

INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY

[A Division of NATRiP Implementation Society (NATIS), Govt. of India]

NON TRANSFERABLE

TEST REPORT

C	D	O	C	M	0431	Date	03.03.2017
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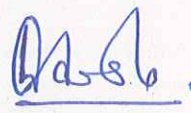



- 1.0 NAME AND ADDRESS OF THE CUSTOMER :** M/s. Polyhose India (Rubber) Pvt. Ltd.,
Plot No.F37 - F42& F50- F55, SIPCOT Industrial Park,
Sriperumpudur Taluk- 602 117, India.
- 2.0 CUSTOMER REFERENCE :** Docket Id : CCDPOIPMACML49144
- 3.0 DESCRIPTION OF TEST COMPONENT/S :**
- Air Brake Hose Assemblies : 12 Nos. (3/8" AIR BRAKE HOSE)
- Identification on Hose : Polyhose 3/8" AIR BRAKE HOSE as per SAE J 1402
Type "A" W.P 10 Bar (145PSI)
- Hose Internal Diameter : 9.5 ± 0.6 mm
- Hose Outer Diameter : 19.5 ± 0.75 mm
- Identification / Part No. : PH 540
- Drawing No. : ICA01.01.0616.7750
- Total Length of Hose : 450 mm
- Free Length of Hose : 342 mm
- ICAT Identification No : ICAT/CCL/49144/01-12
- Component manufacturing plant address : M/s. Polyhose India Pvt. Ltd.(Unit II),
Plot No:50, Sector -3, Sagor Kuti, Pithampur, Indore,
MP-454775, India.

4.0 TEST REQUIREMENTS, OBSERVATIONS & RESULTS:

To carry out all the tests on the test samples mentioned in **Serial no 3.0** above as per SAE J 1402 Aug. 2010. Test Specifications, Results/Observations are as given at attached **Annexure I**.

DISCLAIMER

This test report pertains only to the test samples / components / parts/ assemblies/ gensets/ materials /fuels/chemicals/engines/vehicles/Agri. Tractors etc. actually tested /witnessed / verified by ICAT in the presented condition based on the documents / information produced / submitted by the customer. The issuance of this test report alone does not indicate any measure of approval, certification, supervision, COP, control of quality surveillance by ICAT of the test samples / items/ components. No extract, abridgment or abstraction from this test report may be published or used to advertise the product without the written consent of the Director, ICAT, who reserves the absolute right to agree or reject all or any of the details of any items of publicity for which consent may be sought. ICAT is in no way responsible for any misuse or copying of any design in connection with entire vehicle / components / systems and assemblies. Breach of any statutory provisions, of Indian laws or laws of other countries, will be sole responsibility of the customer. ICAT shall not be liable for any claims or damages made by the customer, whatsoever. The customer shall alone be liable for the same and undertakes to indemnify ICAT in this regard. Further, ICAT has the right to initiate cancellation / withdrawal of the certificate / report issued, in case of any fraud, misrepresentation, when it comes to the knowledge of ICAT. The appropriate local court at Gurgaon shall have the jurisdiction in respect of any dispute, claim or liability arising out of this report

Prepared By	Checked By	Approved By	
			
HARISH JOSHI	AMIT K. KARWAL	PAMELA TIKKU	CM0431

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Annexure I




Sr. No.	TESTS [ICAT Identification No.]	REQUIREMENTS	TEST RESULTS / OBSERVATIONS
1	End Fittings Test [Cl. No. 7.1.1] [ICAT/CCL/49144/01-12] Following two tests are conducted:	After assembly of the end fittings to the hose, the minimum I.D. of the end fittings or the hose shall not be less than 66% of the minimum hose I.D. as declared.	With in specified limit
	1. High Temperature Resistance Test [Cl. No. 7.2.1.1] [ICAT/CCL/49144/01]	The hose portion of a hose assembly shall show no cracks, charring or disintegration externally or internally when straighten after being bent at bend radius of 90mm for 70 ± 2 hrs. at 100°C ± 2°C.	No cracks were observed after completion of 72hrs.
	2. Proof Pressure Test [Cl. No. 7.1.2] [ICAT/CCL/49144/02]	Air brake hose assembly subjected to a pressure using 2MPa ± 0.1MPa air or nitrogen under water for a minimum of 30s shal show no leaks.	No leaks observed when air pressure of 2MPa was applied for 30sec. under water
2	End Fittings Test [Cl. No. 7.1.1] [ICAT/CCL/49144/01-12] Following two tests are conducted:	After assembly of the end fittings to the hose, the minimum I.D. of the end fittings or the hose shall not be less than 66% of the minimum hose I.D. as declared.	With in specified limit
	1. Low Temperature Resistance Test [Cl. No. 7.2.1.2] [ICAT/CCL/49144/03]	The hose shall show no externally or inetrnally cracks after being subjected to - 40°C ± 2°C for 70 ± 2hrs. and bent 180 degree over a form having radius 90mm.	No cracks were observed after completion of 72hrs.
	2. Proof Pressure Test [Cl. No. 7.1.2] [ICAT/CCL/49144/04]	Air brake hose assembly subjected to a pressure using 2MPa ± 0.1MPa air or nitrogen under water for a minimum of 30s shal show no leaks.	No leaks observed when air pressure of 2MPa was applied for 30sec. under water
3	Resistance to Oil [Cl. No. 7.2.2.1] [ICAT/CCL/49144/05]	Inner & outer cover volume increase shall not be more than 100% after immersion in ASTM IRM 903 oil for 70h ± 2h @ 100°C ± 2°C	Inner tube = 76% Cover tube = 66%
4	End Fittings Test [Cl. No. 7.1.1] [ICAT/CCL/49144/01-12] Following two tests are conducted:	After assembly of the end fittings to the hose, the minimum I.D. of the end fittings or the hose shall not be less than 66% of the minimum hose I.D. as declared.	With in specified limit

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 HARISH JOSHI		 AMIT K. KARWAL	

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Annexure I (Continued)

Sr. No.	TESTS [ICAT Identification No.]	REQUIREMENTS	TEST RESULTS / OBSERVATIONS
4	Water Absorption Test: [Cl. No. 7.2.2.2] Following test is conducted:	After conditioning the air brake hose assemblies in distilled water at room temp. for 168 h \pm 2 h, hose shall pass below test.	Air brake hoses 1 no. was conditioned in water at room temp. for 168 hrs & met the requirements
	1. Tensile Strength Test [Cl. No. 7.1.4] [ICAT/CCL/49144/06]	1450 N (min.) (Separation rate 25 \pm 2.5mm/min.)	Breaking Load 1762 N (Separation rate 25 mm/min.)
5	Ozone Resistance Test [Cl. No. 7.2.2.3] [ICAT/CCL/49144/07]	Hose shall form a radius of 90mm while bent & to be exposed to ozone concentration of 100 pphm for 72 hours in ambient temperature of 40 \pm 2 ^o C during test. Hose shall not show any cracks when examined under 7 power magnification.	No cracks were observed on hose when tested at 100pphm for 72 hrs & inspected under 7 power magnification.
6	Salt Spray Test [Cl. No. 7.2.2.4] [ICAT/CCL/49144/08]	After 24 hours to salt spray, air brake hose end fitting shall show no base metal corrosion except red rust is acceptable in areas of identification stamping & crimp distortions.	No corrosion or rust was observed on hose assembly and end fittings after 24 hours of Corrosion Test.
	Burst Strength Test [Cl. No. 7.1.3] [ICAT/CCL/49144/08]	Bursting pressure : 6 MPa minimum. (with hydrostatic pressure)	Bursting pressure : 8.2 Mpa
7	Length Change Test [Cl. No. 7.1.5] [ICAT/CCL/49144/09]	An air brake hose shall not elongate by +5% nor contract by -7% when subjected to air pressure of 1.5 MPa	The length change observed is +1.5 % in elongation
8	Proof Pressure Test [Cl. No. 7.1.2] [ICAT/CCL/49144/10]	Air brake hose assembly subjected to a pressure using 2MPa \pm 0.1MPa air or nitrogen under water for a	No leaks observed when air pressure of 2MPa was applied for 30sec. under water
	Burst Strength Test [Cl. No. 7.1.3] [ICAT/CCL/49144/10]	Bursting pressure : 6 MPa minimum. (with hydrostatic pressure)	Bursting pressure : 9.5 Mpa
9	Adhesion Test - Fiber Reinforced hose [Cl. No. 7.1.6] [ICAT/CCL/49144/11]	The average load required to separate any adjacent layers shall be 1.4N/mm min.	Between cover & reinforced is 2.5 N/mm and between lining & reinforced is 2.8 N/mm




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 HARISH JOSHI		 AMIT K. KARWAL	

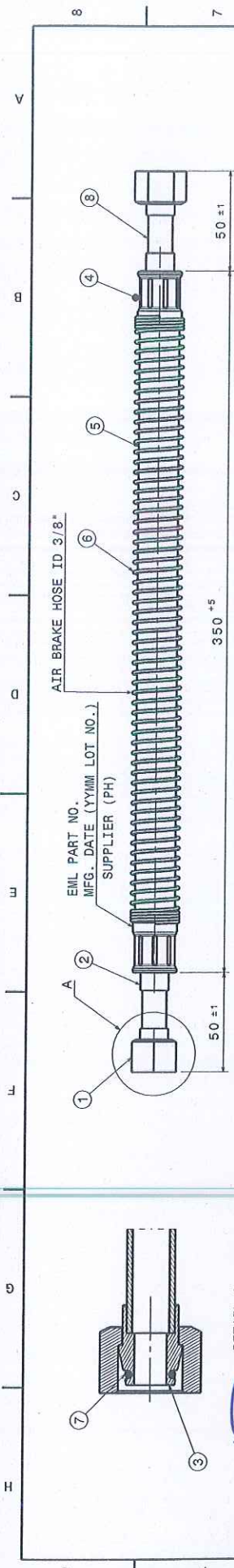
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Annexure I (Continued)

Sr. No.	TESTS [ICAT Identification No.]	REQUIREMENTS	TEST RESULTS / OBSERVATIONS
10	Flexure Test [Cl. No. 8] [ICAT/CCL/49144/12] Following tests are conducted:-	Preconditioning:- i.) Salt Spray Conditioning ii.) High Temperature Test	Mentioned below
	Salt Spray Conditioning [Cl. No. 7.2.2.4] [ICAT/CCL/49144/12]	Exposer of hose assembly for salt spray for 24 hours	No corrosion was observed
	High Temperature Resistance Test [Cl. No. 7.2.1.1] [ICAT/CCL/49144/12]	The hose portion of a hose assembly shall show no cracks, charring or disintegration externally or internally when straighten after being bent at bend radius of 90mm for 70 ± 2 hrs. at 100°C ± 2°C.	No cracks were observed after completion of 72hrs.
	Flexure Test [Cl. No. 8] [ICAT/CCL/49144/12]	Flexure Stroke : 150mm ± 1.5mm Flexure Stroke frequency : 1.7Hz ± 0.1Hz Test Temp.: 26°C ± 6°C Air pressure: 1MPa ± 0.1MPa Cyclic internal pressure on time: for 60 ± 5 s Cyclic internal pressure off time: 60 ± 5 s No. of cycles = 10,00,000	Completed 10,00,000 cycles without failure.

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 HARISH JOSHI		 AMIT K. KARWAL	Page 4 of 4 + Dwg.(1)



DETAIL A

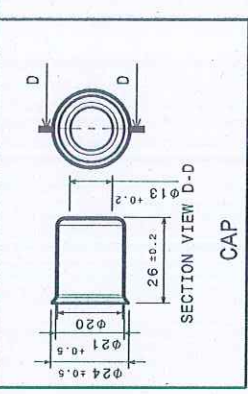
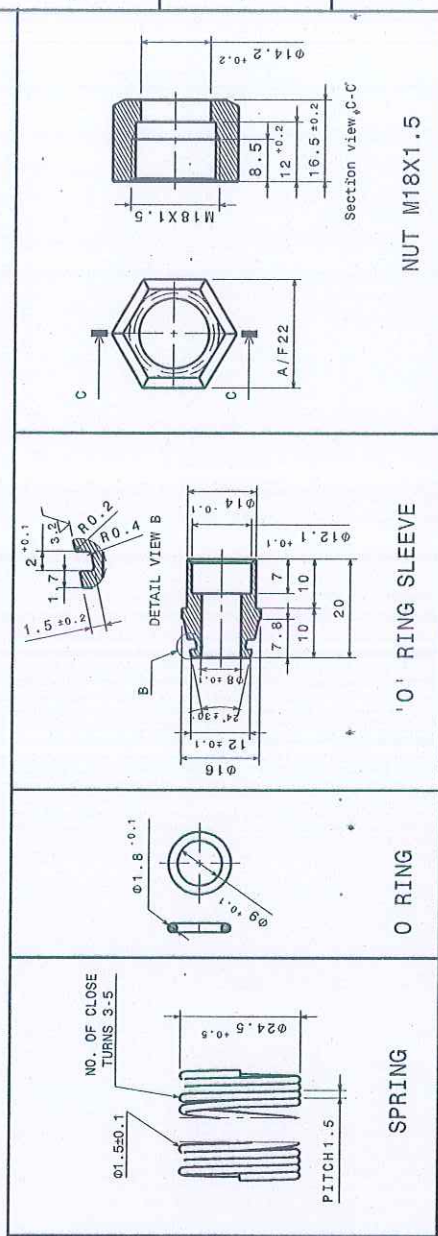


TR. No. C00CM0431 dtd. 03/03/2017

NOTES FOR IDENTIFICATION FROM VECV APPROVED TSS TRELLEBORG M70277024
 MUST CONFIRM FOLLOWING TEST PARAMETERS.:

- 1) HARDNESS (SHORE 'A'): - 68±5
- 2) TENSILE STRENGTH MIN 100kgf/cm².
- 3) ELONGATION AT BREAK (%) MIN 250.
- 4) HOT AIR OVEN AGING FOR 70hrs AT 100C.
 - CHANGE IN HARDNESS (SHORE 'A') . +10MAX
 - CHANGE IN TS (%) - 20max
 - CHANGE IN ELONGATION (%) .- 45MAX.
- 5) COMPRESSION SET AT COSTANT STRAIN FOR 22 Hrs. AT 100C 35MAX
- 6) OIL AGING IN ASTM-I OIL FOR 70 Hrs. AT 100C
 - CHANGE IN HARDNESS (SHORE 'A') . -5 TO +10
 - CHANGE IN TS (%) -5 TO +10
 - CHANGE IN ELONGATION (%) . -5 TO +10
 - CHANGE IN VOLUME -10 TO +5
- 7) OIL AGING IN ASTM-III OIL FOR 70 Hrs. AT 100°C
 - CHANGE IN HARDNESS (SHORE 'A') . -10 TO +5
 - CHANGE IN TS (%) -10 TO +5
 - CHANGE IN ELONGATION (%) . -10 TO +5
 - CHANGE IN VOLUME +10 MAX.
- 8) ASH CONTENT 7% MAX

- NOTES:
- 1) HOSE CONSTRUCTION SHOULD BE CONFIRMED AS PER MATERIAL STD. SAE J1402 .
 - 2) PARTS TO BE FREE FROM DUST, BURRS & SWARF.
 - 3) ENDS TO BE PROTECTED WITH CAP.
 - 4) PIPE ASSY. TO BE PREVENT TRIVALENT ZINK BLUE PASSIVATED MFZn-13TC-ES-VE-064 OUTSIDE AND ES-VE-064 INSIDE.
 - 5) PULL OUT FORCE TO BE 1420N.
 - 6) PARTS TO BE SUPPLIED WITH 100% LEAKAGE TEST AT 10 BAR AT AIR TEST PRESSURE.
 - 7) MINIMUM BURST PRESSURE IS 60 BAR.
 - 8) SALT SPRAY LIFE 72Hrs. FOR WHITE RUST & 240Hrs FOR RED RUST .
 - 9) HOSE TO BE STORED IN DARK PLACE.
 - 10) MAXIMUM PERMISSIBLE BENDING QUALITY SHOULD NOT BE MORE THAN 13%.
 - 11) FOR IDENTIFICATION PART NO. WITH MFG. DATE WITH ECO TO BE AFFIXED ON HOSE.
 - 12) ASH CONTENT SHOULD NOT BE MORE THAN OF 7%.
 - 13) OPERATING TEMP. RANGE -40C TO 92C.
 - 14) UNSPECIFIED TOLLERANCE FOR END FITTING TO BE ±0.2mm
 - 15) O-RING PART NO. IC307366 IS SERVICEABLE FOR VECV SPARE



SR. NO	ITEM NAME	QTY	MATERIAL
1	NUT M18X1.5	2	EN1A (BS-970)
2	BRAZING SLEEVE	2	EN1A (BS-970)
3	O RING SLEEVE	2	EN1A (BS-970)
4	CAP	2	CR (IS-513)
5	HOSE	1	SAE J 1402
6	SPRING	1	MS (IS2062)
7	'O' RING	2	NBR
8	Ø12X1.5	2	IS9074-CEW-1

ALL DIMENSIONS ARE IN MM

Polybase™ LTD. UNIT 2

BRAKE HOSE (BLACK) 350L

DRAWING TITLE

DRAWN BY: A.K. DATE: 19/02/2016

CHECKED BY: R.R. DATE: 19/02/2016

APPROVED BY: A.K. DATE: 19/02/2016

SIZE: A2

DRAWING NUMBER: ICA01.01.0616.7750

REV: 0

SCALE: 1:2

SHEET: 1/1

0.3586

POLYHOSE INDIA PVT. LTD.

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