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**ASTM C 1166 Flame Propagation
of "EPDM 35 FST"**

A Report To: **Caoutchouc Pro-flex Inc.**
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Report No. 19-002-581(A)
3 Pages + Appendix

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ACCREDITATION To ISO/IEC 17025 for a defined Scope of Testing by the International Accreditation Service

SPECIFICATIONS OF ORDER

Determine surface flammability in accordance with ASTM C 1166, as per Pro-flex Inc. reference Purchase Order No. AC-006204 and Element Quotation No. 18-002-580,964 accepted August 6, 2019.

SAMPLE IDENTIFICATION Element sample identification number: 19-002-S0505

Rubber compound, identified as:
"EPDM 35 FST"

SUMMARY OF TEST PROCEDURE

Six specimens, each ½ inch x 1 inch x 18 inches (13 mm x 25 mm x 457 mm) in requisite size, are conditioned to equilibrium for a minimum period of 24 hours at a temperature of 23 ± 3°C and a relative humidity of 50 ± 5%.

A specified flame is applied for 15 minutes or, in the case of a cellular product, for 5 minutes, to the lower edge of a test specimen, suspended vertically. The burner is moved to maintain specimen contact if heat deformation of the specimen occurs. The length of the specimen before and after the exposure is measured, and the melting/burning behavior is reported. The average flame propagation is also calculated and reported.

Note: Every flame, no matter how hot, has a kindling height above which its temperature is too low to kindle the specimen. For the specified flame, this height is considerably less than 460 mm (18 inches). Therefore, if a specimen burns above this kindling height, it does so on its own heat of combustion and is considered to propagate flame.

REQUIREMENTS

The Federal Railroad Administration (FRA) and NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems establish performance criteria for vehicle components (materials and assemblies). The material is deemed unacceptable if the average flame propagation extends beyond a distance of 4 inches (100 mm) and/or flaming running or dripping is observed.

SUMMARY OF RESULTS

Sample:	"EPDM 35 FST"
No. of Specimens Tested:	6
Average Flame Propagation (inches):	2.1
Melting or Dripping?:	No
Overall Result:	Pass

TEST RESULTS

ASTM C 1166-06 (2016)

Standard Test Method for Flame Propagation of Dense
and Cellular Elastomeric Gaskets and Accessories

Specimen	Original Length of Specimen		Remaining Unburned Length		Melting or Dripping? (Yes/No)	Result
	mm	in	mm	in		
R1:	450	17.7	400	15.7	No	Pass
R2:	450	17.7	390	15.4	No	Pass
R3:	450	17.7	400	15.7	No	Pass
R4:	450	17.7	400	15.7	No	Pass
R5:	450	17.7	395	15.6	No	Pass
R6:	450	17.7	390	15.4	No	Pass
Average Flame Propagation:			54	2.1	-	-
Specified Maximum:			-	4.0	No	Pass

Notes & Observations

Measured specimen dimensions: 13 mm x 25 mm x 450 mm
 Charring was observed at the point of pilot flame impingement
 No melting or dripping was observed
 15-minute flame exposure time

CONCLUSIONS

The rubber compound identified in this report meets The Federal Railroad Administration requirements as they pertain to flame propagation (ASTM C 1166).

Note: This is an uncontrolled electronic copy of the report. Signatures are on file with the original.

Robert A. Carleton,
 Technologist

Ian Smith,
 Technical Manager.

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