

TEST REPORT			
No. SHL/239/2024-2025/3000036639/TA/2229			DATE 22.05.2024
1.0	NAME AND ADDRESS OF CUSTOMER		Polyhose India (Rubber) Pvt Ltd Plot No. F28 – F29, F37 - F42, F48 – F49, F50 – F55 ,F100 & F102 , SIPCOT Industrial Park, Irrungattukottai, Pennalur Post , Sriperumbudur Taluk – 602117, Kancheepuram District, Tamilnadu, India.
	Name of Contact Person		D. Prasanna
	Telephone No.		9942997032
	Email ID		prasanna.d@polyhose.com
2.0	CUSTOMERS LETTER REF.		E-mail Dated: 11.03.2024
2.1	CSP Receipt Date		12.03.2024
3.0	DESCRIPTION OF TEST COMPONENT:		
a.	Name of The Component	CNG Flexible Hose for CNG	
b.	Name of The Manufacturer	Polyhose India (Rubber) Pvt Ltd Plot No. F28 – F29, F37 - F42, F48 – F49, F50 – F55 ,F100 & F102 , SIPCOT Industrial Park, Irrungattukottai, Pennalur Post , Sriperumbudur Taluk – 602117, Kancheepuram District, Tamilnadu, India.	
c.	Part No.	PH536-06	
d.	Working Pressure	21.5 Bar	
e.	Drawing No. with Rev. No.	PH536-06-04-22-01; REV No. 00	
f.	Size Of the Component (ID X OD)	9.50 mm X 15.90 mm	
g.	Class and Type	Class 1 and Type 2	
h.	Marking on Hose	POLYHOSE>>>PH536-3/8">>>IS 15722 CLASS-1 TYPE-2 DN10/SAE J30 R6-06	
4.0	TEST OBJECTIVE: To evaluate performance of CNG Flexible Hose as per the requirements given in IS 15722:2006.		
5.0	TEST REQUIREMENTS / RESULTS: Requirements of IS 15722:2006 for CNG Flexible Hose are given in below. Table-1		
	Sr. No.	Test / Clause No.	Test Requirement
	1.	Burst Test (Cl. No. 5.2)	Hose shall be withstanding 4 times of working pressure. Remark: Satisfactory
	2.	Vacuum Collapse test (Cl No. 5.3)	Decrease in diameter shall not be more than 20% of the original diameter when vacuum (81 KPa Vacuum) is applied for 15 sec. No decrease in diameter observed when Vacuum of 81 KPa Vacuum applied. Remark: Satisfactory

PREPARED BY:	VERIFIED BY:	AUTHORISED BY:
		
S. N. LONDHE DEPUTY MANAGER	A. D. DEKATE GENERAL MANAGER	DR. B. V. SHAMSUNDARA DEPUTY DIRECTOR In-charge-Safety and Homologation Laboratory

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Sr. No.	Test / Clause No.	Test Requirement		Test Result	
3.	Cold Flexibility test (CI No. 5.4)	Aged sample: Hose sample immersed in Oil no. 3 for 70 hours at –34°C. The aged sample shall conditioned for 5 hours at 100°C and then shall be flexed in cold chamber through 180° from centreline to a diameter of 10 times the maximum OD of hose The flexing shall take place within 4 s and the hose shall not fracture or show any cracks, checks, and breaks in tube or cover		No cracks or fracture observed when hose is bent through 180°.	
		Un-aged sample: Hose is conditioned at –40°C for 5 hours and then flexed in cold chamber through 180° from centerline to a diameter of 10 times the maximum OD of hose. Hose shall not fracture or crack.		No Cracks or fracture observed.	
4.	Tensile Strength and elongation (CI No. 5.5)	Original tensile strength for cover should not be less than 7 MPa.		Tensile strength for cover observed = 9.48 MPa	
		Original tensile strength for tube should not be less than 8 MPa		Tensile strength for tube observed = 16.1 MPa	
		Original elongation of tube and cover should not be less than 200 %		Remark: Satisfactory	
5.	Dry heat resistance test (CI No. 5.6)	COVER	TUBE	COVER	TUBE
		Reduction in tensile strength shall not exceed - 20% of the original.	Reduction in tensile strength shall not exceed -20% of the original.	Observed tensile strength = 8.6 %	Observed tensile strength = 3.10 %
		Reduction in elongation shall not exceed -50% of the original.	Reduction in elongation shall not exceed - 50% of the original.	Change in elongation observed is = -30.5 %	Change in elongation observed is = -20.4 %

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Sr. No.	Test / Clause No.	Test Requirement	Test Result
6.	Fuel Resistance test (Cl. No. 5.7)	Change in tensile strength of the tube specimen shall not exceed -45% of the original	Percentage volume change observed is +40.7 % Remark: Satisfactory
		Change in elongation of the tube specimen shall not exceed - 45% of the original.	Change in tensile strength of the tube specimen observed is -39.6% Remark: Satisfactory
		Percentage volume change the tube specimen shall be within 0 to + 50% of the original.	Percentage volume change observed is + 47.67 % Remark: Satisfactory
7.	Oil Resistance test (Cl No. 5.8)	Change in tensile strength of the tube specimen shall not exceed -40% of the original.	Percentage volume change observed is +1.90 % Remark: Satisfactory
		Change in Elongation of the tube specimen shall not exceed - 40% of the original.	Change in tensile strength of the tube specimen observed is -18.3% Remark: Satisfactory
		% Volume change of the cover specimen shall be within -0 to +100% % Volume change of the tube specimen shall be within -5 to +25%	For Cover: 7.90 % Volume change observed is Remark: Satisfactory For Tube: -3.28 % Volume change observed is Remark: Satisfactory
8.	Extractable (Cl. No. 5.9)	7.75 gms/m ² max.	1.10gms /m ² . Remark: Satisfactory
9.	Ozone Resistance tests. (Cl No. 5.10)	No cracks are allowed on the cover when hose is subjected to the specified ozone environment in a bent condition around a standard mandrel for 70 hours at 40° C.	No cracks observed when hose is inspected under 7X magnification. Remark: Satisfactory
10.	Adhesion test (Cl. No. 5.11)	The minimum load required to separate a 25.4 mm width of tube and cover shall be minimum 27 N (1.06 N/mm).	Measured load for separation of tube and Reinforcement = 2.94 N/mm Measured load for separation of Reinforcement and cover = 2.63 N/mm Remark: Satisfactory

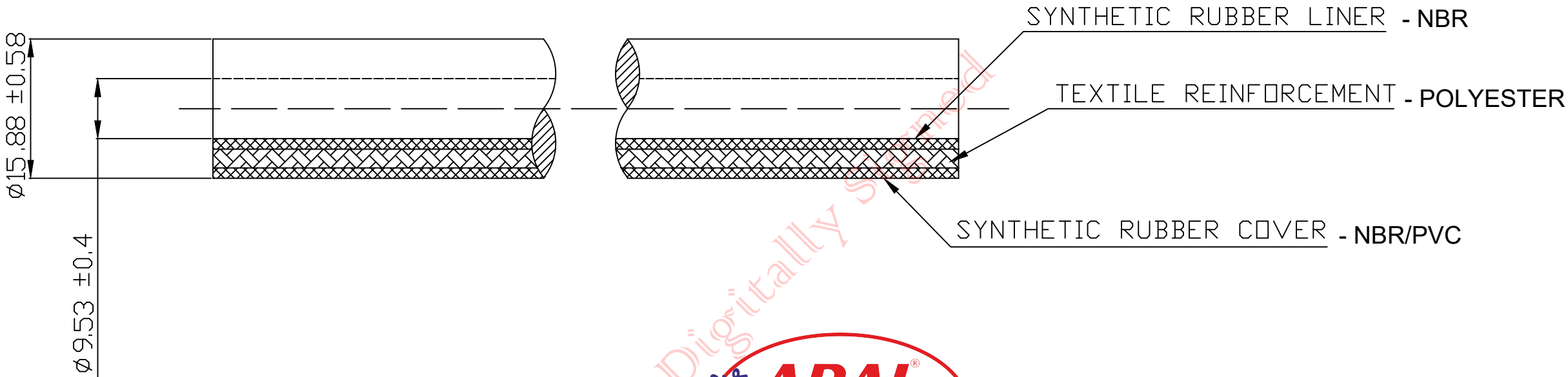
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Sr. No.	Test / Clause No.	Test Requirement	Test Result
11.	Kink Resistance test (Cl. No. 5.12)	A ball having a diameter equal to half the nominal inside diameter of the hose shall pass freely through the hose.	A ball having diameter half the nominal inside diameter of the hose passes freely through the hose. Remark: Satisfactory
12.	Permeation (Cl. No. 5.13)	600 gm / m ² Per day max	184 gm / m ² per day Remark: Satisfactory
5.1	Test Duration	Start Date:-28.03.2024	End Date: - 08.05.2024
6.0	CONCLUSION: The CNG Flexible Hose, described above in the sr. 3 of this report <u>meets</u> the test requirement when tested as per IS 15722:2006.		
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Place of Issue: Kothrud, PUNE			



End of Report



NOTES:

- (1) HOSE CONSTRUCTION OF CNG HOSE AS PER IS15722 TYPE 2 CLASS 1 / SAEJ30R6
(2) WORKING PRESSURE: 21.5BAR
(3) BURST PRESSURE: 48BAR
(4) MIN. BEND RADIUS: 75MM
(5) MARKING : POLYHOSE LOGO >>> PH536 - 3/8" >>> IS15722 CLASS-1 TYPE-2 DN10 /SAEJ30R6-06>>>
CNG/FUEL HOSE MAX WP 21.5 BAR (315PSI)
(6) TEMPERATURE RANGE : -40°C TO +100°C.

Drawing 1 of 1

Polyhose®

POLYHOSE INDIA (RUBBER) PVT. LTD.,
CHENNAI

CUSTOMER NAME : --

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REV. No.	ECN No.	ZONE	REVISION NOTE	DATE	CHD BY	APPD. BY	SCALE : N.T.S	SIGN	DATE	DWG TITLE : CNG/FUEL HOSE ID 10MM AS PER IS15722 TYPE 2 /SAEJ30 R6			
ALL DIMENSIONS ARE IN MM				THIRD ANGLE PROJECTION 			DRAWN BY	Panthosh	22.04.22	PART No.: --			
							CHKD. BY	Padman	22.04.22				
							APPD. BY	Pridar	22.04.22	DWG No.: PH536-06-04-22-01	SHEET 1 OF 1	REV. No.	00