

TEST REPORT			
No. SHL/239/2024-2025/3000042277/TA/0981			DATE 21.02.2025
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: 29.11.2024
2.1	CSP Receipt Date		23.12.2024
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.	PH536-05 (T2581-169874)	
d.	Working Pressure	21.5 Bar	
e.	Drawing No. with Rev. No.	PH536-05-02-25-01;REV 00	
f.	Size Of the Component (ID X OD)	7.94 mm X 14.29 mm	
g.	Class and Type	Class 1 and Type 2	
h.	Marking on Hose	POLYHOSE LOGO >>> PH536 - 5/16" >>> IS15722 CLASS-1 TYPE-2 DN08/SAE J30R6-05 >>> CNG/FUEL HOSE MAX WP 21.5 BAR <315PSI>	
i.	Cover Type	Smooth cover	
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 100°C. The aged sample shall condition for 5 hours at-34°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	
		Cover	Tube	423.4 %	247.6 %
		Remark: Satisfactory		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 %
		Remark: Satisfactory	Remark: Satisfactory	Remark: Satisfactory	Remark: Satisfactory

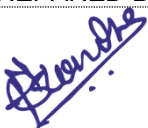
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Sr. No.	Test / Clause No.	Test Requirement	Test Result
6.	Fuel Resistance test (Cl. No. 5.7)	Change in tensile strength of the tube specimen shall not exceed -45% of the original	Percentage volume change observed is +40.7 % Remark: Satisfactory
		Change 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%	For Cover: 7.90 % Volume change observed Remark: Satisfactory
		% Volume change of the tube specimen shall be within -5 to +25%	For Tube: -3.28 % Volume change observed Remark: Satisfactory
8.	Extractable (Cl. No. 5.9)	7.75 gms/m ² max.	1.62 gms /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 = 3.55 N/mm Measured load for separation of Reinforcement and cover = 3.20 N/mm Remark: Satisfactory

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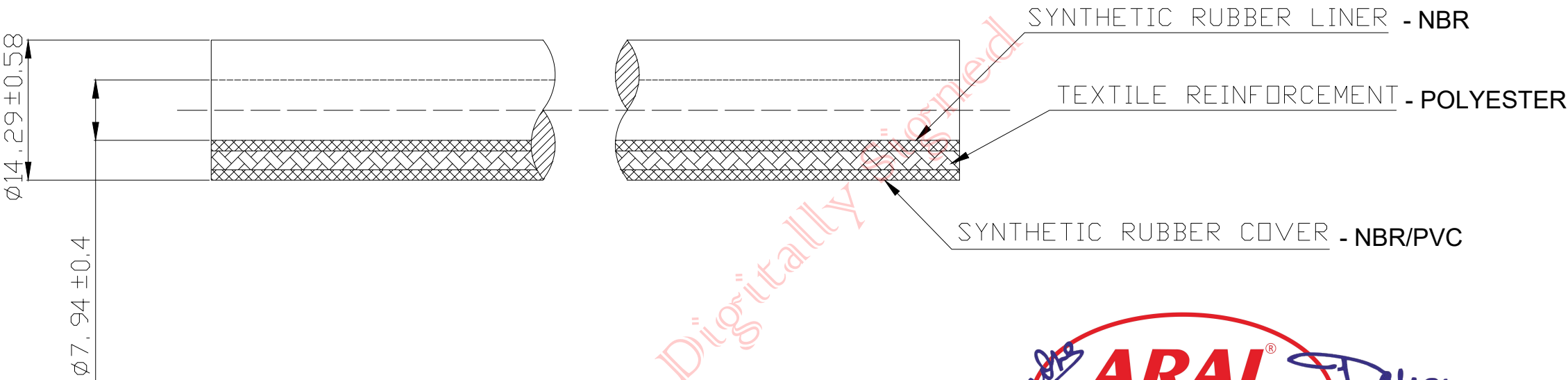
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Sr. No.	Test / Clause No.	Test Requirement	Test Result
11.	Kink Resistance test (Cl. No. 5.12)	A ball having a diameter equal to half the nominal inside diameter of the hose shall pass freely through the hose.	A ball having diameter half the nominal 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	276.93 gm / m ² per day Remark: Satisfactory
5.1	Test Duration	Start Date: - 03.01.2025	End Date: - 13.02.2025
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.		
Note: - All test results are extended from earlier approved test report number SHL/239/2021-2022/3000016058/TA /1848; Dated; -20.06.2021 due to the same material, except burst, vacuum, Cold Flexibility, adhesion, Kink Resistance, Permeation tests.			
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Place of Issue: Kothrud, PUNE			



End of Report

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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 - 5/16" >>> IS15722 CLASS-1 TYPE-2 DN08/SAEJ30R6-05>>>
CNG/FUEL HOSE MAX WP 21.5 BAR (315PSI)
(6) TEMPERATURE RANGE : -40°C TO +100°C.

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 08MM AS PER IS15722 TYPE 2 /SAEJ30 R6			
ALL DIMENSIONS ARE IN MM				THIRD ANGLE PROJECTION			DRAWN BY	Kalai	01.02.25	PART No.: PH536-05			
							CHKD. BY	Padman	01.02.25	DWG No.: PH536-05-02-25-01			
							APPD. BY	Sridar	01.02.25	SHEET 1 OF 1		REV. No.	00