



251 Airport Industrial Drive, Ypsilanti, MI 48198, USA  
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# TEST REPORT

**Send To: 0D470**

Mr. Chris Ras  
Perma-Liner Industries, LLC  
13000 Automobile Boulevard  
Suite 300  
Clearwater, FL 33762

**Facility: 0D471**

Perma-Liner Industries, LLC  
13000 Automobile Boulevard  
Suite 300  
Clearwater FL 33762  
United States

Result	PASS	Report Date	18-OCT-2023
Customer Name	Perma-Liner Industries, LLC		
Tested To	ASTM F1216-2022 - per NSF/ANSI 14		
Description	Perma-Lateral Lining System   Pipe Liner (Formulation 2)		
Trade Designation	Perma-Lateral Lining System		
Test Type	Annual Collection		
Job Number	A-00444359		
Project Number	W0805480		
Project Manager	Liza Nero		

**Thank you for having your product tested by NSF.**

Please contact your Project Manager if you have any questions or concerns pertaining to this report.

**Report Authorization**

*Brian Gruber*

**Date** 18-OCT-2023

Brian Gruber - Manager, Physical Test Lab



## Summary of Test Results

**DCC Number** PL03326  
**Family Code** 01  
**Lot Number** S24106 032522002-02 8:51 PM6-1068, AR22H0064, J000008746  
**Material Name** Perma-Lateral Lining System (Formulation 2)  
**Physical Description of Sample** Pipe Liner (Formulation 2)  
**Primary DCC Number** PL03326  
**Test Description** ANNUAL PERFORMANCE TESTING  
**Trade Designation/Model Number** Perma-Lateral Lining System

Test Description	Result
Flex Modulus Test	Pass
Flexural Strength Test	Pass
Gravity Pipe Leakage Test:	Pass



### P3084 - Gravity Pipe Leakage Test

Sample Description	Pipe Liner (Formulation 2)	
Test Location	NSF Willow Run	
Initial water column	2	feet
Final water column	2	feet
Allowable Leakage	30.13	mL
Actual Leakage	0	mL
Test Duration	60	minutes
Leakage rate	0	g/in/mile/
Actual leakage rate	0	g/in/mile/
Gravity Pipe Leakage Test:	Pass	

### P3122 - Flex Modulus

Specimens conditioned for	>40	hours
Specimens conditioned at	73	degrees F
Relative humidity	50	%
Test temperature Required	73	degrees F
Test temperature Actual	73	degrees F
Actual Average Modulus	327000	psi
Flex Modulus Test	Pass	
Test Location – NSF HQ, Ann Arbor	Ann Arbor	

Test Results	Flex Modulus (psi)
Required	250000
Specimen 1	300000
Specimen 2	331000
Specimen 3	345000
Specimen 4	320000
Specimen 5	340000



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### P3123 - Flexural Strength Test

Specimens conditioned for >40 hours  
Specimens conditioned at 73 degrees F  
Relative Humidity 50 percent  
Required Test Temperature 73 degrees F  
Actual Test Temperature 73 degrees F  
Average Flexural Strength 8900 psi  
Flexural Strength Test Pass  
Test Location – NSF HQ, Ann Arbor Ann Arbor

Test Results	Flexural Strength (psi)
Required	4500
Specimen 1	6770
Specimen 2	9210
Specimen 3	10110
Specimen 4	8840
Specimen 5	9590

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### P3172 - Specimen Fabrication

Test Location – NSF HQ, Ann Arbor NSF Ann Arbor  
Specimen Fabrication COMPLETE  
Time 2 hours

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#### Test Notes:

Samples were cut from pipe liner.



**Testing Laboratories:**

	<b>Flag</b>	<b>Id</b>	<b>Address</b>
All work performed at: (Unless otherwise specified)	----- ----->	NSF_WR	NSF Willow Run 251 Airport Industrial Drive Ypsilanti, MI 48198

**References to Testing Procedures:**

<b>NSF Reference</b>	<b>Parameter / Test Description</b>
P3084	Gravity Pipe Leakage Test
P3122	Flex Modulus
P3123	Flexural Strength Test
P3172	Specimen Fabrication

Test descriptions preceded by an asterisk "\*" indicate that testing has been performed per NSF requirements but is not within its scope of accreditation.

Unless otherwise indicated, method uncertainties are not applied in any determinations of conformity. Testing utilizes the requested sections of any referenced standards, which may not be the entire standard.

**Dates of Laboratory Activity: 17-OCT-2023 to 18-OCT-2023**