

Approvals



Approvals

Approvals Catalogue

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The data reported in this catalogue are not binding. Intertraco (Italia) S.p.A. reserves the right to change specifications without notice.

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Quality System Certification

ISO 9001



IONet, the association of the world's first class certification bodies, is the largest provider of management System Certification in the world. IONet is composed of more than 30 bodies and counts over 150 subsidiaries all over the globe.

CERTIFICATO n. **1718/6**
 CERTIFICATE No. _____

SI CERTIFICA CHE IL SISTEMA DI GESTIONE PER LA QUALITÀ DI
 WE HEREBY CERTIFY THAT THE QUALITY MANAGEMENT SYSTEM OPERATED BY

INTERTRACO (ITALIA) S.p.A.

Sede e Unità Operativa

Via Amaldi, 1/A-B - 46029 Suzzara (MN) – Italia
 Direzione e uffici amministrativi, progettazione, produzione.

Unità Operative

Via Pinfari, 8/A - 46029 Suzzara (MN) – Italia
 Produzione di tubi flessibili assemblati.
 Via Fratelli Cervi, 3/A - 46023 Gonzaga Fraz. Palidano (MN) – Italia
 Magazzino e logistica.

È CONFORME ALLA NORMA / IS IN COMPLIANCE WITH THE STANDARD

UNI EN ISO 9001:2015

Sistema di Gestione per la Qualità / Quality Management System

PER LE SEGUENTI ATTIVITÀ / FOR THE FOLLOWING ACTIVITIES

EA: 18 - 29

Progettazione e produzione di: tubi flessibili assemblati, raccordi per tubi flessibili, innesti rapidi, giunti girevoli e adattatori. Commercializzazione di tubi flessibili.

Design and production of: flexible hoses, fittings for flexible hoses, quick-release couplings, rotating couplings and adapters. Trading of flexible hoses.

Riferirsi alla documentazione del Sistema di Gestione per la Qualità aziendale per l'applicabilità dei requisiti della norma di riferimento.
 Refer to the documentation of the Quality Management System for details of application to reference standard requirements.

Il presente certificato è soggetto al rispetto del documento ICIM "Regolamento per la certificazione dei sistemi di gestione" e al relativo Schema specifico.
 The use and the validity of this certificate shall satisfy the requirements of the ICIM document "Rules for the certification of company management systems" and specific Scheme.

Per informazioni puntuali e aggiornate circa eventuali variazioni intervenute nello stato della certificazione di cui al presente certificato, si prega di contattare il n° telefonico +39 02 725341 o indirizzo e-mail info@icim.it.
 For timely and updated information about any changes in the certification status referred to in this certificate, please contact the number +39 02 725341 or email address info@icim.it.

Data emissione
 First issue
 19/10/2000

Emissione corrente
 Current issue
 15/09/2018

Data di scadenza
 Expiring date
 14/09/2021


 ICIM S.p.A.

Piazza Don Enrico Napoli, 75 - 20099 Sesto San Giovanni (MI)
 www.icim.it



ISO 9001 N° 004 A PRD N° 004 B
 ISO 9001 N° 005 D PRS N° 002 B
 ISO 9001 N° 005 H ESP N° 046
 ISO 9001 N° 006 F ETS N° 003
 ISO 9001 N° 006 G SRA-SR N° 001 F

Member degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
 Signatory of EA, IAF and ILAC Mutual Recognition Agreements



www.cisq.com

CISQ è la Federazione Italiana di Organismi di Certificazione dei sistemi di gestione aziendale.
 CISQ is the Italian Federation of management system Certification Bodies.

044SCM_03_IT



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

CISQ/ICIM SPA has issued an IQNet recognized certificate that the organization:

INTERTRACO (ITALIA) S.p.A.

Head Office and Operative Unit
Via Amaldi, 1/A-B - I-46029 Suzzara (MN)
Operative Units
Via Pinfari, 8/A - I-46029 Suzzara (MN)
Via Fratelli Cervi, 3/A - I-46023 Gonzaga Fraz. Palidano (MN)

has implemented and maintains a
Quality Management System
for the following scope:

Design and production of: flexible hoses, fittings for flexible hoses, quick-release couplings, rotating couplings and adapters. Trading of flexible hoses.

which fulfils the requirements of the following standard:

ISO 9001:2015

Issued on: **2018-09-15**
First issued on: **2000-10-19**
Expires on: **2021-09-14**

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document.

Registration Number: IT-11884



Alex Stoichitoiu
President of IQNET



Ing. Claudio Provetti
President of CISQ

IQNet Partners*:

- AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISQ Italy
- CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany FCAV Brazil
- FONDONORMA Venezuela ICONTEC Colombia Inspecta Sertifiointi Oy Finland INTECO Costa Rica
- IRAM Argentina JQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway NSAI Ireland
- NYCE-SIGE México PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia
- SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia
- IQNet is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc.

0774CM_03_EN

* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com



Quality System Certification

DNV - MED

QS - CERTIFICATE OF ASSESSMENT - EC (MODULE D)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Quality System for the products

with type designation(s) as specified in the Appendix to this Certificate

Issued to

INTERTRACO ITALIA SPA
Suzzara MN, Italy

is found to comply with the applicable requirements.

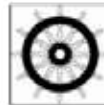
The quality system has been assessed with respect to the procedure of conformity assessment described in Annex II, Module D in the directive 2014/90/EU and regulation (EU) 2015/559.

This Certificate is valid until **2021-09-03**.

Issued at **Høvik** on **2016-11-28**

DNV GL local station:
Milan

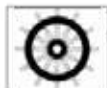
Approval Engineer:
Adel Samiei



Notified Body
No.: **0575**

for **DNV GL AS**

Vidar Dolonen
Head of Notified Body



0575/yyyy

0575: Notified Body number undertaking quality surveillance
yyyy: The year in which the mark is affixed

The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate authorizes the manufacturer in conjunction with the valid EC Type Examination (Module B) Certificate(s) of the equipment listed before to affix the Mark of Conformity (wheelmark) to the product described herein. This certificate loses its validity if the manufacturer makes any changes to the approved quality system which have not been notified to and agreed with the notified body named on this certificate. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. The Manufacturer has to apply for periodical audits to verify the maintenance and application for the quality system every 12 months.



Form code: MED 211.NOR

Revision: 2016-08

www.dnvgl.com

Page 1 of 2

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APPENDIX

Item no. A.1/3.15 Materials other than steel for pipes conveying oil or fuel oil

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
FlexIT 1T, FlexIT 2T, FlexIT 3T, FlexIT H4, FlexIT R5, FlexIT SHP, FlexIT SK216 ¹	MED-B-9666	2020-05-19	0575	N/A
FLEX IT 5000/3000 ¹	0987/MED-B/555	2019-10-16	0987	N/A
FlexIT SC216 ¹	0987/MED-B/556	2019-10-16	0987	N/A
FlexIT SK117 ¹	0987/MED-B/554	2019-10-16	0987	N/A
FlexIT 6000 with permanently fitted couplings ¹	MED-B-8909	2019-03-13	0575	N/A

Places of production

1.INTERTRACO ITALIA SPA, Via E. Amaldi 1/A-B, Suzzara MN, Italy

QS - CERTIFICATE OF ASSESSMENT - EC

Certificate No:
MED-D-2103
 Item No:
A.1/3.15
 Job Id:
344.1-004533-1

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2013/52/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Quality System for the Materials other than steel for pipes conveying oil or fuel oil

with type designation(s) as specified in the Appendix to this Certificate

Issued to

INTERTRACO ITALIA SPA
Suzzara MN, Italy

is found to comply with the requirements applicable to it.

The quality system for the product, defined in Annex A.1, Item No. A.1/3.15, has been assessed with respect to the procedure of conformity assessment described in Annex B, Module D in the directive.

Limitations:

Modifications made to the Quality System shall immediately be reported to DNV GL AS in order to examine whether this Certificate remains valid. Annual periodical audits will be held to verify the validity of the Certificate.

Høvik, 2015-05-20
 for **DNV GL AS**



This Certificate is valid until
2020-05-20

M. Valderhaug
Marianne Strand Valderhaug
 Head of Department

Notified Body No.: **0575**

DNV GL local office:
GL initial import



Tom Berg-Nielsen
Tom Berg-Nielsen
 Surveyor



The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.

Mohse

Certificate No: **MED-D-2103**
Item No: **A.1/3.15**
Job Id: **344.1-004533-1**

APPENDIX, REV. NO. 0

QS - Certificate of Assessment – EC, Certificate no. MED-D-2103

Type designation	EC Type-Examination Certificates from LAPI	Expiry date
IT Bridgestone 4ST 5/8" to 2" Couplings: J series for all sizes or X-series for -16 to -32, B insert/S312T/S0420 ferrule all sizes, Interlock: I insert + S004I ferrule	0987/MED-B/493	2018-05-29
IT Bridgestone 4ST+ 3/8" to 1 1/4" with 1 1/4" Couplings: J series for all sizes or X-series for -16 to -32, B insert/S312T/S0420 ferrule all sizes, Interlock: I insert + S004I ferrule	0987/MED-B/494/530/531	2018-05-29
IT Bridgestone 6ST 1 1/4" to 2" with 1 1/4" Couplings: H-series for -20 and -24, HLZ for -32, X-series all sizes, I insert + S006I ferrule	0987/MED-B/494/530/531	2018-05-29
IT Bridgestone R2K 1/4" to 1" Couplings: K-series, B insert + SN03T ferrule	0987/MED-B/529	2018-05-29

The manufacturer complies with the Council Directive 96/98/EC on Marine Equipment and is allowed to affix the Mark of Conformity followed by the DNV GL AS identification number 0575 and the two last digits of the number of the year in which the product is produced.

Example:  0575/15

The manufacturer shall issue a Declaration of Conformity for each product with reference to the EC Type-Examination Certificate and this QS – Certificate of Assessment – EC.

Place: **Høvik** Date: **2015-05-20**



for **DNV GL AS**

Tom Berg-Nielsen

Surveyor

Tom Berg-Nielsen

Products Type Approvals

ABS



CERTIFICATE NUMBER
15-GE1349075-PDA

DATE
04 May 2015

ABS TECHNICAL OFFICE
Genoa Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

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

INTERTRACO (ITALIA) S.P.A.

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: **Flexible Hose**

Model: **FlexIT 1T, FlexIT 2T, FlexIT SK117, FlexIT SK216, FlexIT 3T, FlexIT R5, FlexIT H4, FlexIT SHP, FlexIT 5000, FLeXIT 6000**

This Product Design Assessment (PDA) Certificate 15-GE1349075-PDA, dated 04/May/2015 remains valid until 03/May/2020 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

Lucio Trevisan
Engineer

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 standard. It is issued solely for the use of ABS, its committees, its clients or other authorized parties. 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-A/25.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

ABS80110

INTERTRACO (ITALIA) S.P.A.

VIA E. AMALDI, 1/A-B

SUZZARA, MANTOVA

Italy 46029

Telephone: +39 0376 539742

Fax:

Email: fabio.covri@intertraco.it

Web: www.intertraco.it

Tier: 3 - Type Approved, unit certification not required

Product: Flexible Hose

Model: FlexIT 1T, FlexIT 2T, FlexIT SK117, FlexIT SK216, FlexIT 3T, FlexIT R5, FlexIT H4, FlexIT SHP, FlexIT 5000, FlexIT 6000

Intended Service:

Hydraulic Systems (mineral and vegetable oils, polyglycol base oils, water/oil emulsions and water)

Description:

Oil resistant synthetic rubber hoses reinforced with one, two, three or four high tensile steel wire braids or spirals, covered with a synthetic rubber. For details see Manufacturer's data sheets.

Rating:

See attachment

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.

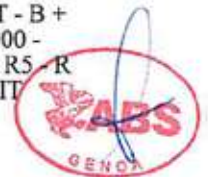
- 1) Hoses are to be completed with factory assembled end fittings or factory supplied end fittings installed in accordance with manufacturer's specifications.
- 2) End connections are to comply with applicable requirements and limitations of the Rules for the intended service (c.g. Steel Vessel Rules 4-6-7/3.5.1)
- 3) Hose assemblies are to be installed only where flexibility is required and are not to be subject to torsional deflection under normal conditions; hose length is to be limited to that required by flexibility only.
- 4) Not to be installed in applications where large amount of repeated flexing is expected in combination with pressure pulses.
- 5) Flexible hoses are to be permanently marked by the manufacturer with the following details: Hose manufacturer's name or trademark, Date of manufacture (month/year), Designation type reference, Nominal diameter, Pressure rating, Temperature rating.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. Manufacturer recommended fittings: see attached Table

Notes/Drawing/Documentation:

Drawing No FlexIT 1T, EN 853 TYPE 1SN exceeds SAE J517 100R1AT, Revision No. 0, Pages: 1
Drawing No FlexIT 2T, EN 853 TYPE 2SN exceeds SAE J517 100R2AT, Revision No. 0, Pages: 1
Drawing No FlexIT SK117, EN 857 TYPE 1SC exceeds SAE J517 100R17, Revision No. 0, Pages: 1
Drawing No FlexIT SK216, exceeds EN 857 TYPE 2SC -R16, Revision No. 0, Pages: 1
Drawing No FlexIT 3T, forestry hose - proprietary, Revision No. 0, Pages: 1
Drawing No FlexIT R5, SAE J517 100R5, Revision No. 0, Pages: 1
Drawing No FlexIT H4, EN 856 TYPE 4SH, Revision No. 0, Pages: 1
Drawing No FlexIT SHP, EN 856 TYPE 4SP exceeds SAE J517 100R12, Revision No. 0, Pages: 1
Drawing No FlexIT 5000, EN 856 TYPE R13 SAE J517 100R13, Revision No. 0, Pages: 1
Drawing No FlexIT 6000, SAE J517 100R15 exceeds SAE J517 100R13, Revision No. 0, Pages: 1
Drawing No burst test witnessed and signed for FlexIT 1T, FlexIT_2T, FlexIT_SK117, FlexIT_SK216, FlexIT_3T, FlexIT_R5, FlexIT_H4, FlexIT_SHP, FlexIT_5000, FlexIT_6000.
Drawing No Burst test reviewed for FlexIT IT - B + SN03T, FlexIT 1T - J series, FlexIT 1T - K series, FlexIT 2T - B + S0420, FlexIT 2T - B + SN03T, FlexIT 2T - J series, FlexIT 2T - K series, FlexIT 3T - B + S312T, FlexIT 3T - B + S0420, FlexIT 3T - J series, FlexIT 5000 - H series, FlexIT 5000 - I + S00XI, FlexIT 5000 - X series, FlexIT 6000 - XLZ, FlexIT H4 - B + S0420, FlexIT H4 - I + S004I S006I, FlexIT H4 - J series, FlexIT H4 - X series, FlexIT R5 - R series, FlexIT Shp - B + S312t, FlexIT Shp - B + S0420, FlexIT Shp - J Series, FlexIT Sk117 - B + Scx0t, FlexIT



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Web: www.intertraco.it

Tier: 3 - Type Approved, unit certification not required

Sk117 - K Series, FlexIT Sk216 - B + Sn03t, FlexIT Sk117 - K Series, FlexIT Sk216 - B + Sn03t, FlexIT Sk216 - J Series, FlexIT Sk216 - K Series.

Drawing No Fire Hose Test Report for FlexIT 1T, FlexIT 2T, FlexIT SK117, FlexIT SK216, FlexIT 3T, FlexIT R5, FlexIT H4, FlexIT SHP, FlexIT 5000, FlexIT 6000

Drawing No Impulse Test Report Reviewed for FlexIT 1T - B + SN03T, FlexIT 1T - J S Series, FlexIT 1T - K Series, FlexIT 2T - B + S0420, FlexIT 2T - B + SN03T, FlexIT 2T - J Series, FlexIT 2T - K Series, FlexIT 3T - B + S312T, FlexIT 3T - B + S0420, FlexIT 3T - J Series, FlexIT 5000 - H Series, FlexIT 5000 - I + S00XI, FlexIT 5000 - X Series, FlexIT 6000 - I Z + S004I S006I SZ06I, FlexIT 6000 - X Series, FlexIT 6000 - XLZ, FlexIT H4 - B + S0420, FlexIT H4 - I + S004I S006I, FlexIT H4 - J Series, FlexIT H4 - X Series, FlexIT R5 - R Series, FlexIT SHP - B + S312T, FlexIT SHP - B + S0420, FlexIT SHP - J Series, FlexIT SK117 - B + SCX0T, FlexIT SK117 - K Series, FlexIT SK216 - B + SN03T, FlexIT SK216 - J Series, FlexIT SK216 - K Series.

Drawing No Burst Test Report for FlexIT 1T, FlexIT 2T, FlexIT SK117, FlexIT SK216, FlexIT 3T, FlexIT R5, FlexIT H4, FlexIT SHP, FlexIT 5000, FlexIT 6000

Drawing No Burst Test Report Witnessed for FlexIT 1T, FlexIT 2T, FlexIT SK117, FlexIT SK216, FlexIT 3T, FlexIT R5, FlexIT H4, FlexIT SHP, FlexIT 5000, FlexIT 6000.

Terms of Validity:

This Product Design Assessment (PDA) Certificate 15-GE1349075-PDA, dated 04/May/2015 remains valid until 03/May/2020 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.

STANDARDS

ABS Rules:

2015 Rules for Conditions of Classification – Offshore Units and Structures 1-1-4/9.7, 1-1 Appendix 2 and 3

2015 Mobile Offshore Drilling Units, 4-2-1/11.29

2015 Rules for Conditions of Classification, 1-1-4/7.7, 1-1 Appendix 3 and 4,

2015 Steel Vessel Rules 4-6-2/5.7, 4-6-7/3.5.2

2015 Steel Vessels Under 90 Meters (295 Feet) in Length, 4-4-1/9.19

2015 Offshore Support Vessels, 4-6-2/5.7

National:

NA

International:

NA

Government:

NA

EUMED:

NA



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Web: www.intertraco.it

Tier: 3 - Type Approved, unit certification not required

OTHERS:

NA



Attachment n.1 to: INTERTRACO (ITALIA) S.P.A.

VIA E. AMALDI, 1/A-B, SUZZARA, MANTOVA, Italy, 46029

Models FlexIT 1T, FlexIT 2T, FlexIT SK117, FlexIT SK216, FlexIT 3T, FlexIT R5, FlexIT H4, FlexIT SHP, FlexIT 5000, FlexIT 6000

Certificate 15-GE1349075-PDA issued on 18-May-2015, expiring on 18-May-2020, Rev. 0

POSIT	BORE			REF. STAND.	INTERTRACO REF.	TEMPER. RANGE	WORK. PRESS. [bar]	FITTINGS				
	DN	INCH	SIZE									
1	6	1/4	04	EN 853 TYPE 1SN - EXCEEDS SAE J517 100R1AT	FLEXIT 1T - 04	-40°C/+100°C	225	K04	-	-	B+SN03T	-
2	8	5/16	05		FLEXIT 1T - 05	-40°C/+100°C	215	K05	-	-	B+SN03T	-
3	10	3/8	06		FLEXIT 1T - 06	-40°C/+100°C	180	K06	-	J06	-	B+SN03T
4	12	1/2	08		FLEXIT 1T - 08	-40°C/+100°C	160	K08	-	J08	-	B+SN03T
5	16	5/8	10		FLEXIT 1T - 10	-40°C/+100°C	130	K10	-	J10	-	B+SN03T
6	19	3/4	12		FLEXIT 1T - 12	-40°C/+100°C	105	K12	-	J12	-	B+SN03T
7	25	1	16		FLEXIT 1T - 16	-40°C/+100°C	88	K16	-	J16	-	B+SN03T
8	31	1.1/4	20		FLEXIT 1T - 20	-40°C/+100°C	63	-	-	J20	-	B+SN03T
9	38	1.1/2	24		FLEXIT 1T - 24	-40°C/+100°C	50	-	-	J24	-	B+SN03T
10	51	2	32		FLEXIT 1T - 32	-40°C/+100°C	40	-	-	J32	-	B+SN03T



11	6	1/4	04	EN 853 TYPE 2SN - EXCEEDS SAE J517 100R2AT	FLEXIT 2T - 04	-40°C/+100°C	400	K04	-	-	B+SN03T	-	-	
12	8	5/16	05		FLEXIT 2T - 05	-40°C/+100°C	350	K05	-	-	B+SN03T	-	-	B+S0420
13	10	3/8	06		FLEXIT 2T - 06	-40°C/+100°C	330	K06	-	J06	-	-	-	-
14	12	1/2	08		FLEXIT 2T - 08	-40°C/+100°C	275	K08	-	J08	-	B+SN03T	-	-
15	16	5/8	10		FLEXIT 2T - 10	-40°C/+100°C	250	K10	-	J10	-	B+SN03T	-	B+S0420
16	19	3/4	12		FLEXIT 2T - 12	-40°C/+100°C	215	K12	-	J12	-	B+SN03T	-	B+S0420
17	25	1	16		FLEXIT 2T - 16	-40°C/+100°C	165	K16	-	J16	-	B+SN03T	-	B+S0420
18	31	1,1/4	20		FLEXIT 2T - 20	-40°C/+100°C	125	-	-	J20	-	B+SN03T	-	B+S0420
19	38	1,1/2	24		FLEXIT 2T - 24	-40°C/+100°C	90	-	-	J24	-	B+SN03T	-	B+S0420
20	51	2	32		FLEXIT 2T - 32	-40°C/+100°C	80	-	-	J32	-	B+SN03T	-	B+S0420
21	10	3/8	06	PROPRIETARY	FLEXIT 3T - 06	-40°C/+100°C	500	-	-	J06	-	B+S312T	-	B+S0420
22	12	1/2	08		FLEXIT 3T - 08	-40°C/+100°C	470	-	-	J08	-	B+S312T	-	B+S0420
23	19	3/4	12		FLEXIT 3T - 12	-40°C/+100°C	375	-	-	J12	-	B+S312T	-	B+S0420
24	25	1	16		FLEXIT 3T - 16	-40°C/+100°C	310	-	-	J16	-	B+S312T	-	B+S0420

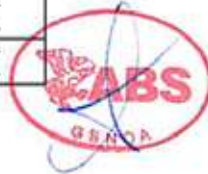


55	6	1/4	04	EN 857 TYPE 1SC - EXCEEDS SAE J517 100R17	FLEXIT SK117-04	-40°C/+100°C	250	K04	-	-	-	-	
56	6	5/16	05		FLEXIT SK117-05	-40°C/+100°C	230	K05	-	-	B+SCX0T	-	
57	10	3/8	06		FLEXIT SK117-06	-40°C/+100°C	210	K06	-	-	B+SCX0T	-	
58	12	1/2	08		FLEXIT SK117-08	-40°C/+100°C	210	K08	-	-	B+SCX0T	-	
59	16	5/8	10	EN 857 TYPE 1SC	FLEXIT SK117-10	-40°C/+100°C	130	K10	-	-	B+SCX0T	-	
60	19	3/4	12		FLEXIT SK117-12	-40°C/+100°C	105	K12	-	-	B+SCX0T	-	
61	25	1	16		FLEXIT SK117-16	-40°C/+100°C	88	K16	-	-	B+SCX0T	-	
62	6	1/4	04	EXCEEDS EN 857 TYPE 2SC - R16	FLEXIT SK216 - 04	-40°C/+100°C	450	K04	-	-	B+SN03T	-	
63	8	5/16	05		FLEXIT SK216 - 05	-40°C/+100°C	420	K05	-	-	B+SN03T	-	
64	10	3/8	06		FLEXIT SK216 - 06	-40°C/+100°C	385	K06	-	J06	-	B+SN03T	-
65	12	1/2	08		FLEXIT SK216 - 08	-40°C/+100°C	345	K08	-	J08	-	B+SN03T	-
66	16	5/8	10	EXCEEDS EN 857 TYPE 2SC - EXCEEDS SAE J517 100R17	FLEXIT SK216 - 10	-40°C/+100°C	290	K10	-	J10	-	B+SN03T	-
67	19	3/4	12		FLEXIT SK216 - 12	-40°C/+100°C	280	K12	-	J12	-	B+SN03T	-
68	25	1	16		FLEXIT SK216 - 16	-40°C/+100°C	230	K16	-	J16	-	B+SN03T	-



35	19	3/4	12	EN 856 TYPE 4SH	FLEXIT H4 - 12	-40°C/+100°C	420	-	X12	-	-	
36	25	1	16		FLEXIT H4 - 16	-40°C/+100°C	380	J16	-	-	B+S0420	I+S004I
37	31	1.1/4	20		FLEXIT H4 - 20	-40°C/+100°C	350	J20	-	-	-	-
38	38	1.1/2	24		FLEXIT H4 - 24	-40°C/+100°C	300	J24	X24	-	B+S0420	I+S004I
39	51	2	32		FLEXIT H4 - 32	-40°C/+100°C	250	J32	X32	-	B+S0420	I+S004I
40	5	3/16	04	SAE J517 100R5	FLEXIT R5 - 04	-40°C/+100°C	210	R04	-	-	-	
41	6	1/4	05		FLEXIT R5 - 05	-40°C/+100°C	210	R05	-	-	-	-
42	8	5/16	06		FLEXIT R5 - 06	-40°C/+100°C	155	R06	-	-	-	-
43	10	13/32	08		FLEXIT R5 - 08	-40°C/+100°C	140	R08	-	-	-	-
44	12	1/2	10		FLEXIT R5 - 10	-40°C/+100°C	122	R10	-	-	-	-
45	16	5/8	12		FLEXIT R5 - 12	-40°C/+100°C	105	R12	-	-	-	-
46	22	7/8	16		FLEXIT R5 - 16	-40°C/+100°C	56	R16	-	-	-	-
47	28	1.1/8	20		FLEXIT R5 - 20	-40°C/+100°C	43	R20	-	-	-	-
48	35	1.3/8	24		FLEXIT R5 - 24	-40°C/+100°C	35	R24	-	-	-	-
49	46	1.13/16	32		FLEXIT R5 - 32	-40°C/+100°C	24	R32	-	-	-	-
50	10	3/8	06	EN 856 TYPE 4SP - EXCEEDS SAE J517 100R12	FLEXIT SHP - 06	-40°C/+100°C	450	J06	-	B+S312T	B+S0420	
51	12	1/2	08		FLEXIT SHP - 08	-40°C/+100°C	420	J08	-	B+S312T	B+S0420	
52	16	5/8	10		FLEXIT SHP - 10	-40°C/+100°C	350	J10	-	B+S312T	B+S0420	
53	19	3/4	12		FLEXIT SHP - 12	-40°C/+100°C	350	J12	-	B+S312T	B+S0420	
54	25	1	16		FLEXIT SHP - 16	-40°C/+100°C	280	J16	-	B+S312T	B+S0420	

25	19	3/4	12	EN 856 TYPE R13 - SAE J517 100R13	FLEXIT 5000 - 12	-40°C/+121°C	350	-	-	I+S004I	-	
26	25	1	16		FLEXIT 5000 - 16	-40°C/+121°C	350	-	-	I+S004I	-	
27	31	1.1/4	20		FLEXIT 5000 - 20	-40°C/+121°C	350	H20	X20	-	I+S006I	-
28	38	1.1/2	24		FLEXIT 5000 - 24	-40°C/+121°C	350	H24	X24	-	I+S006I	-
29	51	2	32		FLEXIT 5000 - 32	-40°C/+121°C	350	H32	X32	-	I+S006I	-
30	19	3/4	12	SAE J517 100R15 - EXCEEDS SAE J517 100R13	FLEXIT 6000 - 12	-40°C/+121°C	420	X12	-	I+S004I	-	
31	25	1	16		FLEXIT 6000 - 16	-40°C/+121°C	420	X16	-	I+S004I	-	
32	31	1.1/4	20		FLEXIT 6000 - 20	-40°C/+121°C	420	X20	-	I+S006I	-	
33	38	1.1/2	24		FLEXIT 6000 - 24	-40°C/+121°C	420	X24	-	I+S006I	-	
34	51	2	32		FLEXIT 6000 - 32	-40°C/+121°C	420	-	XLZ32	-	Z+SZ06I	-





Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 17/AUG/2021. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 26/OCT/2021 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Flexible Hose
Model Name(s): R2K, 4ST, 4ST+ & 6ST

Presented to:

INTERTRACO (ITALIA) S.P.A.
VIA E. AMALDI, 1/A-B
Italy

Intended Service:

Hydraulic Oils, both Mineral and Biological, Polyglycol Base Oils, Water-Oil Emulsion and Water

Description:

R2K: Synthetic rubber tube with two high tensile steel wire braids covered with MSHA flame retardant rubber. 4ST: Synthetic rubber tube with four high tensile steel wire spirals covered with MSHA flame retardant and abrasion resistant rubber. 4ST+ & 6ST: Synthetic rubber tube with four/six high tensile steel wire spirals covered with MSHA flame retardant and abrasion resistant rubber.

Ratings:

R2K: from DN 06 to DN 25, pressure from 420 bar to 210 bar. 4ST: from DN 16 to DN 51, pressure from 350 bar to 250 bar. 4ST+ & 6ST: from DN10 to DN 51, pressure 420 bar. For additional details see attached table.

Service Restrictions:

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. 1) Hoses are to be complete with factory assembled end fittings or factory supplied end fittings installed in accordance with manufacturer's specifications. 2) End connections are to comply with applicable requirements and limitation of Rules (4-6-2/5.5.4, 4-6-2/5.5.5, 4-6-7/3.5.1, 4-6-7/5.3.2). 3) Hose assemblies are to be installed only where flexibility is required, in clearly visible and readily accessible locations, and are not to be subject to torsional deflection under normal conditions; hose length is to be limited to that required by flexibility only. 4) Not to be used in high pressure fuel oil injection systems, steam systems or oil

supply lines to boilers. 5) Not to be used for installations where repeated and/or frequent flexing is expected. 6) Flexible Hoses are to be permanently marked by the manufacturer with the following details: Hose manufacturer's name or trademark, date of manufacturer (month/year), designation type reference, nominal diameter, pressure and temperature rating in accordance with Steel Vessel Rules 4-6-2/5.7.6.

Comments:

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

Notes / Documentation:

Drawing No. ANNEX - TYPE APPROVAL LIST_30, ANNEX - TYPE APPROVAL LIST, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE 4ST - HOSE REPORT, BRIDGESTONE 4ST - HOSE REPORT, dated 27 February 2014 Revision: 0, Pages: 1 Drawing No. BRIDGESTONE 4ST - IMPULSE TEST REPORT - REVIEWED, BRIDGESTONE 4ST - IMPULSE TEST REPORT - REVIEWED, dated 14 November 2013, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE 4ST - STATIC TESTS - WITNESSED, BRIDGESTONE 4ST - STATIC TESTS - WITNESSED, dated 27 February 2014 Revision: 0, Pages: 1 Drawing No. BRIDGESTONE 4ST+ & 6ST - HOSE REPORT, BRIDGESTONE 4ST+ & 6ST - HOSE REPORT, dated 27 February 2014, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE 4ST+ & 6ST - IMPULSE TEST REPORT - REVIEWED, BRIDGESTONE 4ST+ & 6ST - IMPULSE TEST REPORT - REVIEWED, dated 26 February 2014 Revision: 0, Pages: 1 Drawing No. BRIDGESTONE 4ST+ & 6ST - STATIC TESTS - WITNESSED, BRIDGESTONE 4ST+ & 6ST - STATIC TESTS - WITNESSED, dated 27 February 2014, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE R2K - HOSE REPORT, BRIDGESTONE R2K - HOSE REPORT dated 27 February 2014, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE R2K - IMPULSE TEST REPORT - REVIEWED, BRIDGESTONE R2K - IMPULSE TEST REPORT - REVIEWED, dated 26 February 2014, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE R2K - STATIC TESTS - WITNESSED, BRIDGESTONE R2K - STATIC TESTS - WITNESSED dated 27 February 2014, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE_4ST+ & 6ST_CERTIFICATE NO 0987_MED-B_494, BRIDGESTONE_4ST+ & 6ST_CERTIFICATE NO 0987_MED-B_494 dated 05 March 2014, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE_4ST+ 06_CERTIFICATE NO 0987_MED-B_530, BRIDGESTONE_4ST+ 06_CERTIFICATE NO 0987_MED-B_530 dated 05 March 2014, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE_4ST+ 20_CERTIFICATE NO 0987_MED-B_531, BRIDGESTONE_4ST+ 20_CERTIFICATE NO 0987_MED-B_531 dated 30 May 2013, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE_4ST_CERTIFICATE NO 0987_MED-B_493, BRIDGESTONE_4ST_CERTIFICATE NO 0987_MED-B_493 dated 29 May 2013, Revision: 0, Pages: 1 Drawing No. BRIDGESTONE_R2K_CERTIFICATE NO 0987_MED-B_529, BRIDGESTONE_R2K_CERTIFICATE NO 0987_MED-B_529 dated 05 March 2014, Revision: 0, Pages: 1 Drawing No. DATA SHEET BS 4ST+ & 6ST_17.02.2014, HOSE DATA SHEET 4ST+ & 6ST, Revision: 0, Pages: 1 Drawing No. DATA SHEET BS 4ST_31.05.2012, HOSE DATA SHEET 4ST, Revision: 0, Pages: 1 Drawing No. DATA SHEET BS R2K_04.11.2013, HOSE DATA SHEET R2K, Revision: 0, Pages: 1 Drawing No. D14-023_4ST10, Dynamic test D14-023_4ST10 dated 05 June 2016, Revision: 0, Pages: 1 Drawing No. D14-034_4ST16, Dynamic test D14-034_4ST16 dated 27 June 2016, Revision: 0, Pages: 1 Drawing No. D14-157_R2K08, Dynamic test D14-157_R2K08 dated 18 November 2014, Revision: 0, Pages: 1 Drawing No. D14-158_R2K16, Dynamic test D14-158_R2K16 dated 18 November 2014, Revision: 0, Pages: 1 Drawing No. D14-191_R2K04, Dynamic test D14-191_R2K04 dated 08 January 2015, Revision: 0, Pages: 1 Drawing No. D14-218_6ST32_1, Dynamic test D14-218_6ST32_1 dated 16 February 2015, Revision: 0, Pages: 1 Drawing No. D14-218_6ST32_2, Dynamic test D14-218_6ST32_2 dated 06 March 2015, Revision: 0, Pages: 1 Drawing No. D15-183_4ST+06, Dynamic test D15-183_4ST+06 dated 22 October 2015, Revision: 0, Pages: 1 Drawing No. D16-004_4ST32_1, Dynamic test D16-004_4ST32_1 dated 16 February 2016, Revision: 0, Pages: 1 Drawing No. D16-004_4ST32_2, Dynamic test D16-004_4ST32_2 dated 03 March 2016, Revision: 0, Pages: 1 Drawing No. S14-369_4ST10, Static test S14-369_4ST10 dated 18 November 2014, Revision: 0, Pages: 1 Drawing No. S15-128_R2K04, Static test S15-128_R2K04 dated 12 March 2015, Revision: 0, Pages: 1 Drawing No. S15-134_4ST+20, Static test S15-134_4ST+20 dated 12 March 2015, Revision: 0, Pages: 1 Drawing No. S15-137_6ST20, Static test S15-137_6ST20

dated 28 April 2015, Revision: 0, Pages: 1 Drawing No. S15-240_R2K08, Static test S15-240_R2K08 dated 04 May 2015, Revision: 0, Pages: 1 Drawing No. S15-304_4ST32, Static test S15-304_4ST32 dated 26 August 2015, Revision: 0, Pages: 1 Drawing No. S15-306_4ST+10, Static test S15-306_4ST+10 dated 26 August 2015, Revision: 0, Pages: 1 Drawing No. S15-307_4ST+12, Static test S15-307_4ST+12 dated 24 July 2015, Revision: 0, Pages: 1 Drawing No. S15-312_6ST32, Static test S15-312_6ST32 dated 22 December 2015, Revision: 0, Pages: 1 Drawing No. S15-316_R2K10, Static test S15-316_R2K10 dated 26 August 2015, Revision: 0, Pages: 1 Drawing No. S15-318_R2K16, Static test S15-318_R2K16 dated 06 August 2015, Revision: 0, Pages: 1 Drawing No. S15-384_4ST+06, Static test S15-384_4ST+06 dated 04 September 2015, Revision: 0, Pages: 1 Drawing No. S16-344_4ST16, Static test S16-344_4ST16 dated 19 September 2016, Revision: 0, Pages: 1 Drawing No. S16-345_4ST20, Static test S16-345_4ST20 dated 19 September 2016, Revision: 0, Pages: 1

Term of Validity:

This Product Design Assessment (PDA) Certificate 16-GE1541486-1-PDA, dated 02/Nov/2016 remains valid until 26/Oct/2021 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.

ABS Rules:

2016 Rules for Condition of Classification - Offshore Units and Structures 1-1-4/9.7, 1-1-Appendix 2 and 3 which covers the following: 2016 Mobile Offshore Drilling Unit Rules 4-2-1/11.29 2016 Rules for condition of Classification, 1-1-4/7.7, 1-1-Appendix 3 and 4, which covers the following: 2016 Steel Vessel Rules 4-6-2/5.7 2016 Steel Vessel Rules Under 90 Meters 4-4-1/9.19 2016 Offshore Supply Vessel Rules 4-6-2/5.7 2014 (Up-dated Jan 2016) Guide for Building and Classing Yachts 4-1-1/3.3, 4-4-1/9.19 2016 High Speed Craft Rules 1-1-4/11.9, 1-1-Appendix 2 and 3, 4-4-1/9.19

National Standards:

International Standards:

Government Authority:

EUMED:

Others:

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	16-GE1541486-1-PDA	02/NOV/2016	26/OCT/2021



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.

Products Type Approvals

DNV

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings

with type designation(s)
FlexIT SHP, FlexIT H4, FlexIT 5000, FlexIT 6000

Issued to
INTERTRACO ITALIA SPA
Suzzara MN, Italy

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses

Application :

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

Type:	Temperature range:	Max. working press.:	Sizes:
FlexIT SHP	-40°C to + 100°C	320 to 450 bar	DN10,12,16,19,25
FlexIT H4	-40°C to + 100°C	250 to 450 bar	DN16,19,25,31,38,51
FlexIT 5000	-40°C to + 120°C	350 bar	DN19,25,31,38,51,63,76
FlexIT 6000	-40°C to + 120°C	420 bar	DN19,25,31,38,51

Issued at **Høvik** on **2019-01-25**

This Certificate is valid until **2023-06-30**.

DNV GL local station: **Milan**

Approval Engineer: **Adel Samiei**

for **DNV GL**



Digitally Signed By: **Marveng, Marianne Spæren**

Location: **DNV GL Høvik, Norway**

Marianne Spæren Marveng
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.



Form code: TA 251

Revision: 2016-12

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Product description

Four types of hose assemblies with synthetic rubber inner tube, reinforced by steel wires spirals and synthetic rubber cover.

FlexIT SHP	constructed according to EN856 4SP
FlexIT H4	constructed according to EN856 4SH
FlexIT 5000	constructed according to EN856 R13
FlexIT 6000	constructed according to EN856 R15

Coupling designations:

Hose size			FlexIT SHP		FlexIT H4		FlexIT 5000		FlexIT 6000		
inch	DN	Dash	One piece	Two pieces	One piece	Two pieces	One piece	Two pieces	One piece	Two pieces	
3/8	10	-6	J series	B+S312T & B+S0420T	-	-	-	-	-	-	
1/2	12	-8			-	-	-	-	-	-	-
5/8	16	-10			-	B+S0420	-	-	-	-	-
3/4	19	-12			-	-	-	-	-	-	-
1	25	-16	-	-	J & X series	B+S0420 & I+S004I	J series	I+S004I	J & X series	I+S004I	
1 1/4	31	-20	-	-			H & X series	I+S006I	H & X series	I+S006I	
1 1/2	38	-24	-	-			H & X series & HLZ		X series & HLZ		
2	51	-32	-	-	-	-	-	-	-	-	
2 1/2	63	-40	-	-	-	-	-	-	-	-	
3	76	-48	-	-	-	-	-	I+S008I	-	-	

Coupling Material: 11SMnPb30 EN 10277-3, 11SMnPb37 EN 10277-3, 36SMnPb14 EN 10277-3, C45 EN 10277-2, S355J2 EN 10277-2, X2CrNiMo 17-12-2 EN 10088-3 (AISI 316)
 Couplings Manufacturer: INTERTRACO ITALIA SPA, Suzzara MN, Italy

Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the holder (named as manufacturer) of this certificate.

Maximum working pressure

Hose size			FlexIT SHP	FlexIT H4	FlexIT 5000	FlexIT 6000
inch	DN	Dash				
3/8	10	-6	450	-	-	-
1/2	12	-8	420	-	-	-
5/8	16	-10	350	450	-	-
3/4	19	-12	350	420	350	420
1	25	-16	320	380	350	420
1 1/4	31	-20	-	350	350	420
1 1/2	38	-24	-	300	350	420
2	51	-32	-	250	350	420
2 1/2	63	-40	-	-	350	-
3	76	-48	-	-	350	-

Hose assemblies covered by this certificate may be used in systems conveying petroleum based hydraulic fluid, water based Hydraulic fluids, water and air in below temperature range:

Medium	FlexIT SHP, H4	FlexIT 5000 & 6000
petroleum based hydraulic fluid	-40°C to +100°C	-40°C to +120°C
water based Hydraulic fluids and air	-40°C to +70°C	-40°C to +70°C
water	0°C to +70°C	0°C to +70°C

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required.

The hose assemblies must only be fitted in places where they are always accessible. Flexible hoses of these types are not to be used on boiler fronts.

Hose assemblies covered by this certificate shall not be used in system subject to pressure below atmospheric or vacuum condition.

The cover of hoses for gaseous applications shall be pin-pricked.

Production testing

All hose assemblies delivered under the DNV GL type approval scheme shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to the type approval certificate.

Type Approval documentation

Tests carried out

Dimensional Check Test, Change in Length Test, Burst Test, Cold Flexibility Test, Ozone Resistance Test, Impulse Test, Oil Resistance Test and Fire Test.

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- Hose manufacturer's name or trademark;
- Date of manufacture (month/year);
- Designation type reference;
- Nominal diameter;
- Pressure rating;
- Temperature rating.

Where a flexible hose assembly is made up of items from different manufacturers, the components are to be clearly identified and traceable to evidence of prototype testing.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings

with type designation(s)
FlexIT 1T, FlexIT 2T, FlexIT SK117, FlexIT SK216, FlexIT SC216

Issued to
INTERTRACO ITALIA SPA
Suzzara MN, Italy

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses

Application :

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

Type:	Temperature range:	Max. working press.:	Sizes:
FlexIT 1T	-40°C to +100°C	40 to 225 bar	DN6 to DN51
FlexIT 2T	-40°C to +100°C	80 to 400 bar	DN6 to DN51
FlexIT SK117	-40°C to +100°C	88 to 290 bar	DN6 to DN31
FlexIT SK216	-40°C to +100°C	175 to 450 bar	DN6 to DN31
FlexIT SC216	-40°C to +100°C	70 to 400 bar	DN6 to DN76

Issued at **Høvik** on **2019-01-11**

This Certificate is valid until **2023-12-31**.

DNV GL local station: **Milan**

Approval Engineer: **Adel Samiei**

for **DNV GL**



Digitally Signed By: Marveng, Marianne Spæren

Location: DNV GL Høvik, Norway

Marianne Spæren Marveng
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.



Form code: TA 251

Revision: 2016-12

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Product description

Five types of flexible hose assemblies:

Hose design:

Hose type - FlexIT	1T	2T	SK117	SK216	SC216
Tube	Synthetic Rubber				
Number of high tensile wire braids as reinforcement	One	Two	One	Two	Two
Cover	Synthetic rubber cover - MSHA flame retardant				

Coupling designations:

Hose size			1T		2T		SK117	
inch	DN	Dash	One Piece	Two Pieces	One Piece	Two Pieces	One Piece	Two Pieces
¼	6	-4	K	B+SN03T B+SCX0T	K	B+SN03T B+S0420	K	B+SCX0T
5/16	8	-5						
3/8	10	-6						
½	12	-8						
5/8	16	-10	K&J					
¾	19	-12	J	B+SN03T	J	-	-	
1	25	-16						
1 ¼	31	-20						
1 ½	38	-24	-	-	-	-	-	
2	51	-32	-	-	-	-	-	

Hose size			SK216		SC216	
inch	DN	Dash	One Piece	Two Pieces	One Piece	Two Pieces
¼	6	-4	K	B+SN03T B+SCX0T	K	B+SN03T B+SCX0T
5/16	8	-5				
3/8	10	-6				
½	12	-8				
5/8	16	-10	K&J			
¾	19	-12	J	B+SN03T	-	-
1	25	-16				
1 ¼	31	-20				
1 ½	38	-24	-	-	-	-
2	51	-32	-	-	-	-
2 ½	63	-40	-	-	J	B+SN03T
3	76	-48	-	-		

Coupling Material: 11SMnPb30 EN 10277-3, 11SMnPb37 EN 10277-3, 36SMnPb14 EN 10277-3, C45 EN 10277-2, S355J2 EN 10277-2, X2CrNiMo 17-12-2 EN 10088-3 (AISI 316)
 Couplings Manufacturer: INTERTRACO ITALIA SPA, Suzzara MN, Italy

Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the holder (named as manufacturer) of this certificate.

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required.

Hose assemblies covered by this certificate may be used in systems conveying petroleum based hydraulic fluid, water based Hydraulic fluids, fresh water and air in the below temperature range:

- petroleum based hydraulic fluid: -40°C to +100°C
- Water based Hydraulic fluids and air: -40°C to +70°C
- Water 0°C to +70°C

Maximum working pressure

Hose size			1T	2T	SK117	SK216	SC216
inch	DN	Dash					
¼	6	-4	225	400	290	450	400
5/16	8	-5	215	350	250	420	350
3/8	10	-6	180	330	230	385	350
½	12	-8	160	275	210	345	280
5/8	16	-10	130	250	130	290	250
¾	19	-12	105	215	105	280	250
1	25	-16	88	165	88	230	165
1 ¼	31	-20	63	125	100	175	-
1 ½	38	-24	50	90	-	-	-
2	51	-32	40	80	-	-	-
2 ½	63	-40	-	-	-	-	70
3	76	-48	-	-	-	-	70

The hose assemblies must only be fitted in places where they are always accessible. Flexible hoses of these types are not to be used on boiler fronts.

The hoses are to be mounted in accordance with the manufacturer's instructions.

The cover of hoses for gaseous applications shall be pin-pricked.

Production testing

All hose assemblies delivered under the DNV GL type approval scheme shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to this type approval certificate.

Type Approval documentation

Tests carried out

Dimensional Check Test, Change in Length Test, Burst Test, Cold Flexibility Test, Ozone Resistance Test, Impulse Test, fluid resistance Test and Fire Test.

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- hose manufacturer's name or trademark;
- date of manufacture (month/year);
- designation type reference;
- nominal diameter;
- pressure rating;
- temperature rating.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings**with type designation(s)
R1K, R2KIssued to
Intertraco (Italia) S.p.a.
Suzzara MN, Italyis found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses**Application :****Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.**

Type:	Temperature range:	Max. working press.:	Sizes:
R1K	-40°C to +100°C	120 to 250 bar	DN6,10,12,16,19,25
R2K	-40°C to +100°C	210 to 420 bar	DN6,8,10,12,16,19,25

Issued at **Høvik** on **2019-03-20**for **DNV GL**This Certificate is valid until **2023-12-31**.DNV GL local station: **Milan**Approval Engineer: **Adel Samiei**

.....

Marianne Spæren Marveng
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.



Form code: TA 251

Revision: 2016-12

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Page 1 of 3

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Product description

Two types of hose assemblies with synthetic rubber inner tube, reinforced by steel wires braids (one for R1K and two for R2K) and synthetic rubber cover
 Hose manufacturer: Bridgestone Corporation

Coupling designations:

Hose size			R1K		R2K	
inch	DN	Dash	One piece	Two pieces	One piece	Two pieces
¼	6	-04	K series	B+SCX0T	K series	B+SN03T
5/16	8	-05	-	-	K series	B+SN03T
3/8	10	-06	K series	B+SCX0T	K & J series	B+SN03T
½	12	-08	K series	B+SCX0T	K & J series	B+SN03T
5/8	16	-10	K series	B+SCX0T	K & J series	B+SN03T
¾	19	-12	K series	B+SCX0T	K & J series	B+SN03T
1	25	-16	K series	B+SCX0T	K & J series	B+SN03T

Coupling Material: 11SMnPb30 EN 10277-3, 11SMnPb37 EN 10277-3, 36SMnPb14 EN 10277-3, C45 EN 10277-2, S355J2 EN 10277-2, X2CrNiMo 17-12-2 EN 10088-3 (AISI 316)

Couplings Manufacturer: INTERTRACO ITALIA SPA, Suzzara MN, Italy

Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the holder (named as manufacturer) of this certificate.

Maximum working pressure (in bar):

Hose size			R1K	R2K
inch	DN	Dash		
¼	6	-04	250	420
5/16	8	-05	-	380
3/8	10	-06	210	350
½	12	-08	180	350
5/8	16	-10	150	250
¾	19	-12	140	250
1	25	-16	120	210

Hose assemblies covered by this certificate may be used in systems conveying petroleum based hydraulic fluid, water based Hydraulic fluids, water and air in below temperature range:

Medium	R1K & R2K
petroleum based hydraulic fluid	-40°C to +100°C
water based Hydraulic fluids and air	-40°C to +70°C
water	0°C to +70°C

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required.

The hose assemblies must only be fitted in places where they are always accessible. Flexible hoses of these types are not to be used on boiler fronts.

The cover of hoses for gaseous applications shall be pin-pricked.

Production testing

All hose assemblies delivered under the DNV GL type approval scheme shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to the type approval certificate.

Type Approval documentation

Job Id: **262.1-016592-2**
Certificate No: **TAP00001RC**

Manufacturer's datasheet for R1K and R2K
Burst pressure test reports witnessed by DNV GL dated 2018-12-11
Impulse test report numbers: D15-099, D15-100, D16-112, D16-111, D15-201, D15-152, D15-151, D16-068, D17-070, D15-207, D17-072, D15-208, D17-074, D17-004, D17-003, D17-008, D17-007, D17-012, D17-011
Hose test reports dated 2018-12-06
LAPI fire test reports: 2642,2643,2644,2645,2646,2674.0IS0110/18

Tests carried out

Dimensional Check Test, Change in Length Test, Burst Test, Cold Flexibility Test, Ozone Resistance Test, Impulse Test, vacuum test, Oil Resistance Test and Fire Test.

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- Hose manufacturer's name or trademark;
- Date of manufacture (month/year);
- Designation type reference;
- Nominal diameter;
- Pressure rating;
- Temperature rating.

Where a flexible hose assembly is made up of items from different manufacturers, the components are to be clearly identified and traceable to evidence of prototype testing.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings

with type designation(s)
R1K, R2K

Issued to

Intertraco (Italia) S.p.a.
Suzzara MN, Italy

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses

Application :

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

Type:	Temperature range:	Max. working press.:	Sizes:
R1K	-40°C to +100°C	120 to 250 bar	DN6,10,12,16,19,25
R2K	-40°C to +100°C	210 to 420 bar	DN6,8,10,12,16,19,25

Issued at **Høvik** on **2019-03-20**

for **DNV GL**

This Certificate is valid until **2023-12-31**.

DNV GL local station: **Milan**

Approval Engineer: **Adel Samiei**

.....
Marianne Spæren Marveng
Head of Section

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Form code: TA 251

Revision: 2016-12

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Page 1 of 3

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Product description

Two types of hose assemblies with synthetic rubber inner tube, reinforced by steel wires braids (one for R1K and two for R2K) and synthetic rubber cover
 Hose manufacturer: Bridgestone Corporation

Coupling designations:

Hose size			R1K		R2K	
inch	DN	Dash	One piece	Two pieces	One piece	Two pieces
1/4	6	-04	K series	B+SCX0T	K series	B+SN03T
5/16	8	-05	-	-	K series	B+SN03T
3/8	10	-06	K series	B+SCX0T	K & J series	B+SN03T
1/2	12	-08	K series	B+SCX0T	K & J series	B+SN03T
5/8	16	-10	K series	B+SCX0T	K & J series	B+SN03T
3/4	19	-12	K series	B+SCX0T	K & J series	B+SN03T
1	25	-16	K series	B+SCX0T	K & J series	B+SN03T

Coupling Material: 11SMnPb30 EN 10277-3, 11SMnPb37 EN 10277-3, 36SMnPb14 EN 10277-3, C45 EN 10277-2, S355J2 EN 10277-2, X2CrNiMo 17-12-2 EN 10088-3 (AISI 316)

Couplings Manufacturer: INTERTRACO ITALIA SPA, Suzzara MN, Italy

Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the holder (named as manufacturer) of this certificate.

Maximum working pressure (in bar):

Hose size			R1K	R2K
inch	DN	Dash		
1/4	6	-04	250	420
5/16	8	-05	-	380
3/8	10	-06	210	350
1/2	12	-08	180	350
5/8	16	-10	150	250
3/4	19	-12	140	250
1	25	-16	120	210

Hose assemblies covered by this certificate may be used in systems conveying petroleum based hydraulic fluid, water based Hydraulic fluids, water and air in below temperature range:

Medium	R1K & R2K
petroleum based hydraulic fluid	-40°C to +100°C
water based Hydraulic fluids and air	-40°C to +70°C
water	0°C to +70°C

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required.

The hose assemblies must only be fitted in places where they are always accessible. Flexible hoses of these types are not to be used on boiler fronts.

The cover of hoses for gaseous applications shall be pin-pricked.

Production testing

All hose assemblies delivered under the DNV GL type approval scheme shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to the type approval certificate.

Type Approval documentation

Job Id: **262.1-016592-2**
Certificate No: **TAP00001RC**

Manufacturer's datasheet for R1K and R2K
Burst pressure test reports witnessed by DNV GL dated 2018-12-11
Impulse test report numbers: D15-099, D15-100, D16-112, D16-111, D15-201, D15-152, D15-151, D16-068, D17-070, D15-207, D17-072, D15-208, D17-074, D17-004, D17-003, D17-008, D17-007, D17-012, D17-011
Hose test reports dated 2018-12-06
LAPI fire test reports: 2642,2643,2644,2645,2646,2674.0ISO110/18

Tests carried out

Dimensional Check Test, Change in Length Test, Burst Test, Cold Flexibility Test, Ozone Resistance Test, Impulse Test, vacuum test, Oil Resistance Test and Fire Test.

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- Hose manufacturer's name or trademark;
- Date of manufacture (month/year);
- Designation type reference;
- Nominal diameter;
- Pressure rating;
- Temperature rating.

Where a flexible hose assembly is made up of items from different manufacturers, the components are to be clearly identified and traceable to evidence of prototype testing.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.

Products Type Approvals

LLOYD

Type Approval Certificate Extension

This is to certify that Certificate No. 10/00027 for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	INTERTRACO (Italia) S.p.A.
PLACE OF PRODUCTION	Via E. Amaldi, 1/A-B I-46029 Suzzara Mantova Italy
DESCRIPTION	Hydraulic Hose and Coupling System
TYPE	FlexIT Series: 1T, 2T, 3T, SK117, SC216, SK216, H4, R5, SHP, 3000, 5000, 6000 Coupling Series: (one piece) K, J, H, R, X, XLZ series (two piece) B+SCX0T, B+SN03T, B+S312T, B+S0420, I+S004I, I+S006I, Z+SZ06I series
APPLICATION	Could be accepted in fluid systems including oil or fuel oil on ships classed or intended for classification with LR, provided that they are installed to the satisfaction of the Society's surveyors.
STANDARD	LR Rules and Regulations for the Construction and Classification of Ships, Mobile Offshore Units and Fixed Offshore Installations SAE J517; UNI EN 853; EN 856; EN857

Certificate No.	10/00027(E1)
Issue Date	11 June 2015
Expiry Date	28 April 2020
Sheet	1 of 2



R. J. Parry
Marine Technology & Engineering Services, Southampton
Lloyd's Register EMEA

Lloyd's Register EMEA
Southampton Boldrewood Innovation Campus, Burgess Road, Southampton, SO16 7QF

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RATINGS	Size Range:	$3/16''$ to $3''$, DN 5 to 76
	Working Pressure :	24 bar to 500 bar as detailed in data sheets
	Fire tested to:	SOLAS 74 as amended Reg II-2/15.2.8, II-22/18.2.2 Regulation X3 IMO Res MSC.36(63) 7.5.4 (HSC Code) – Regulation II-2/4.2.2.5.6, Regulation X3. ISO 15540 (1999); ISO 15541 (1999)

"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 EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No.1924923 Issue 2 forms part of this Certificate.

All other details remain as the previous Certificate No. 10/00027 to which this extension should be attached.

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

Certificate No.	10/00027(E1)
Issue Date	11 June 2015
Expiry Date	28 April 2020
Sheet	2 of 2



R. J. Parry
Marine Technology & Engineering Services, Southampton
Lloyd's Register EMEA

Lloyd's Register EMEA
Southampton Boldrewood Innovation Campus, Burgess Road, Southampton, SO16 7QF

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Products Type Approvals

USCG

8. Intertraco (Italia) S.p.A.
Via E. Amaldi 1/A-B
46029 Suzzara (MN) Italy
P.O. Box N 7/C
Ph: +39 0376 539 711
Fax: +39 0376 521 722

Table 11 - Intertraco (Italia) S.p.A. listing

Hose Number	Applic. Code	Hose ID	MAWP (PSI)	Fittings	Fire Sleeve	Listing Date
C25-16	HF Type B	1	3625	J	-	11NOV15
C35-08	HF Type B	½	5076	K	-	11NOV15
C35-32	HF Type B	2	5076	H	-	11NOV15
PC25-10	HF Type B	5/8	3625	K	-	11NOV15
PC25-12	HF Type B	¾	3625	J	-	11NOV15
PC25-20	HF Type B	1-1/4	3625	J	-	11NOV15
PC25-24	HF Type B	1-1/2	3625	J	-	11NOV15
PC35-06	HF Type B	3/8	5076	K	-	11NOV15
PC35-08	HF Type B	½	5076	K	-	11NOV15
PC35-10	HF Type B	5/8	5076	K	-	11NOV15
PC35-12	HF Type B	¾	5076	J	-	11NOV15
PC35-16	HF Type B	1	5076	J	-	11NOV15
PC35-20	HF Type B	1-1/4	5076	H	-	11NOV15
PC35-24	HF Type B	1-1/2	5076	H	-	11NOV15
PC42-04	HF Type B	¼	6091	K	-	11NOV15
R1AT-04	HF Type B	¼	3263	K	-	11NOV15
R2AT-04	HF Type B	¼	5801	K	-	11NOV15
R2AT-06	HF Type B	3/8	4786	K	-	11NOV15
R2AT-08	HF Type B	½	3988	K	-	11NOV15
R2AT-10	HF Type B	5/8	3625	K	-	11NOV15
R2AT-12	HF Type B	¾	3118	J	-	11NOV15
R2AT-16	HF Type B	1	2393	J	-	11NOV15
R2AT-20	HF Type B	1-1/4	1812	J	-	11NOV15
R2AT-24	HF Type B	1-1/2	1305	J	-	11NOV15
R2AT-32	HF Type B	2	1160	J	-	11NOV15
R2K-04	HF Type B	1/4	6000	K	-	12JUL16
R2K-06	HF Type B	3/8	5000	K	-	12JUL16
R2K-08	HF Type B	1/2	5000	K	-	12JUL16
R2K-10	HF Type B	5/8	3600	K	-	12JUL16
R2K-12	HF Type B	3/4	3600	K	-	12JUL16
R2K-16	HF Type B	1	3000	K	-	12JUL16
SK117-04	HF Type B	1/4	4200	K	-	12JUL16
SK117-05	HF Type B	5/16	3600	K	-	12JUL16
SK117-06	HF Type B	3/8	3300	K	-	12JUL16
SK117-08	HF Type B	1/2	3000	K	-	12JUL16
SC216-04	HF Type B	1/4	5800	K	-	12JUL16
SC216-05	HF Type B	5/16	5000	K	-	12JUL16
SC216-06	HF Type B	3/8	4800	K	-	12JUL16
SC216-08	HF Type B	1/2	4000	K	-	12JUL16

Table 11 - Intertraco (Italia) S.p.A. listing (continued)

Hose Number	Applic. Code	Hose ID	MAWP (PSI)	Fittings	Fire Sleeve	Listing Date
SC216-10	HF Type B	5/8	3600	K	-	12JUL16
SC216-16	HF Type B	1	2400	K	-	12JUL16
SC216-06	HF Type B	3/8	4800	J	-	12JUL16
SC216-08	HF Type B	1/2	4000	J	-	12JUL16
SC216-10	HF Type B	5/8	3600	J	-	12JUL16
SC216-12	HF Type B	3/4	3100	J	-	12JUL16
SC216-16	HF Type B	1	2400	J	-	12JUL16
SC216-40	HF Type B	2 - 1/2	1000	J	-	12JUL16
SC216-48	HF Type B	3	1000	J	-	12JUL16
SK216-04	HF Type B	1/4	6500	K	-	12JUL16
SK216-05	HF Type B	5/16	6000	K	-	12JUL16
SK216-06	HF Type B	3/8	5500	K	-	12JUL16
SK216-08	HF Type B	1/2	5000	K	-	12JUL16
SK216-10	HF Type B	5/8	4200	K	-	12JUL16
SK216-12	HF Type B	3/4	4000	K	-	12JUL16
SK216-16	HF Type B	1	3300	K	-	12JUL16
SK216-06	HF Type B	3/8	5500	J	-	12JUL16
SK216-08	HF Type B	1/2	5000	J	-	12JUL16
SK216-10	HF Type B	5/8	4200	J	-	12JUL16
SK216-12	HF Type B	3/4	4000	J	-	12JUL16
SK216-16	HF Type B	1	3300	J	-	12JUL16
1T-04	HF Type B	1/4	3250	K	-	12JUL16
1T-05	HF Type B	5/16	3100	K	-	12JUL16
1T-06	HF Type B	3/8	2600	K	-	12JUL16
1T-08	HF Type B	1/2	2300	K	-	12JUL16
1T-10	HF Type B	5/8	1900	K	-	12JUL16
1T-12	HF Type B	3/4	1500	K	-	12JUL16
1T-16	HF Type B	1	1250	K	-	12JUL16
1T-12	HF Type B	3/4	1500	J	-	12JUL16
1T-16	HF Type B	1	1250	J	-	12JUL16
1T-20	HF Type B	1 - 1/4	920	J	-	12JUL16
1T-24	HF Type B	1 - 1/2	725	J	-	12JUL16
1T-32	HF Type B	2	580	J	-	12JUL16
2T-04	HF Type B	1/4	5800	K	-	12JUL16
2T-05	HF Type B	5/16	5000	K	-	12JUL16
2T-06	HF Type B	3/8	4800	K	-	12JUL16
2T-08	HF Type B	1/2	4000	K	-	12JUL16
2T-10	HF Type B	5/8	3600	K	-	12JUL16
2T-12	HF Type B	3/4	3100	K	-	12JUL16
2T-16	HF Type B	1	2400	K	-	12JUL16
2T-12	HF Type B	3/4	3100	J	-	12JUL16
2T-16	HF Type B	1	2400	J	-	12JUL16
2T-20	HF Type B	1 - 1/4	1800	J	-	12JUL16
2T-24	HF Type B	1 - 1/2	1300	J	-	12JUL16
2T-32	HF Type B	2	1150	J	-	12JUL16
4SH-12	HF Type B	3/4	6000	X	-	12JUL16
4SH-16	HF Type B	1	6000	J	-	12JUL16

Table 11 - Intertraco (Italia) S.p.A. listing (continued)

Hose Number	Applic. Code	Hose ID	MAWP (PSI)	Fittings	Fire Sleeve	Listing Date
4ST 10	HF Type B	5/8	5000	J	-	12JUL16
4ST 12	HF Type B	3/4	5000	J	-	12JUL16
4ST 16	HF Type B	1	5000	J	-	12JUL16
4ST 20	HF Type B	1 - 1/4	5000	J	-	12JUL16
4ST 24	HF Type B	1 - 1/2	4350	J	-	12JUL16
4ST 32	HF Type B	2	3600	J	-	12JUL16
4ST+ 06	HF Type B	3/8	6500	J	-	12JUL16
4ST+ 08	HF Type B	1/2	6000	J	-	12JUL16
4ST+ 10	HF Type B	5/8	6000	J	-	12JUL16
4ST+ 12	HF Type B	3/4	6000	J	-	12JUL16
4ST+ 16	HF Type B	1	6000	J	-	12JUL16
4ST+ 20	HF Type B	1 - 1/4	6000	J	-	12JUL16
6ST 20	HF Type B	1 - 1/4	6500	H	-	12JUL16
6ST 24	HF Type B	1 - 1/2	6000	H	-	12JUL16
6ST 32	HF Type B	2	6000	H	-	12JUL16
6ST 32	HF Type B	2	6000	HLZ	-	12JUL16

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