☐ Interim
☒ Final

RINAVE

INSPECTION REPORT

8920404/PRT 16.L.1018 / IR 001

BV Job nr: 8920404

PROJECT: *BALFLEX – Thermoplastic Hydraulic Hoses*	***Ref:*** *BALFLEX*
BV Client: *BALFLEX GROUP*	***P/o nr:*** *BAL 011 / 2016* *(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	R7 and R8	4+4

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

Title	Reference n°	Rev.	Approved By	Date
SAE J517-Feb 2013-22.4.1 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 , 19.02.2016

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 SAE J517-Feb2013 and ISO 3949 R7 and R8.
- Tests of electrical conductivity according to SAE J517–Feb2013-22.4.1
- 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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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 19th of February 2016 for Meeting, Documentation Review and witness of Electrical Conductivity Tests in Thermoplastic Hydraulic Hoses manufactured by BALFLEX GROUP, with the following attendees:

Ms Filipa Bernardes (LABELEC), 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 R7 and the 4 OMEGAFLEX R8 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-SAE R7 Test Samples Nº. 1 and Nº. 2 DN 8 5/16 " and Nº. 1 and Nº 2 DN 12 1/2 " R7 Hoses.

  Electrical Conductivity Tests performed on OMEGAFLEX-SAE R8 Test Samples Nº. 1 and Nº. 2 DN 8 5/16 " and Nº. 1 and Nº 2 DN 12 1/2 " R8 Hoses.

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5. Surveillance with reference to Tests Witnessing

5.1 Sample 1 – BALFLEX ZETAFLEX - SAE R7 Non-Conductive DN 8 5 /16 "

U(KV)	I (µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	40,7	15,7	15,8	OK

5.2 Sample 2 – BALFLEX ZETAFLEX – SAE R7 Non-Conductive DN 8 5 / 16 "

U(KV)	I (µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	42,4	17,4	16,3	OK

5.3 Sample 1 – BALFLEX ZETAFLEX - SAE R7 Non-Conductive DN 12 1 / 2 "

U(KV)	I (µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	46,6	17,8	19,0	OK

5.4 Sample 2 – BALFLEX ZETAFLEX - SAE R7 Non-Conductive DN 12 1 / 2 "

U(KV)	I (µA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	47,8	18,4	19,0	OK

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BV Job nr: 8920404

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

5.5 Sample 1 – BALFLEX OMEGAFLEX – SAE R8 Non-Conductive DN 8 5 / 16 "

U(KV)	I ((μA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	45,2	17,2	16,5	OK

5.6 Sample 2 – BALFLEX OMEGAFLEX - SAE R8 Non-Conductive DN 8 5 / 16 "

U(KV)	I ((μA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	42,5	16,8	16,5	OK

5.7 Sample 1 – BALFLEX OMEGAFLEX – SAE R8 Non-Conductive DN 12 1 / 2 "

U(KV)	I ((μA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	47,8	16,9	17,0	OK

5.8 Sample 2 – BALFLEX OMEGAFLEX – SAE R8 Non-Conductive DN 12 1 / 2 "

U(KV)	I ((μA)	Ti (° C)	Tf (°C)	Results after 5 min
37,5	48,7	17,9	18,0	OK

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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 1/2 " R7 and R8 samples of Thermoplastic Hydraulic Hoses, as well as, both 5 / 16 " R7 and R8 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: 29.02.2016

Checked by:
Luís Vicente

Inspection centre: BV Lisbon Office

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