NON TRANSFERABLE

TEST REPORT

C	T	0	B	L	5054

Date: 30.11.2016

1.0 NAME AND ADDRESS OF THE CUSTOMER : **M/s. Polyhose India(Rubber) Pvt. Ltd.**
Plot No. F37-F42 & F50-F55, SIPCOT Industrial Park,
Irrungattukottai, Pennalur Post,Sriperumpudur
Taluk- 602117, Tamil Nadu, India

2.0 CUSTOMER LETTER REF. : CCTNPOIPLLCEL47728 Dated 15-Oct-2016

3.0 DESCRIPTION OF COMPONENT :

1	**Name of the component**	LPG hose assembly
2	**Name and address of the manufacturer**	Same as Sr. No. 1.0
3	**Dimensions of the component**	Nominal Size = 6 mm, Bore Size =6.5mm, Outer Diameter = 12.7 mm
4	**Drawing No.**	PHIR-001-01
5	**Markings**	POLYHOSE LOGO LPG HOSE NB 6.0mm(1/4") Max W.P. 2.5MPa as per IS 9573:2012 for Type I

4.0 TEST OBJECTIVE :
To evaluate performance of LPG hose assembly as per the requirements given in IS 9573:2012 as amended up to date.

5.0 TEST REQUIREMENTS, OBSERVATIONS AND RESULTS:
Please refer test requirements/results in Annexure-I of the report.

6.0 CONCLUSION:
LPG hose assembly submitted by M/s. Polyhose India (Rubber) Pvt. Ltd. specified in Sr. no. 3.0 of this test report meets the requirements of all the tests as per IS 9573:2012 as amended up to date.

Prepared By	Checked By		Approved By	
UDIT KAUL	MAHENDAR PAL		PAMELA TIKKU	Page 1 of 4 + Drawing (47728)
Asst. Manager	Sr. Manager		Sr. General Manager	

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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	
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Annexure I

Sr No	Test	Test Requirements	Observations / Results
1	Dimensions and Material test (Cl. No. 5.2 and 5.3 of IS 9573:2012)	Perform the dimensions and tolerance measurements as per Cl. No. 5.3. Verify material requirements as per Cl. No. 5.2.	All the Dimensions and tolerances are within acceptable limits. **Satisfactory**
2	Adhesion Test (Cl. No. 5.5.1 of IS 9573:2012)	The minimum adhesion between reinforcement and cover shall not be less than 1.5 kN/m.	Cover to reinforcement = 2.3 kN/m. **Satisfactory**
3	Low Temperature Flexibility Test (Cl. No. 5.5.2 of IS 9573:2012)	When a cut test piece is conditioned at -40 + 2°C for 5h and then bent to 180° around a mandrel with 12 times the nominal bore diameter; no cracks or breakage shall be shown.	After 5 h exposure to -40°C, No crack was observed when the hose was bent through 180° around the mandrel. **Satisfactory**
4	Flexibility of the hose (Cl. No. 5.5.3 of IS 9573:2012)	The hose shall be capable of being bent to the radius given in Table 1 of IS 9573:2012 flatness shall not exceed 10% of the outside diameter.	No structural damage was observed when the hose was bent through radius of 95mm. **Satisfactory**
5	Ozone Resistance Test (Cl. No. 5.5.4 of IS 9573:2012)	When Pieces of lining and cover are exposed to ozone environment of 50 ppm at 40 + 2°C for 72+ 2h, pieces shall not show any signs of cracking under 2X magnification.	No cracks observed on the sample of cover and lining when subjected to ozone environment under stress condition. **Satisfactory**
6	Proof Pressure Test (Cl. No. 5.5.5.1 of IS 9573:2012)	A complete Hose assembly when subjected to internal hydraulic pressure equal to 5.0 MPa for 1 min, the change in the length shall be within the range of 12% of its original length.	No change in original length observed when the hose in subjected to 5 Mpa hydraulic pressure. **Satisfactory**
7	Bursting Pressure Test (Cl. No. 5.5.5.2 of IS 9573:2012)	Representative Samples of hose shall not burst below 10 MPa when subjected to internal hydraulic pressure.	Burst observed at 144.79 bar (14.47 MPa) hydraulic pressure. **Satisfactory**

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Annexure I (Cont.)

Sr No	Test	Test Requirements		Observations / Results	
8	Tensile Strength and Elongation at break of Lining and Cover of the Hose (Cl No. 5.4.1 of IS 9573:2012)	**Lining**	**Cover**	**Lining**	**Cover**
		Tensile Strength = 10.0 MPa(min)	Tensile Strength = 10.0 MPa(min)	Tensile Strength = 16.31 MPa(min)	Tensile Strength = 12.78 MPa(min)
		Elongation = Min 200 %	Elongation = Min 250 %	Elongation = Min 278 %	Elongation = Min 318 %
9	Acceleration Aging Test (Cl No. 5.4.2 of IS 9573:2012)	**Lining**	**Cover**	**Lining**	**Cover**
		Tensile Strength = -25%	Tensile Strength = -50%	Tensile Strength = -3.8%	Tensile Strength = -20%
		Elongation = -50 %	Elongation = -50 %	Elongation = -28 %	Elongation = -23 %
10	Resistance to n-Pentane (Cl No. 5.4.3 of IS 9573:2012)	1) % n-pentane absorbed should be less than 15% of initial mass of the lining. 2) % n-pentane extractable should be less than 10% of initial mass of the lining.		% n-pentane absorbed = +1.18% % n-pentane extractable = +3% **Satisfactory**	
11	Electrical Continuity test (Cl No. 5.5.6 of IS 9573:2012)	The electrical continuity of wires in textile reinforced Type I hose after subjecting it to proof pressure test as per 5.5.5.1 shall be tested and maintained for each hose length from one end to another.		Beaded wire in the hose shows end to end continuity. **Satisfactory**	
12	Grip Strength test (Cl No. 5.5.7 of IS 9573:2012)	When Pieces of lining and cover are exposed to ozone environment of 50 ppm at 40 + 2°C for 72+ 2h, pieces shall not show any signs of cracking under 2X magnification.		**Not Applicable**	
13	Burning test (Cl No. 5.5.8 of IS 9573:2012)	A complete Hose assembly when subjected to internal hydraulic pressure equal to 5.0 MPa for 1 min, the change in the length shall be within the range of 12% of its original length.		**Not Applicable**	

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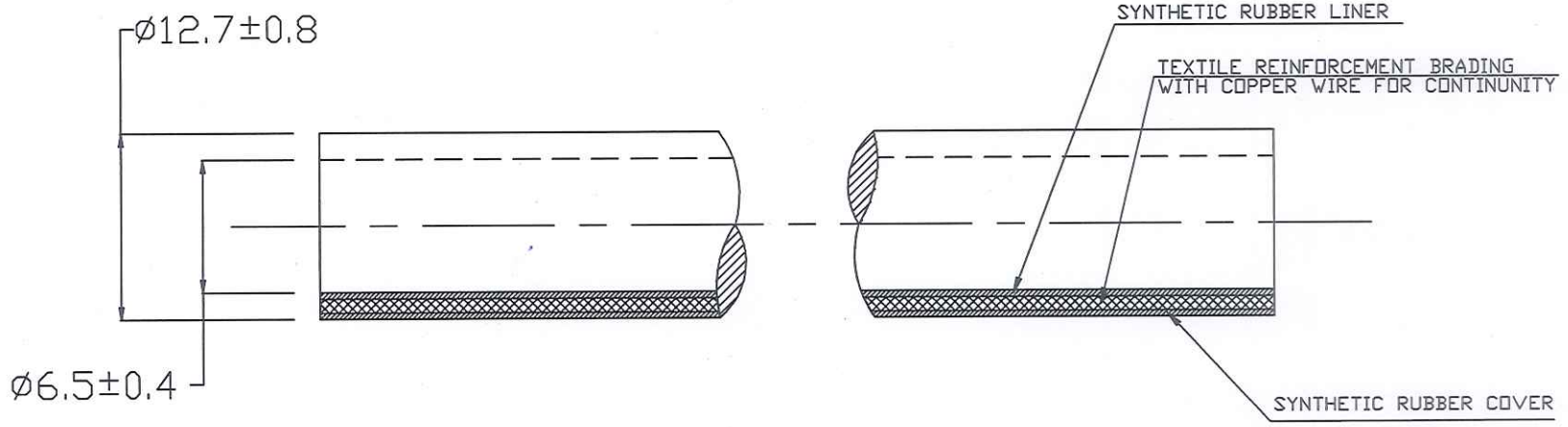

SPECIFICATION FOR HOSE :

1.CONSTRUCTION OF LPG HOSE AS PER IS9573:2012TYPE1
2.MIN BURST PRESSURE : 100BAR
3.MIN BEND RADIUS : 65MM
4.MARKING :POLYHOSE LOGO LPG HOSE NB 6.0mm(1/4") MAX W.P. 2.5MPa AS PER IS9573:2012 TYPE I

INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY MANESAR

Polyhose™ Providing Flexible Solutions Globally

POLYHOSE INDIA(RUBBER) PVT. LTD.
CHENNAI-600 010, INDIA.

TITLE : LPG HOSE ID 1/4" AS PER IS9573:2012 TYPE1

DWG.. No. PHIR -001-01

DRAWING FOR MANUFACTURING	SCALE	NTS	DATE	THIS DRAWING AND DESIGN IS THE PROPERTY OF POLYHOSE INDIA PVT. LTD. AND MUST NOT BE COPIED OR LENT WITHOUT THEIR PERMISSION IN WRITING.
ALL DIMENSIONS ARE IN MM UNSPECIFIED TOLERANCE FOR LENGTH ±0.1 FOR DIAMETER ±0.05	DRAWN BY	M.V	15-11-2016	
	CHECKED BY			
	APPD BY			