



INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY

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

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NON TRANSFERABLE

TEST REPORT



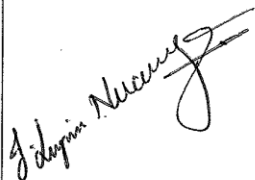


C T O C E 1398

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:

This test report pertains only to the components/parts/ assemblies/ gensets/ materials/ fuels/chemicals /engines/ vehicles/Agri.Tractors etc., actually tested at 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 product. No extract, abridgment or abstraction from this test report shall 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 of copying of any design / type system in connection with entire vehicle / components / parts and assemblies. Breach of any statutory provisions of Indian laws or of laws of other countries, will be sole responsibility of the customer and iCAT shall not be liable for any claims or damages, made by the party, 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 surfaces and comes in the knowledge of iCAT. The appropriate local courts at Gurgaon shall have the jurisdiction in respect of any dispute, claim or liability arising out of this report.

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

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Annexure I

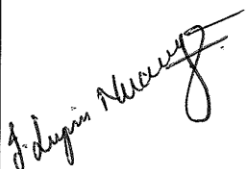


Sr No	Test	Test Requirements		Observations / Results	
1	Adhesion Test (CI No. 5.5.1 of IS 9573:1998)	The minimum adhesion between reinforcement and cover shall not be less than 2 kN/m		Cover to Reinforcement = 2.78 kN/m Satisfactory	
2	Low Temperature Flexibility Test (CI No. 5.5.2 of IS 9573:1998)	When a cut test piece is conditioned at $-40 \pm 2^\circ\text{C}$ 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 (CI 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 (CI No. 5.5.4 of IS 9573:1998)	When Pieces of lining and cover are exposed to ozone environment of 50 ppm at $40 \pm 2^\circ\text{C}$ for 72 ± 2 h 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 (CI 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; CI 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 (CI 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 %

Prepared By	Checked By		Department Head	Page 2 of 3 + Drawing (810)
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C T O C E 1398

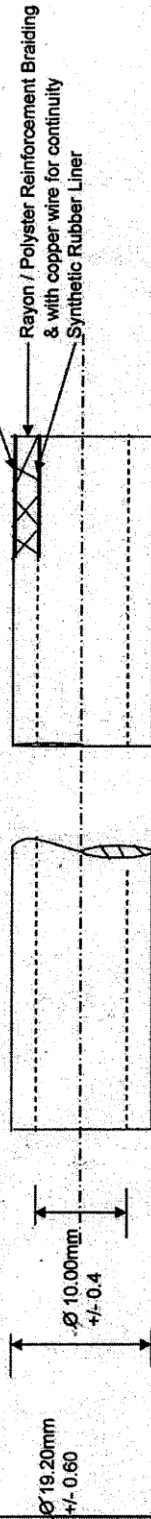
Date: 03.11.2009

Sr No	Test	Test Requirements		Observations / Results	
8	Acceleration Aging Test (CI 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 (CI No. 5.4.3 of IS 9573:1998)	1) % n-pentane absorbed should be less than 10% of Initial mass of lining		% n-pentane absorbed = +1.12%	
		2) % n-pentane extractable matter should be less than 5 % of Initial mass of lining		% n-pentane extracted = +0.85%	
				Satisfactory	
10	Electrical Continuity test (CI 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	

Prepared By	Checked By		Department Head	Page 3 of 3 + Drawing (810)
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REPORT No. CTOCE 1398



HOSE SPECIFICATIONS
 Proof Pressure : 365PSI
 Burst Pressure : 1450PSI

Johny N...

CONTROLLED

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

LPG HOSE (AS PER IS 9573 : 1988 Type-2 ID 3/8")	
POLYHOSE INDIA RUBBER PVT LTD	
CHENNAI	
DRG No.	511
DATE	13/1/2009
Signature	