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Testing Cert #
326.01 & 326.02

CERTIFIED TEST REPORT

APM Report P210452

Prepared for:

Roboworld Molded Products, LLC
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USA

P.O. JBT07272021

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August 4, 2021

- Quality System:** APM Testing maintains a quality system in compliance with ISO 17025-2017.
- Procedures:** All tests and services are done in accordance with the APM Quality Manual, revised October 2018. Pratt & Whitney related work is also done in accordance with the PWA Manual F-23.
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SUMMARY

The FTIR, and EDS analyses from the TPV Rubber were consistent with an olefinic thermoplastic elastomer. A trace of silicon (an inorganic element) was present but no silicone (an organic molecule) was detected by FTIR analysis.

RECEIVED

One (1) sample for basic material identification testing:
TPV Rubber

FTIR ANALYSIS TEST RESULTS

Test Method:	ASTM E1252-98 (Reapproved 2013)
Instrument:	Fourier Transform Infrared (FTIR) Spectrometer
Technique:	Attenuated Total Reflectance (ATR)
Preparation:	As sent by client
ATR Crystal:	Germanium

Sample	Best Spectral Match (figure 1)
TPV Rubber	Olefinic Thermoplastic Elastomer
Requirement	N/A

EDS ANALYSIS TEST RESULTS

Test Method:	ASTM E1508-12a (Reapproved 2019) Energy Dispersive Spectroscopy (EDS)
Test Conditions:	15 kV Accelerating Voltage
Preparation:	Cut from center of sample sent by client
Element Range:	Atomic weights less than that of carbon not detected

Sample	Best Elemental Match (figure 2)
TPV Rubber	
Major	Carbon
Minor	Oxygen, Calcium
Possible Trace	Silicon
Requirement	N/A

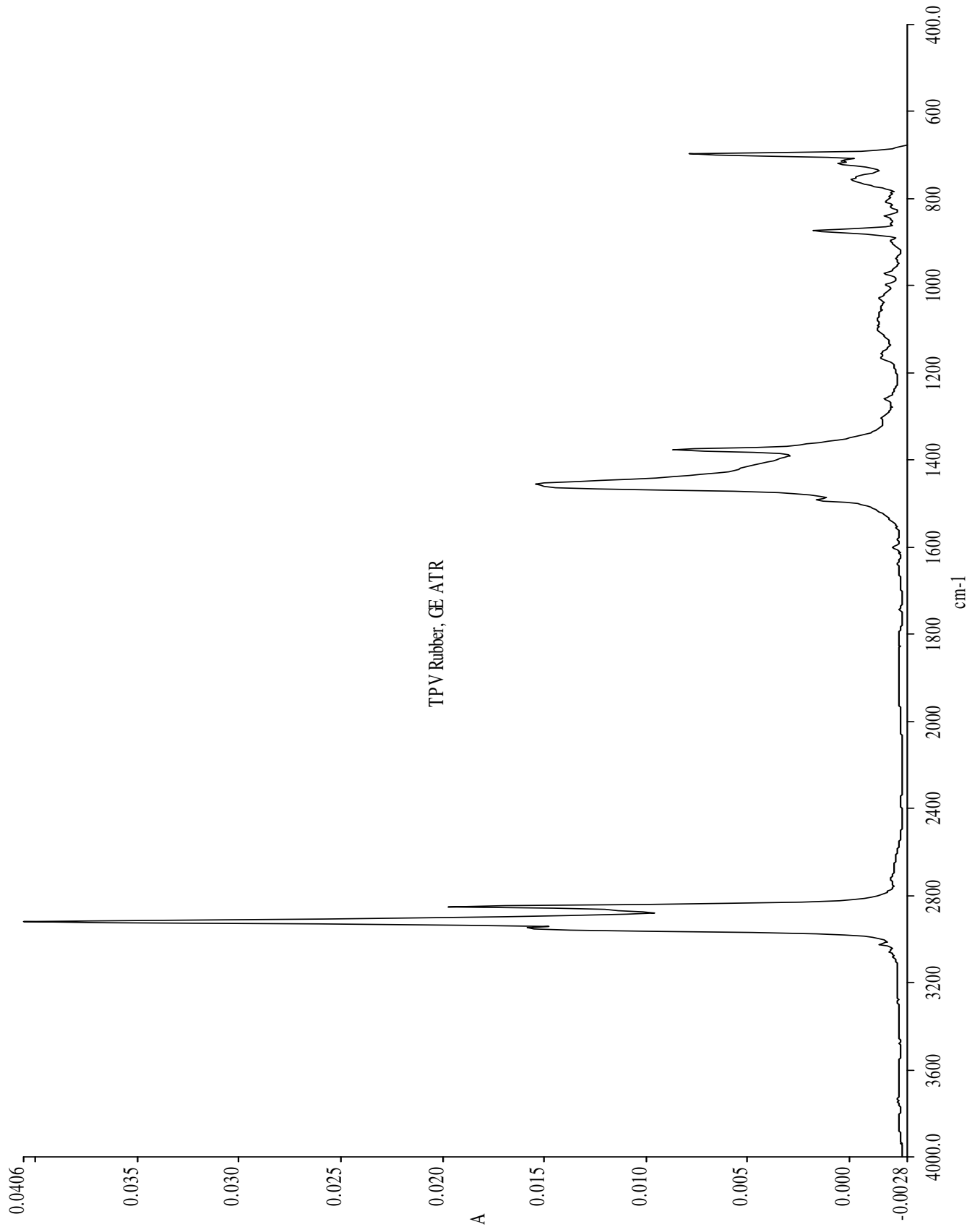


FIGURE 1 – FTIR SPECTRUM OF TPV RUBBER

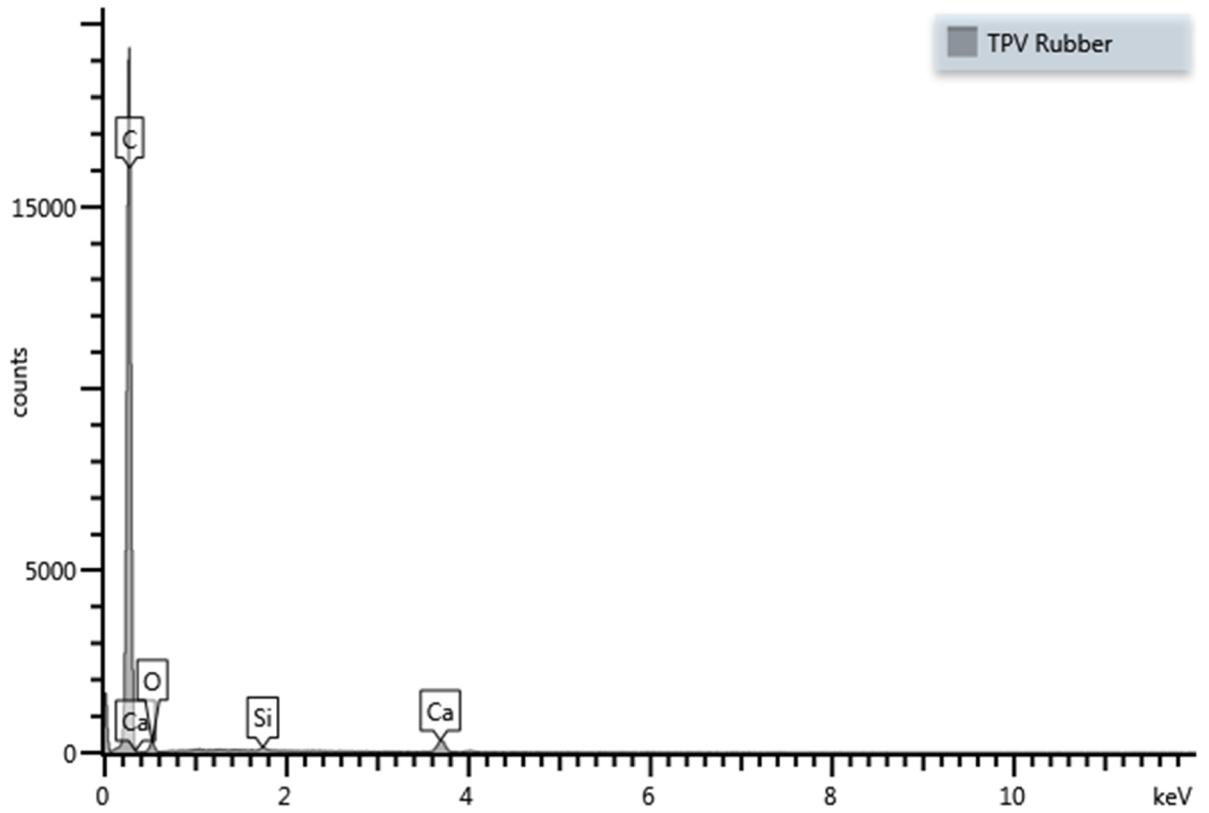


FIGURE 2 – EDS SPECTRUM OF TPV RUBBER