

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cable Ties

with type designation(s)

Ball-Lok, Tie-lok, Mini Tie-lok, 316 stainless steel band, Multi lok ties, Band-it ties, Cable fixing band and clipd, Band-it ties, all purpose band, 201 Stainless Steel Coated Band, GCS Coated band, AA Stainless Steel Coated Band

Issued to

BAND-IT Company Limited
London, United Kingdom

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Type	Material	Suitable for open deck
Ball-Lok	Stainless steel/Composite	Yes
Tie-lok	Stainless steel	Yes
Mini Tie-lok	Stainless steel	Yes
316 stainless steel band	Stainless steel	Yes
Multi lok ties	Stainless steel/composite	Yes
Band-it ties	Stainless steel/composite	Yes
Cable fixing band and clipd	Composite	Yes
Band-it ties, all purpose band	Stainless steel/composite	Yes
201 Stainless Steel Coated Band	Composite	Yes
GCS Coated band	Composite	Yes
AA Stainless Steel Coated Band	Composite	Yes

Issued at **Høvik** on **2017-09-15**

for **DNV GL**

This Certificate is valid until **2022-09-14**.

DNV GL local station: **Manchester**

Approval Engineer: **Ivar Bull**

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Andreas Kristoffersen
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-012984-5**
 Certificate No: **TAE00000YS**
 Revision No: **2**

Name and place of manufacturer

BAND-IT Company Limited Speedwell Ind. Ets Staveley Chesterfield S43 3PF United Kingdom	BAND-IT-IDEX, Inc. 4799 Dahlia St. Denver, Colorado 80216 USA	IDEX Technology (Suzhou) Co., Ltd. No.51 TangBang Road, CaoHu Boulevard, Xiang Cheng District, Suzhou Jiangsu 215131 China
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Product description

Type name: **Ball-Lok Ties**
 Material: Stainless Steel 304 or 316, 316 with or without Nylon 11 or Epoxy coating
 Thickness: 0.265 mm
 Width: 4,6 or 7,9 mm
 Length: 150 -1067mm

	Uncoated	Coated
Family	KE11 & KE13 (SS304) KE01 & KE03 (SS316) XE11 & XE13(SS304) XE01 & XE03 (SS316)	KE02 & KE04 (SS316) KE06 & KE08 (SS316) XE02 & XE04 (SS316) XE06 & XE08 (SS316)
Temperatur range [°C] min to max	-60°C to 300°C	-40°C to 150°C
Tensile strength for 4,6 x 0,25 mm types [N]	890N	667N
Tensile strength for 7,9 x 0,25 mm types [N]	1334N	778N

Type name: **Tie-Lok Ties**
 Material: Stainless Steel, 304 (AS200 series) & 316 (AS400 series)
 Thickness: 0.38 mm
 Width: 6,4 mm
 Length: 254 – 889 mm

	Uncoated	Coated
Family	AS200 (SS304) AS400 (SS316)	-
Temperatur range [°C] min to max	-60°C to 300°C	-
Tensile strength for 6,4 x 0,38 mm types [N]	1112N	-

Type name: **Mini Tie-Lok Ties**
 Material: Stainless Steel 304 or 316
 Thickness: 0.38 mm
 Width: 4,5 mm
 Length: 165 -737mm

	Uncoated	Coated
Family	AS200 (SS304) AS400 (SS316)	-
Temperatur range [°C] min to max	-60°C to 300°C	-
Tensile strength for 4,5 x 0,38 mm types [N]	444N	-

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Type name: **316 Stainless Steel Band**, (C44 family with uncoated AE45 Clip)

Material: 316 Stainless Steel
 Thickness: 0,38mm
 Width: 6,4 – 19,1 mm
 Length: 25 m

	Uncoated	Coated
Family	C44 and AE44	-
Temperatur range [°C] min to max	-60°C to 300°C	-
Tensile strength for 6,4 x 0,38 mm types [N]	1779N	-
Tensile strength for 9,6 x 0,38 mm types [N]	3336N	-
Tensile strength for 12,7 x 0,38 mm types [N]	5337N	-
Tensile strength for 15,8 x 0,38 mm types [N]	6672N	-
Tensile strength for 19,1 x 0,38 mm types [N]	8006N	-

Type name: **Multi-Lok Ties**

Material: Stainless Steel 316 covered with RILSON ESY (NYLON 11)
 Thickness: 0.265 mm
 Width: 7 or 12 mm
 Length: 150 -610 mm

	Uncoated	Coated
Family	AE60 & AE70	AE61 & AE71
Temperatur range [°C] min to max	-60°C to 300°C	-40°C to 150°C
Tensile strength for 7 x 0,28 mm types [N]	250lbs	1112N
Tensile strength for 12 x 0,28 mm types [N]	415lbs	1846N

Type name: **Band-It Ties**

Material: Stainless Steel, 316 coated with PPA 571or NYLON 11
 Thickness: 0.4 mm
 Width: 6,4 or 9,5 mm
 Length: 150 -914mm

	Uncoated	Coated
Family	AE10 & AE30	AE11 & AE31
Temperatur range [°C] min to max	-60°C to 300°C	-40°C to 150°C
Tensile strength for 6,3 x 0,4 mm types [N]	333N/1334N double	333N/1334N double
Tensile strength for 9,5 x 0,4 mm types [N]	444N/2224N double	444N/2224N double

Type name: **Cable fixing band and clips**, AE43 family (with AE45 or LE15 clip)

Material: Stainless Steel, 316 coated with Plascoat PPA 571
 Thickness: 0.4 mm (1,22mm coated)
 Width: 6,4 to 19,1 mm
 Length: 25m

	Uncoated	Coated
Family	-	AE43
Temperatur range [°C] min to max	-	-40°C to 150°C
Tensile strength for 6,4 x 1,22 mm types [N]	-	1490N
Tensile strength for 9,6 x 1,22 mm types [N]	-	2246N
Tensile strength for 12,7 x 1,22 mm types [N]	-	2980N
Tensile strength for 15,8 x 1,22 mm types [N]	-	3736N
Tensile strength for 19,1 x 1,22 mm types [N]	-	4448N

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Type name: **Band-it AA stainless steel band** (AE98 family with uncoated AE45 Clip)
 Material: AA Stainless Steel, coated with Plascoat PPA 571
 Thickness: 0.3 mm (1,12mm coated)
 Width: 12.75 mm
 Length: 25m

	Uncoated	Coated
Family	-	AE98
Temperatur range [°C] min to max	-	-40°C to 150°C
Tensile strength for 12,7 x 1,22 mm types [N]	-	1334N

Type name: **201 Stainless Steel Coated Band** (AE93 family with AE45 Clip)
 Material: 201 Stainless Steel, coated with Plascoat PPA 571
 Thickness: 0.39 mm (1,22mm coated)
 Width: 9,6 to 19,1 mm
 Length: 25m

	Uncoated	Coated
Family	-	AE93
Temperatur range [°C] min to max	-	-40°C to 150°C
Tensile strength [N]	-	1334N

Type name: **BAND-IT Ties All purpose Band**
 Material: Galvanised Carbon Steel, Stainless Steel 316 or Copper
 (pre-punched fixing holes)
 Uncoated or coated with PPA 571
 Thickness: 0.73 mm (1,40 mm coated)
 Width: 12, 17 and 26 mm
 Pre-Punched Holes 5Ø, 7Ø and 8Ø
 Length: 10m or 25 m

	Uncoated	Coated
Family	AE40 (SS316) AE50 (GCS) AE80 (Copper)	AE46 (SS316) AE56 (GCS)
Temperatur range [°C] min to max	-60°C to 300°C	-40°C to 150°C

Type name: **Band-it Galvanised Carbon Steel band** (AE53 family with uncoated AE45 Clip)
 Material: Galvanised Carbon Steel, coated with Plascoat PPA 571
 Thickness: 0.73 mm
 Width: 12,17 and 26 mm
 Length: 25m

	Uncoated	Coated
Family	-	AE53
Temperatur range [°C] min to max	-	-40°C to 150°C
Tensile strength for 16 x 0,51 mm types [N]	-	1334N

Application/Limitation

For fixing of cables, outdoor and indoor, onboard ships and mobile offshore units.
 Non-UV resistant ties not to be used on open deck.

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Type Approval documentation

Data sheets:

Specifications, Band-It, Valspar (formally INVER), Arkema, Nylon Colour and Plascoat
Drawings: PA221 dated 92-03-18, PA29089 dated 92-03-16,
Drawings: AE601 dated 91-08-22 and AE701 dated 91-08-22.
Customer specification drawings: KE012, KE022, KE032, KE042, AS211, AS221, AE43 Rev H dated 10/30/2009 , AE565, AE601, AE611, AE701, AE711.
Band-it Catalogue B-80EE 3/06.
Rilsan PA11 Nylon 11. Coating.
Plastcoat PPA571 Polymer Alloy Coating.

Additional documentation Band-IT-IDEX, Inc documentation:
AE11 Rev. P, AE31 Rev. L, AA11 Rev. A, AA31, Rev. A, AA86 Rev. -.

Test reports:

Test reports: BAM 1.3/7787, TNO B-83-14, C.W. no. 1003
Test reports: 8457 dated 91-12-03 and 8463 dated 92-01-06
Test reports: 8485 dated 92-03-16, 8489 dated 92-03-23
Test reports: 8977 dated 91-01-23 (Mini Tie-Lok)
Test reports: 9174 dated 99-05-26
Test report: HAD 136 dated 03-06-18
Product test results ¼" cable ties, 3/8" cable ties, ¼" tie loks, 4,6mm ball loks tested 2007.
Short circuit testing of coated stainless steel ties for trefoil cable configurations. Sintef report LR F2440 dated 2007-02-12.
Shock and vibration tests. Admiralty Engineering laboratories dated 1972.
Shock tests. Ministry of defence. 12 October 2004.
DNV Additions LTS Test Result Statistical Analysis - May 2017

Tests carried out

Vibration, Flammability and Corrosion protection.
Holding power.

Marking of product

According to product description – Manufacturing place

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT shall be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE