS Rules and International standards.

Description:

Plugs, Adaptors, Accessories as listed on accompanying product listing

Use with Certified Terminal Boxes installed in IEC Zone 1 and 2 Hazardous locations on ships and offshore units.

Rating:

Model Type:

- (1) 375 Stopping Plugs Range: Ex eb IIC Gb / Ex tb IIIC Db IP66/IP67
- (2) 383 Earth Lead Adaptor: Ex eb IIC Gb / Ex tb IIIC Db IP66/IP67 (-60DegC to +80DegC)
- (3) 389 Increased Safety Breather: Ex eb I Mb / Ex eb IIC Gb / Ex tb IIIC Db (-60DegC to +80DegC)
- (4) 390 Increased Safety Stopping Plug: Ex eb I Mb / Ex eb IIC Gb / Ex tb IIIC Db (-60DegC to +80DegC)
- (5) 475 & 477 Stopping Plugs: Ex db I Mb / Ex db IIC Gb / Ex tb IIIC Db IP66
- (6) 476 Adaptors & Reducers: Ex db I Mb / Ex e I Mb / Ex d IIC Gb / Ex e IIC Gb / Ex tb IIIC Db
- (7) 479 & 480 Adaptors M to M & F to F: Ex d Exe IIC Gb / Ex tb IIIC Db (-60DegC to 200DegC)
- (8) 481 & 482 Exd Unions: Ex db IIC Gb (-60 DegC to 80DegC)
- (9) 487 Stopping Plug: Ex db I / EX eb I Mb / Ex db IIC / Ex eb IIC Gb / Ex tb IIIC Db (-60DegC to 80DegC)
- (10) 489 Breather Drain: Ex db I Mb / Ex db IIC T6 Gb / Ex tb IIIC T6 / Ex db IIB + H2 T6 Gb (-60DegC to 60 DegC)
- (11) 490 - 491 - 492 - 493 Swivel Couplings: Ex d I Mb EX e I Mb / Ex d IIC Gb / EX e IIC Gb / Ex Tb IIIC Db IP66 (-60DegC to 100DegC)

Service Restriction:

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

All electrical equipment intended for installation in hazardous areas is to be Ex rated based on the class of the hazardous area at its location of installation. Certificates in this regard are to be presented to the ABS Surveyor for verification on a case basis.

ATEX certified equipment is not to be installed in hazardous areas on US vessels unless it can be prove to have been tested to the applicable IEC 60079 series standards by an independent laboratory accepted by the U.S Coast Guard.

USCG notice 01-12 (February 7, 2012)

Compliance with the IMO MODU Code 2009 section 6.6, Reg. II-2/19 /3.2of SOLAS, SOLAS II1/45/10 is to be verified by the ABS attending surveyor.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

- (1) Glands/connectors to be installed in accordance with 4-8-3/9.1 of the Rules for Building and Classing Steel Vessels 2017 and 4-3-3/9.1.3 of the ABS Rules for Building and Classing Mobile Offshore Drilling Units 2017.
- (2) Installation in hazardous areas is to comply with 4-8-4/27.5 of the ABS Rules for Building and Classing Steel Vessels 2017 and 4-3-3/9.1.2 of the ABS Rules for Building and Classing Mobile Offshore Drilling Units 2017.
- (3) Please refer to manufacturer instruction manual for equipment installation.
- (4) Installation requirements as these are detailed on applicable IECEx or ATEX certificates are to be complied with.
- (5) See Report EC Type-Examination Certificates IECEx BAS 12 0065X, IECEx BAS 11 0074X, IECEx BAS 11 0075X, IECEx BAS 11 0079X, IECEx 10 0120X, GB/BAS/ExTR11/0167/00, IECEx BAS 11 0037X, IECEx BAS 11 0077, IECEx BAS 11 0071X, IECEx BAS 11 0076X, and IECEx SIR 11.0152U for more details.

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Notes/Drawing/Documentation:

Drawing No. GB/BAS/ExTR07.0106/00, IECEx Test Report - 476 Adaptors and Reducers (22.02.2008), Revision: -, Pages: 10
Drawing No. GB/BAS/ExTR10.0288/00, IECEx Test Report - 475 & 477 Stopping Plugs (07.03.2011), Revision: -, Pages: 16
Drawing No. GB/BAS/ExTR11.0056/00, IECEx Ex Test Report - 476 Adaptors & Reducers (09.03.2011), Revision: -, Pages: 3
Drawing No. GB/BAS/ExTR11/0063/00, IECEx Ex Test Report - 476 Adaptors and Reducers (03.01.2013), Revision: -, Pages: 15
Drawing No. GB/BAS/ExTR11/0163/00, IECEx Test Report - 481 M to F & 482 F to F Unions (31.10.2011), Revision: -, Pages: 13
Drawing No. GB/BAS/ExTR11/0164/00, IECEx Ex Test Report - 390 Increased Safety Stopping Plugs (18.08.2011), Revision: -, Pages: 9
Drawing No. GB/BAS/ExTR11/0165/00, IECEx Test Report - 487 Stopping Plug (26.08.2011), Revision: -, Pages: 13
Drawing No. GB/BAS/ExTR11/0166/00, IECEx Ex Test Report - 383 Earth Lead Adaptor (18.08.2011), Revision: -, Pages: 12
Drawing No. GB/BAS/ExTR11/0167/00, IECEx Test Report - 479 & 480 Adaptors M to M & F to F (31.10.2011), Revision: -, Pages: 5
Drawing No. GB/BAS/ExTR11/0168/00, IECEx Ex Test Report - 389 Breather Drain (18.08.2011), Revision: -, Pages: 9
Drawing No. GB/BAS/ExTR11/0169/00, IECEx Test Report - 489 Breather Drain (20.09.2011), Revision: -, Pages: 17
Drawing No. GB/BAS/ExTR11/0170/00, IECEx Test Report - 476 Adaptors & Reducers (24.01.2012), Revision: -, Pages: 4
Drawing No. GB/BAS/ExTR11/0287/00, IECEx Ex Test Report - 475 & 477 Stopping Plugs (14.11.2011), Revision: -, Pages: 3
Drawing No. GB/BAS/ExTR12.0114/00, IECEx Test Report - 375 Stopping Plugs (18.02.2013), Revision: -, Pages: 22
Drawing No. GB/BAS/ExTR12/0095/00, IECEx Test Report - 389 Breather Drain (12.04.2012), Revision: -, Pages: 3
Drawing No. GB/BAS/ExTR12/0096/00, IECEx Test Report - 489 Breather Drain (12.04.2012), Revision: -, Pages: 3
Drawing No. GB/BAS/ExTR12/0205/00, IECEx Test Report - 475 & 477 Stopping Plugs (13.08.2012), Revision: -, Pages: 3
Drawing No. GB/BAS/ExTR13.0024/00, IECEx Test Report - 479 & 480 Adaptors M to M & F to F (25.01.2013), Revision: -, Pages: 5
Drawing No. GB/BAS/ExTR13.0032/00, IECEx Test Report - 489 & 389 Breather Drain (04.03.2013), Revision: -, Pages: 8
Drawing No. GB/BAS/ExTR13.0065/00, IECEx Test Report - 481 M to F & 482 F to F Unions (06.03.2013), Revision: -, Pages: 4
Drawing No. GB/BAS/ExTR13.0164/00, IECEx Test Report - 487 Stopping Plug (30.07.2013), Revision: -, Pages: 3
Drawing No. GB/BAS/ExTR14.0004/00, IECEx Ex Test Report - 390 Increased Safety Stopping Plugs (06.03.2014), Revision: -, Pages: 6
Drawing No. GB/BAS/ExTR14.0223/00, IECEx Test Report - 487 Stopping Plug (31.07.2014), Revision: -, Pages: 3
Drawing No. GB/BAS/ExTR15.0032/00, IECEx Test Report - 487 Stopping Plug (06.02.2015), Revision: -, Pages: 6
Drawing No. GB/BAS/ExTR15.0134/00, IECEx Test Report - 390 Increased Safety Stopping Plugs (18.05.2015), Revision: -, Pages: 3
Drawing No. GB/BAS/ExTR15.0145/00, IECEx Test Report - 389 Breather Drain (23.06.2015), Revision: -, Pages: 3
Drawing No. GB/BAS/ExTR15.0230/00, IECEx Test Report - 479 & 480 Adaptors M to M & F to F (18.03.2016), Revision: -, Pages: 9
Drawing No. GB/BAS/ExTR15.0232/00, IECEx Test Report - 481 M to F & 482 F to F Unions (18.03.2016), Revision: -, Pages: 8
Drawing No. GB/BAS/ExTR15.0281/00, IECEx Test Report - 475 & 477 Stopping Plugs (31.01.2017), Revision: -, Pages: 3

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Pages: 8

Drawing No. GB/BAS/ExTR16.0188/00, IECEx Test Report - 375 Stopping Plugs (20.07.2016), Revision: -, Pages: 3

Drawing No. GB/BAS/ExTR16.0322/00, IECEx Test Report - 494 495 496 489 389 478 478LT 375 390 487 Misc Accessories (31.01.2017), Revision: -, Pages: 9

Drawing No. GB/SIR/ExTR12.0001/00 R25571A/00, Assessment Report - 490 - 491 - 492 - 493 Swivel Couplings (Issue 17 - 01/2012), Revision: -, Pages: 24

Drawing No. GB/SIR/ExTR12.0215/00 R28633A/00, Assessment Report - 490 - 491 - 492 - 493 Swivel Couplings (Issue 11 - 08/2012), Revision: -, Pages: 8

Drawing No. GB/SIR/ExTR12.0314/00 R29552A/00, Assessment Report - 490-491-492-493 Swivels (Issue 11 - 12/2012), Revision: -, Pages: 8

Drawing No. GB/SIR/ExTR13.0161/00 R31050A/00, Assessment Report - 490 - 491 - 492 - 493 Swivel Couplings (Issue 12 - 05/2013), Revision: -, Pages: 7

Drawing No. IECEx BAS 07.0057X, IECEx Certificate of Conformity - 476 Adaptors & Reducers (09.03.2011), Revision: 1, Pages: 4

Drawing No. IECEx BAS 10.0120X, IECEx Certificate of Conformity - 475 & 477 Stopping Plugs (21.03.2016), Revision: 3, Pages: 4

Drawing No. IECEx BAS 11.0037X, IECEx Certificate of Conformity - 476 Adaptors & Reducers (31.01.2012), Revision: 1, Pages: 4

Drawing No. IECEx BAS 11.0071X, IECEx Certificate of Conformity - 487 Stopping Plug (05.01.2017), Revision: 4, Pages: 4

Drawing No. IECEx BAS 11.0072U, IECEx Certificate of Conformity - 479 & 480 M-M & F-F Adaptors (18.03.2016), Revision: 2, Pages: 4

Drawing No. IECEx BAS 11.0074X, IECEx Certificate of Conformity - 383 Earth Lead Adaptor (19.08.2011), Revision: 0, Pages: 3

Drawing No. IECEx BAS 11.0075X, IECEx Certificate of Conformity - 389 Increased Safety Breather (05.01.2017), Revision: 4, Pages: 4

Drawing No. IECEx BAS 11.0076X, IECEx Certificate of Conformity - 489 Breather Drain (05.01.2017), Revision: 3, Pages: 4

Drawing No. IECEx BAS 11.0077U, IECEx Certificate of Conformity - 481 & 482 Exd Unions (18.03.2016), Revision: 2, Pages: 4

Drawing No. IECEx BAS 11.0079X, IECEx Certificate of Conformity - 390 Increased Safety Stopping Plug (05.01.2017), Revision: 4, Pages: 4

Drawing No. IECEx BAS 12.0065X, IECEx Certificate of Conformity - 375 Stopping Plug (05.01.2017), Revision: 2, Pages: 4

Drawing No. IECEx SIR 11.0152U, IECEx Certificate of Conformity - 490 - 491 - 492 - 493 Swivel Couplings (08.07.2013), Revision: 3, Pages: 5

Drawing No. LRQ 0964946, ISO 9001:2008 Certificate, Revision: -, Pages: 1

Drawing No. PDA Revalidation Request 12-LD922927B-PDA, PDA Revalidation Request, Revision: -, Pages: 1

Terms of Validity:

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STANDARDS**ABS Rules:**

- Steel Vessels (2017): 1-1-4/7.7, 1-1-A3&A4; 4-1-1/7.15; 4-8-3 /1.7, 4-8-3/1.11, 4-8-3/13; 4-8-4-27.5.1;
- Steel Vessels Under 90 Meters (295 Feet) in Length (2017): 1-1-4/7.7, 1-1-Appendix 3 & 4; 4-1-1/37, 4-6-3/11.1.1 (a);
- Offshore Support Vessels (2017): 1-1-4/7.7, 1-1-A3&A4; 4-1-1/7.15, 4-8-3 /1.7, 4-8-3/13;
- Facilities on Offshore Installations (2017): 1-1-4/9.7, 1-1-A2&A3;
- Mobile Offshore Drilling Units (2017): 1-1-4/9.7, 1-1-A3&A4; 4-1-1/7.9; 4-3-3/9.1.2, 4-3-3/9.1.3; 6-1-1/9, 6-1-1/13;
- Steel Vessels for Service on Rivers and Intracoastal Waterways (2017): 1-1-4/7.7, 1-1-A3&A4; 4-1-1/21, 4-5-3/11.1.1;
- High Speed Crafts (2017): 1-1-4/11.9, 1-1-A2&A3; 4-1-1/37, 4-6-3/9.1.1;
- Steel Barge Rules (2017): 1-1-4/7.7, 1-1-A3&A4;

National:

NA

International:

IEC60079-0: 2011 Ed. 6.0; IEC60079-1: 2014-06, Ed. 7.0; IEC60079-7: 2015 Ed. 5.0; IEC60079-31: 2013 Ed. 2.0; IEC61241-0: 2004 Ed. 1.0; IEC61241-1: 2004 Ed. 1.0

Government:

NA

EUMED:

NA

OTHERS: TC

NA