



## PRECISION TESTING LABORATORIES

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**Laboratory Report No. 57780**

30-Oct-24

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**Cc:** Ms. Corina Castellanos

**P.O.:** n/a

**Item:** Two (2) pair of footwear

**Identification:** Style: RHINO 1.0 / 66018  
Size: 40, 42 (equivalent to US 7,9 as stated by client)  
Gender: Men's

**Purpose:** Rubber Properties - Effect of Liquids, Chemical Resistance; ASTM D471  
Peel Strength, SATRA TM 411  
Rubber Property, Durometer Hardness, ASTM D2240  
Whole Shoe Flex; SATRA TM 92  
Measuring the Coefficient of Friction for Evaluation of Slip Performance; ASTM F2913-24

Test	Unit of Measure	Specimen Results					Average
<b><u>Rubber Property - Effect of Liquids, Chemical Resistance</u></b>							
<b><u>ASTM D471</u></b>							
<b><u>46 hrs. @ Room Temperature</u></b>							
<b><u>Fuel B</u></b>							
		<u>1</u>	<u>2</u>	<u>3</u>			
	% mass	6.74	7.12	4.96			6.27
	% volume	-2.32	-2.22	0.03			-1.50
<b><u>Rubber Property, Durometer Hardness</u></b>							
<b><u>ASTM D2240</u></b>							
<b><u>Shore Instrument Durometer Type A</u></b>							
<b><u>As Received - Room Temperature (23° C)</u></b>							
	Hardness	63	61	62	62	60	62
A Shore Instrument Durometer Type "A", serial # 88533, utilizing a Shore Type 1 operating stand with a constant contact pressure of 865 grams was used for the test sequence. All readings are taken at a 1 second timed interval after specimen contact in a controlled atmosphere of 72° F and 50% RH. Meter calibrations are conducted prior to test.							
<b><u>SATRA Whole Shoe Flex Method TM 92</u></b>							
35,000 flexes							
	35,000 flexes	No damage. Normal creasing.					

Test	Unit of Measure	Specimen Results					Average
<b>Peel Strength of Footwear Sole Bonds.</b>							
<b>SATRA TM 411</b>							
<b>Method 1</b>							
	kg/cm	Outsole to Midsole		Midsole to Upper			
	Failure Type	15.0 Outsole		7.1 Bond			
<b>Coefficient of Friction for Evaluation of Slip Performance</b>							
<b>ASTM F2913-24</b>							
Temperature: 72°F (50% RH)							
Vertical Force: 500 (± 25) N							
<b>SATRA Quarry</b>							
<b>Coefficient of Friction - Backward Forepart Slip</b>							
<u>Dry</u>	Left	0.64	0.65	0.68	0.67	0.67	0.66
	Right	0.73	0.72	0.74	0.73	0.75	0.73
<u>Wet</u>	Left	0.47	0.46	0.46	0.46	0.47	0.46
	Right	0.50	0.48	0.49	0.49	0.51	0.49
<u>Oily/Wet</u>	Left	0.35	0.34	0.37	0.37	0.37	0.36
	Right	0.38	0.38	0.38	0.38	0.37	0.38
<b>Coefficient of Friction - Forward Heel Slip</b>							
<u>Dry</u>	Left	0.88	0.90	0.90	0.90	0.90	0.90
	Right	0.78	0.81	0.81	0.81	0.80	0.80
<u>Wet</u>	Left	0.50	0.50	0.50	0.49	0.49	0.50
	Right	0.51	0.51	0.51	0.51	0.51	0.51
<u>Oily/Wet</u>	Left	0.36	0.36	0.37	0.38	0.37	0.37
	Right	0.35	0.35	0.35	0.35	0.34	0.35

**ASTM F2913 Reagent Application**

Dry= Dry.

Wet= Section 10.4.2 - Distilled or deionized water shall be applied to the flooring to thoroughly wet the surface

Oily/Wet - Section 10.4.5 - 0.2 ± 0.02 g (approximately 8 drops) of corn oil applied by smearing over a 150 mm by 150 mm area of the flooring and thoroughly wetting the oily surface with distilled or deionized water

The decision rule employed is simple acceptance as listed in Figure 3 of ILAC G8. This report is limited to and related only to the particular instrument, material or other subject to which it refers. These test results can not be compared to results obtained using different methods or under different conditions. No representation is made that similar articles will be of like quality. Neither Precision Testing Laboratories, Inc (hereinafter "Precision Testing") nor their officers, directors, managers or employees, shall be responsible for any loss or damage resulting directly or indirectly from any failure, error or omission in testing, or in the reporting of test results. Precision Testing has no controls, and assumes no responsibility for the tested product's functionality or use. Precision Testing's liability shall not exceed the fees paid for the testing reflected on this report. Precision Testing observes and maintains client confidentiality, and limits reproduction of this report, except in full, without prior approval of Precision Testing. Not all testing listed above is included in our A2LA Scope of Accreditation. Please consult A2LA certificate #7327.01 for a list of accredited tests.

Signed:   
Eric Olson, President

