



**TESTING OF RUBBER CRUMB (SBR) FOR ELVAN S.A.**

CLIENT	Elvan S.A.	
CLIENT ADDRESS	20km. Lavriou Avenue GR – 19002 Peania Athens Greece	
CLIENT CONTACT	Dimitra Amiridou (OctoCert Services Ltd)	
REPORT NUMBER	LSUK.17-0923	
REPORTED BY		David Rigby Laboratory Manager
APPROVED BY		Dr Colin Young Managing Director
SUMMARY OF REPORT	<p>OctoCert Services Ltd on behalf of Elvan S.A. have requested a sample of granulated SBR be tested for the following:</p> <p><b>Toxicology analysis after leaching</b></p> <p><b>Toxicology analysis EOX</b></p> <p><b>Thermogravimetric analysis (TGA)</b></p> <p>The results of the material are presented and assessed against the current requirements.</p>	

<p>SCOPE OF TESTING</p>	<p>Labosport has been commissioned by OctoCert Services Ltd on behalf of Elvan S.A. to carry out analysis on a sample of rubber granules.</p> <p><b><i>Toxicology analysis after leaching to NF P90-112 and DIN 18035-7</i></b></p> <p><b><i>Toxicology analysis EOX to DIN 18035-7</i></b></p> <p><b><i>Thermogravimetric analysis (TGA) to ISO 11358-1</i></b></p>
<p>TEST PROCEDURE/STANDARDS</p>	<p>The following test methodology was undertaken:</p> <p>Toxicology analysis after leaching to ISO 17294-1, NF T 90-043, ISO 17852 and EN 1484.</p> <p>Toxicology analysis EOX to DIN 38414-17.</p> <p>Thermogravimetric analysis (TGA) to ISO 11358-1.</p>
<p>PRODUCT DETAILS / DESCRIPTION</p>	<p>A 4kg sample of SBR granulate supplied by Elvan S.A.</p> <p>The sample is a typical crumb rubber material used in the sport and play sector.</p> <p>The sample was conditioned and prepared for testing as per the requirements.</p>

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**TEST RESULTS – TOXICOLOGY AND TGA**

Element	Units	Test Method	Results - Sample	Requirement	Pass/ Fail
Leaching without CO2	-	NF P90-112	-	-	-
Lead	mg/L	ISO 17294-1	<0.001	<0.025	Pass
Cadmium	mg/L	ISO 17294-1	<0.001	<0.005	Pass
Chromium	mg/L	ISO 17294-1	0.001	<0.05	Pass
Tin	mg/L	ISO 17294-1	<0.001	<0.040	Pass
Zinc	mg/L	ISO 17294-1	0.097	<0.5	Pass
Chromium VI	mg/L	NF T 90-043	<0.008	<0.008	Pass
Mercury	µg/L	ISO 17852	<0.1	<1	Pass
DOC	mg/L	EN 1484	8.1	<50	Pass
EOX	mg/kg MS	DIN 38414-17	21.4	<100	Pass
TGA	-	ISO 11358-1	-	-	-
Organic	%	-	63.5	-	-
Inorganic	%	-	36.5	-	-
Elastomer	%	-	60.5	-	-

DISCUSSION OF RESULTS

**Toxicology analysis after leaching and EOX**

The material tested was compliant with NF P90-112 and DIN 18035-7.

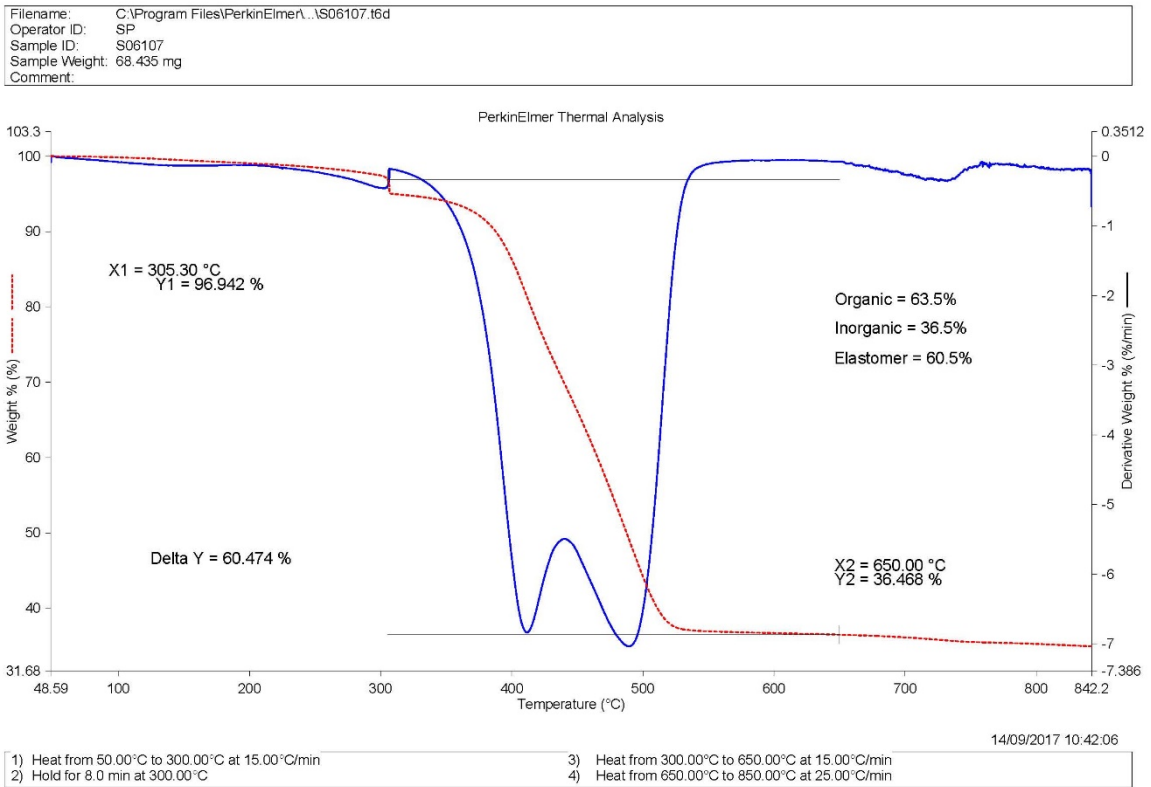
CONCLUSIONS

The testing identified the sample was within the requirements of NF P90-112 and DIN 18035-7.

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APPENDIX A

THERMOGRAVIMETRIC ANALYSIS GRAPH



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