Industry & Facilities Division	Page: 1/5
	☐ Interim ☒ Final

RINAVE

INSPECTION REPORT

8698588/PRT 15.L.1357/ IR 001 Rev1

BV Job nr: 8698588

PROJECT: *BALFLEX – Thermoplastic Hydraulic Hoses*	***Ref:*** *BALFLEX*
BV Client: *BALFLEX GROUP*	***P/o nr:*** *PT.2065560.15* *(client to BV)*
Manufacturer: *BALFLEX GROUP*	***P/o nr:*** *—* *(client to Manufacturer)*
Inspection requested by: *BALFLEX GROUP*	

SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY
Inspection and Tests Witnessing of Thermoplastic Hydraulic Hoses	100R7 and 100R8	4+4

DOCUMENTS OF REFERENCE : *See continuation sheet for additional documents:* ☐ *Yes* ☒ *No*

Title	Reference n°	Rev.	Approved By	Date
SAE J517 -22.4.1 Electrical Conductivity Test		-	N/A	FEB 2013
ANSI/ SIA 92.2 – 5. Electrical Systems, Devices and Test Procedures for Vehicle-Mounted Elevating and Rotating Work Platforms				SET 2009

INSPECTIONS :

Inspection place & Date or Period:
LABELEC-Sacavém , 07.04.2015

Stage of inspection :

- ☐ Before manufacturing
- ☐ During manufacturing
- ☒ Final
- ☐ Packing

Kind of inspection:

- ☐ Pre-inspection meeting
- ☐ Shop Inspection
- ☒ Witnessing tests
- ☐ Final inspection
- ☒ Document review
- ☐ Expediting & vendor assessment
- ☐ Packing

(for details see continuation sheet)

Stamping :

☒ No ☐ ☐

Results of inspection : ☒ Satisfactory ☐ Unsatisfactory

Non Conformities Reports (NCR):

o NCR's issued during reported period : None

o List of outstanding NCR's : N/A

Main Conclusions & Remarks: (for details see continuation sheet)

- Hose Fabrication according to ISO 3949 R7 and R8.
- Tests of electrical conductivity according to SAE J517 – 22.4.1
- Tests of electrical conductivity according to ANSI/ SIA 92.2 – 5. Electrical Systems, Devices and Test Procedures for Vehicle-Mounted Elevating and Rotating Work Platforms

Next visit scheduled: N/A.

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BV Job nr: 8698588

1. Introduction

The undersigned surveyor of Bureau Veritas acting within the General Terms and Conditions of Bureau Veritas Contract and as Third Party Inspector , attend the premises of LABELEC – High Voltage Laboratory (IPAC L 0318) on the 7th of April 2015 for Meeting, Documentation Review and witness of Electrical Conductivity Tests in Thermoplastic Hydraulic Hoses manufactured by BALFLEX GROUP, with the following attendees:

Mr. Pedro Nunes (LABELEC) and Mr. António Figueiredo (Bureau Veritas Rinave).

2. Applicable Documents & Status of Approval

- The Calibration Certificates of Kilovoltmeter, Multimeter, Test Resistance and Thermometer were checked and accepted .

3. Manufacturing Progress Status

All the 4 ZETAFLEX 100R7 and the 4 OMEGAFLEX 100R8 Samples were delivered in Sacavém completely manufactured, with both end terminals and filled with insulating oil.

4. Details of inspection activities carried out with respect to scope of work.

- Witness of Hydraulic Hoses Electrical Conductivity Tests & Documentation Review:

  Electrical Conductivity Tests performed on ZETAFLEX Test Samples Nº. 1 and Nº. 2 DN 6 1/4 " and Nº. 1 and Nº 2 DN 10 3/8 " 100R7 Hoses.

  Electrical Conductivity Tests performed on OMEGAFLEX Test Samples Nº. 1 and Nº. 2 DN 6 1/4 " and Nº. 1 and Nº 2 DN 10 3/8 " 100R8 Hoses.

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5. Surveillance with reference to Tests Witnessing

5.1 Sample 1 – BALFLEX ZETAFLEX 100R7 Non-Conductive DN 6 1/4 "

U(KV)	I (µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	32,6	20,0	20,0	OK

5.2 Sample 2 – BALFLEX ZETAFLEX 100R7 Non-Conductive DN 6 1/4 "

U(KV)	I (µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	34,5	20,5	20,5	OK

5.3 Sample 1 – BALFLEX ZETAFLEX 100R7 Non-Conductive DN 10 3/8 "

U(KV)	I (µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	35,5	18,0	19,5	OK

5.4 Sample 2 – BALFLEX ZETAFLEX 100R7 Non-Conductive DN 10 3/8 "

U(KV)	I (µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	35,1	20,5	20,0	OK

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INSPECTION REPORT

8698588/PRT 15.L.1357/ IR 001 Rev1

BV Job nr: 8698588

5. Surveillance with reference to Tests Witnessing (cont.)

5.5 Sample 1 – BALFLEX OMEGAFLEX 100R8 Non-Conductive DN 6 1/4 "

U(KV)	I ((µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	34,6	21,0	20,0	OK

5.6 Sample 2 – BALFLEX OMEGAFLEX 100R8 Non-Conductive DN 6 1/4 "

U(KV)	I ((µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	34,5	20,5	20,0	OK

5.7 Sample 1 – BALFLEX OMEGAFLEX 100R8 Non-Conductive DN 10 3/8 "

U(KV)	I ((µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	34,6	19,0	19,0	OK

5.8 Sample 2 – BALFLEX OMEGAFLEX 100R8 Non-Conductive DN 10 3/8 "

U(KV)	I ((µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	34,9	20,5	20,0	OK

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BV Job nr: 8698588

6. Conclusions

The performed surveillance referred in §4 and §5 is in accordance with the acceptance criteria of the standard SAE J517 – 22.4.1. Both 1/4 " 100R7 and 100R8 samples of Thermoplastic Hydraulic Hoses, as well as, both 3/8 " 100R7 and 100R8 samples of Thermoplastic Hydraulic Hoses Test results do not excceed 50 µA after withstanding 37,5 KV for 5 minutes.

The Thermoplastic Hydraulic Hoses ZETAFLEX and OMEGAFLEX, manufactured by BALFLEX GROUP, comply to SAE J517 – 22.4.1.

According to the electrical conductivity test results, the Thermoplastic Hydraulic Hoses ZETAFLEX and OMEGAFLEX, manufactured by BALFLEX GROUP, comply with § 5.2.1.1 - Electrical Insulating Devices requirements of ANSI A92.2 – 5. Electrical Systems, Devices and Test Procedures for Vehicle-Mounted Elevating and Rotating Work Platforms.

No outstanding issues are listed in §4 and §5.

7. Annexes

- Electrical Conductivity Test Report of LABELEC ;
- Electrical Conductivity Test Report of LABELEC – Attachment 1 (Photographic Annex);
- Kilovoltmeter Certificates
- Multimeter Certificate.

ANNEXES ☒ *Yes (Total number of pages: 16)* ☐ *No*

Inspected by:
António Figueiredo
Date of issue: 04.05.2015

BUREAU VERITAS PORTUGAL INDUSTRY DIVISION

Checked by:
Luís Vicente

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