

PREMIUM GRANULATED RUBBER
PRODUCT DATA SHEET

I CLIENT

Murfitts Industries Ltd
Station Road
Lakenheath
Suffolk IP27 9AD
England

2 SAMPLE DETAILS

Five grades of granulated SBR were supplied for test (specified grading of 0.5mm to 2.0mm; 0.8mm to 2.5mm; 1.0mm to 3.0mm; 1.0mm to 4.0mm; and 2.0mm to 6.0mm). For each sample three 25kg bags were supplied; the bags representing the initial, middle and end of typical production cycles for each grade of material.

3 TEST PROGRAMME

The samples were tested for the following properties.



Property	Test Method
Particle size grading	EN 933 – Part 1
Particle shape	EN 14955
Bulk density	EN 13041

In addition this report includes results for Resistance to Artificial Weathering (EN 14836), Toxicology (DIN 18035–7 and NF P90–112) and Thermo-gravimetric Analysis obtained previously on samples of granulated SBR supplied by Murfitts Industries Ltd (as detailed in Labosport report LSUK. 10–0154).

4 RESULTS

The results for each grading are detailed in Appendix A.

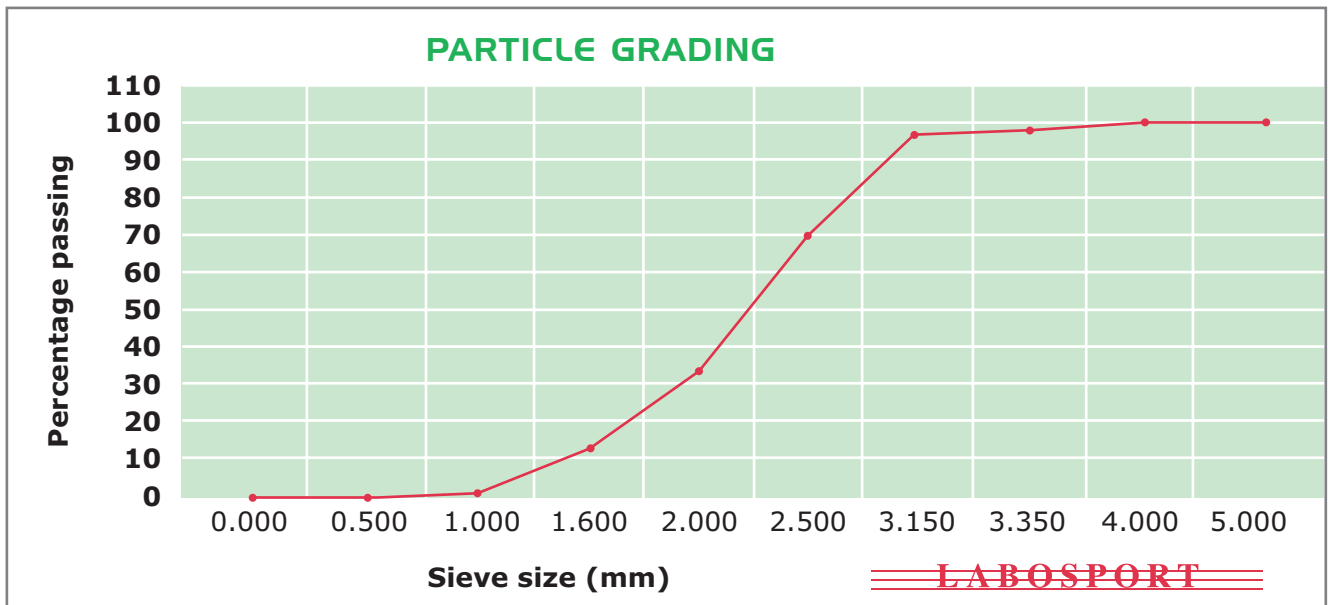
5 REPORT DETAILS

Report prepared by	
Name and position	Dr Colin Young – Operations Manager
Report approved by	
Name and position	Alastair Cox – Director

1.0mm - 3.0mm GRANULATED SBR

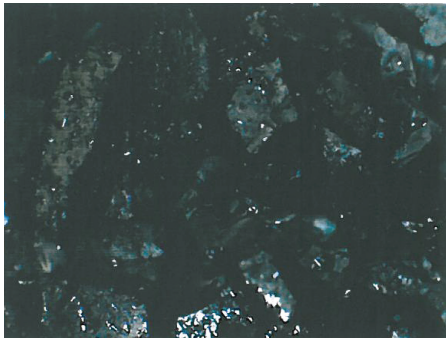
Particle grading

Sample	Sieve size (mm)									
	0.000	0.500	1.000	1.600	2.000	2.500	3.150	3.350	4.000	5.000
	% passing									
1	0	0	1	12	31	67	97	99	100	100
2	0	0	1	15	35	70	98	99	100	100
3	0	0	1	14	34	70	97	99	100	100
mean	0	0	1	13	33	69	97	99	100	100



PARTICLE SHAPE & BULK DENSITY

	Particle shape		Bulk density (g/cm ³)
	Description	Classification	
Sample 1	Irregular	A3	0.47
Sample 2	Irregular	A3	0.47
Sample 3	Irregular	A3	0.47
mean	Irregular	A3	0.47



THERMO-GRAVIMETRIC ANALYSIS

Property	Result		
	Sample 1	Sample 2	Mean
% organic	66%	67%	66%
% inorganic	34%	33%	34%

RESISTANCE TO ARTIFICIAL WEATHERING

Property	Result		Requirement
	Sample 1	Sample 2	
Colour change after artificial weathering	4/5	4/5	≥ Grey scale 3
Change in composition	No change	No change	No change

TOXICOLOGY TESTS

Component		Test method	Result	NF P 90-112 requirement
Lead	Pb	EN ISO 11 885	< 0,010 mg/l	≤ 0,040 mg/l
Cadmium	Cd	EN ISO 11 885	< 0,002 mg/l	≤ 0,005 mg/l
Chromium (total)	Cr	EN ISO 11 885	< 0,010 mg/l	≤ 0,050 mg/l
Chromium (hexavalent)	Cr	NF T90-043	< 0,005 mg/l	≤ 0,008 mg/l
Mercury	Hg	EN 13506	< 0,0005 mg/l	≤ 0,0010 mg/l
Tin	Sn	EN ISO 11 885	< 0,050 mg/l	≤ 0,050 mg/l
Dissolved Organic Carbon		EN 1484	14.02 mg/l	≤ 40 mg/l
Zinc ⁽¹⁾ with CO ₂		EN ISO 11 885	3.01 mg/l	≤ 20 mg/l ⁽⁴⁾
Zinc Zn ⁽²⁾ without CO ₂		EN ISO 11 885	2.69 mg/l	≤ 0,50 mg/l ⁽⁴⁾
EOX ⁽³⁾		DIN 38414-17	100 mg/kg	100 mg/kg

- 1 For Pb, Cd, Cr, CrVI, Hg, Sn and Zn⁽¹⁾ leaching tests were made with non-ionic water and with CO₂ aeration and the second eluate (between 24hr and 48hr) was analysed.
- 2 For Zn⁽²⁾ and Dissolved Organic Carbon leaching tests were made with non-ionic water and the second eluate (between 24hr and 48hr) is analysed.
- 3 EOX was determined on dry granules.