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INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY

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

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NON TRANSFERABLE

TEST REPORT

C	T	0	C	E	1398

Date: **03.11.2009**

1.0 NAME AND ADDRESS OF THE CUSTOMER : **M/s. Polyhose India (Rubber) Pvt. Ltd.**
Plot No.F37-F42 & F50-F55,
SIPCOT Industrial Park, Irungattukottai,
Pennalur Post,
Sriperumbudur Taluk-602 105.

2.0 CUSTOMER LETTER REF. : Letter Dated 11.09.2009

3.0 DESCRIPTION OF COMPONENT :
LPG Hose Assembly, Type 2 Qty.:10 Nos..
Nominal Inner Diameter(ID):: 3/8"
Working Pressure : 25 bar
Drawing/~~Part~~ No. : 511 is attached as Annexure II
Identification Marking on the sample : " POLYHOSE LPG HOSE " " ID= 3/8" "
Manufacturing Plant Address: same as Sr. No. 1.0

4.0 TEST OBJECTIVE :
To evaluate performance of LPG Hose Assembly as per the requirements given in IS 9573:1998.

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

6.0 CONCLUSION:
LPG Hose Assembly specified in Sr. no. 3.0 of this test report, meets the requirements of all the tests as per IS 9573:1998.

Disclaimer:

Prepared By	Checked By		Department Head	CE-1398
J. LUPIN NIRANJAN	MAHENDAR PAL		S.K. KALIA	Page 1 of 3 + drawing (810)

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Annexure I

Sr No	Test	Test Requirements		Observations / Results	
1	Adhesion Test (Cl. No. 5.5.1 of IS 9573:1998)	The minimum adhesion between reinforcement and cover shall not be less than 2 kN/m		Cover to Reinforcement = 2.78 kN/m **Satisfactory**	
2	Low Temperature Flexibility Test (Cl No. 5.5.2 of IS 9573:1998)	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 5h exposure to -40°C, No crack was observed when the hose was bent through 180° around the mandrel. **Satisfactory**	
3	Flexibility of the hose (Cl No. 5.5.3 of IS 9573:1998)	The hose shall be capable of being bent empty to the radius given in Table 1 of IS 9573:1998		No structural damage was observed when the hose was bent through radius of 120 mm **Satisfactory**	
4	Ozone Resistance Test (Cl No. 5.5.4 of IS 9573:1998)	When Pieces of lining and cover are exposed to ozone environment of 50 ppm at 40 ± 2°C for 72± 2h with 20% elongation, pieces shall not show any signs of cracking.		No cracks observed on the sample of cover when subjected to ozone environment under stress condition **Satisfactory**	
5	Proof Pressure Test (Cl No. 5.5.5.1 of IS 9573:1998)	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 it's original length		No change in original length observed when the hose is subjected to 5.0 MPa hydraulic pressure **Satisfactory**	
6	Bursting Pressure Test (AIS 026; Cl No. 9)	Representative samples of hose shall not burst below 5 times the working pressure when subjected to internal hydraulic pressure. Working Pressure = 25 bar		Burst observed at 166 bar hydraulic pressure **Satisfactory**	
7	Tensile Strength and Elongation at break of Lining and Cover of the Hose (Cl No. 5.4.1 of IS 9573:1998)	**Lining**	**Cover**	**Lining**	**Cover**
		Tensile Strength = 10.0 MPa(min)	Tensile Strength = 10.0 MPa(min)	Tensile Strength = 21.52 MPa MPa	Tensile Strength = 18.37 MPa MPa
		Elongation = Min 200 %	Elongation = Min 250 %	Elongation = 289.85 %	Elongation = 325.64 %

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Sr No	Test	Test Requirements		Observations / Results	
8	Acceleration Aging Test (Cl No. 5.4.2 of IS 9573:1998)	**Lining**	**Cover**	**Lining**	**Cover**
		Tensile Strength = -25%	Tensile Strength = -50%	Tensile Strength = -1.1%	Tensile Strength = -8.65%
		Elongation = -50 %	Elongation = -50 %	Elongation = -13.85 %	Elongation = -14.56 %
9	Resistance of lining to n-Pentane (Cl No. 5.4.3 of IS 9573:1998)	1) % n-pentane absorbed should be less than 10% of Initial mass of lining 2) % n-pentane extractable matter should be less than 5 % of Initial mass of lining		% n-pentane absorbed = +1.12% % n-pentane extracted = +0.85% **Satisfactory**	
10	Electrical Continuity test (Cl No. 5.5.6 of IS 9573:1998)	The hose before and after subjecting to the flexibility test as specified in 5.5.3 and hydraulic test specified in 5.5.5, electrical continuity of each hose shall be maintained from end to end		Breaded wire in the hose shows end to end continuity **Satisfactory**	

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J. LUPIN NIRANJAN	**MAHENDAR PAL**		**S.K. KALIA**	Page 3 of 3 + Drawing (810)

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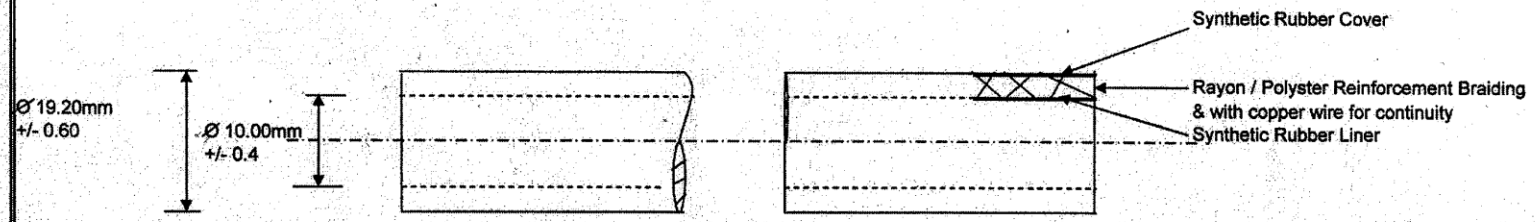

HOSE SPECIFICATIONS

Proof Pressure	**:365PSI**
Burest Pressure	**:1450PSI**

CONTROLLED

ALL DIMENSIONS IN MM	
GENERAL LINER TOLERANCE	+/- 0.25
GENERAL COVER TOLERANCE	+/- 0.25

LPG HOSE **(AS PER IS 9573 :1998 Type-2 ID 3/8")**

POLYHOSE INDIA RUBBER PVT LTD

CHENNAI

DRG No.	**511**
DATE	**13/1/2009**

Singnature