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LAMPIRAN

Peninjauan lokasi material alam (penentuan Quari)

Proses pemilihan dan verivikasi material alam (agregat) berdasarkan kebutuan/proses penyaringan

Proses Marshall 1

Marshall (persiapan) indentifikasi agregat

Proses mixing/pencampuran

Proses pembentukan briket melalui media cetak

Proses pencetakan (tanda panah warna biru)

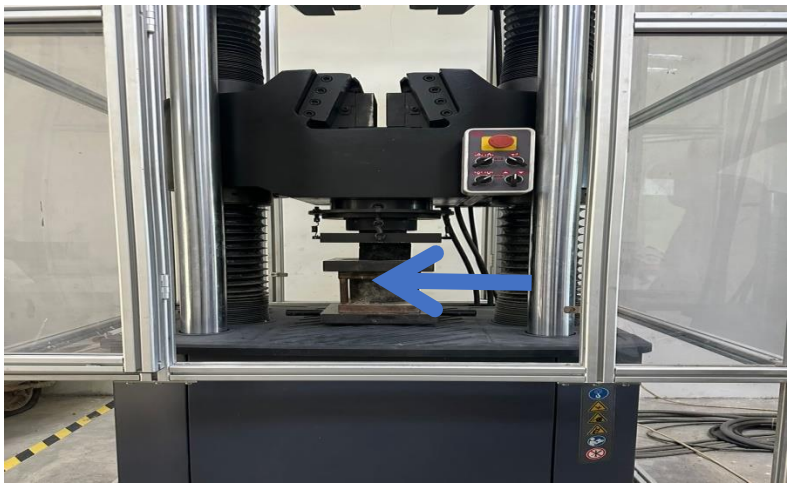
Proses pemadatan menggunakan Hammer (mesin penumbuk)

Proses pemisahan benda uji dan alat cetak

Material/benda uji siap untuk dilakukan pengujian Marshall

Benda uji setelah dilakukan uji Marshall

Spesimen benda uji sebelum dilakukan pengujian Tekan

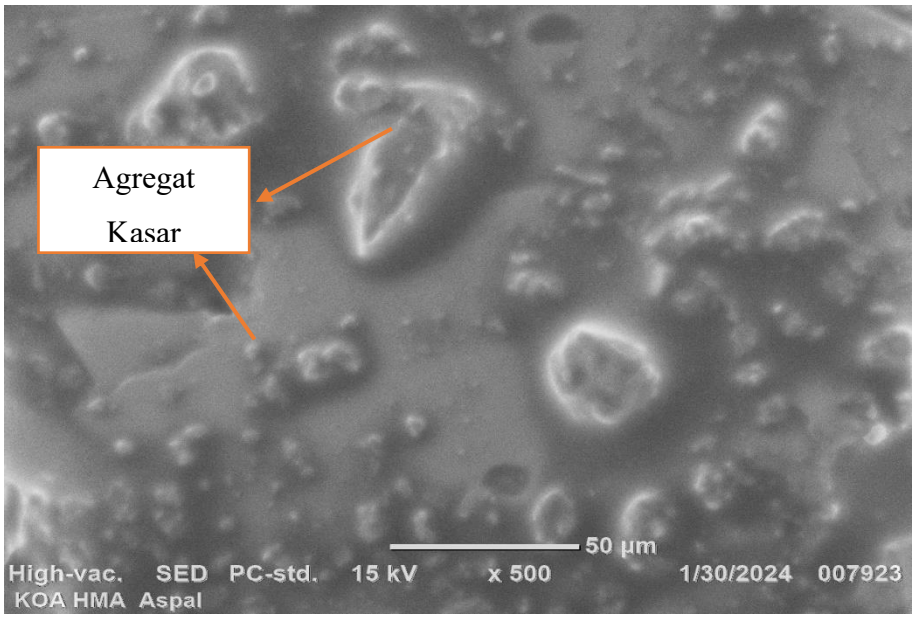


Alat Uji Tekan (*Compressive Test*) di Labioratorium Teknik Sipil UNG
Spesimen benda uji / material uji (tanda panah biru)

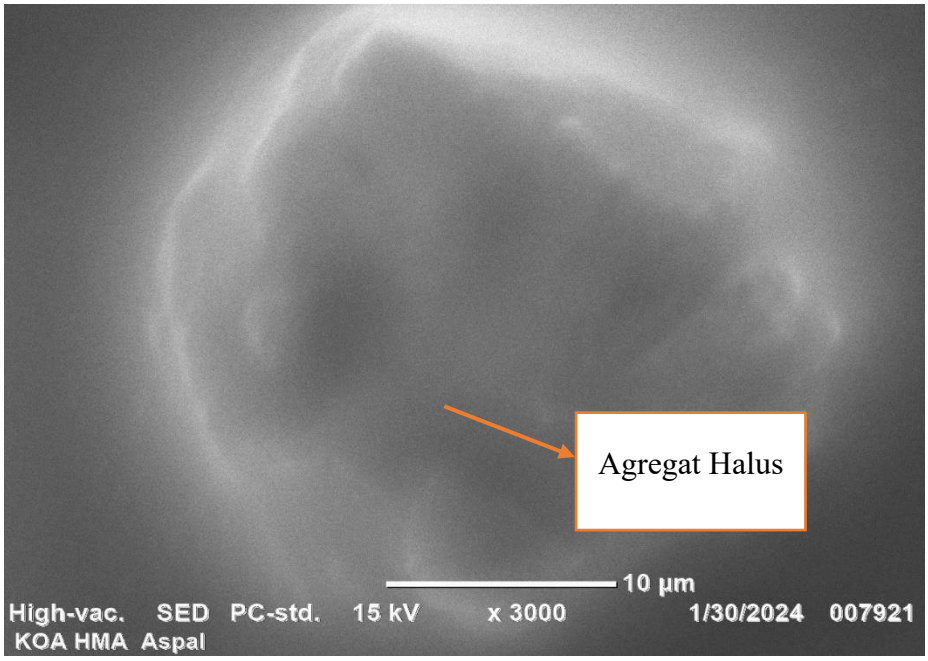
Spesismen benda uji setelah dilakukan pengujian Tekan

Alat Uji Tekan (*Compressive Test*) di Labioratorium Teknik Mesin UNHAS

Foto Hasil Uji SEM Kadar Aspal Optimum (HMA Murni Tanpa Campuran)



Perbesaran 500 x dengan ukuran 50µm



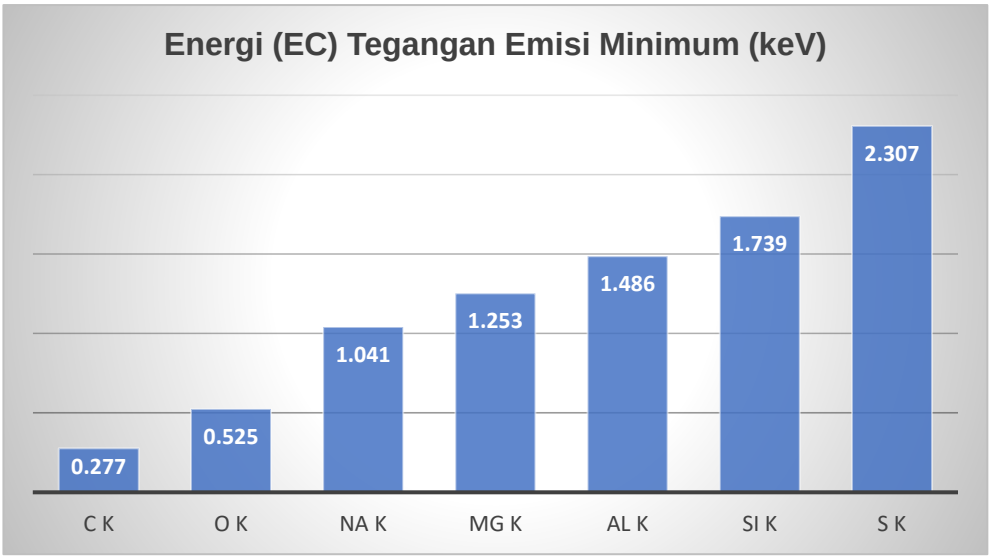
Perbesaran 3000 x dengan ukuran 10µm

Hasil Uji Energy Dispersive X-Ray (EDS) Kadar Aspal Optimum (HMA Murni Tanpa Campuran)

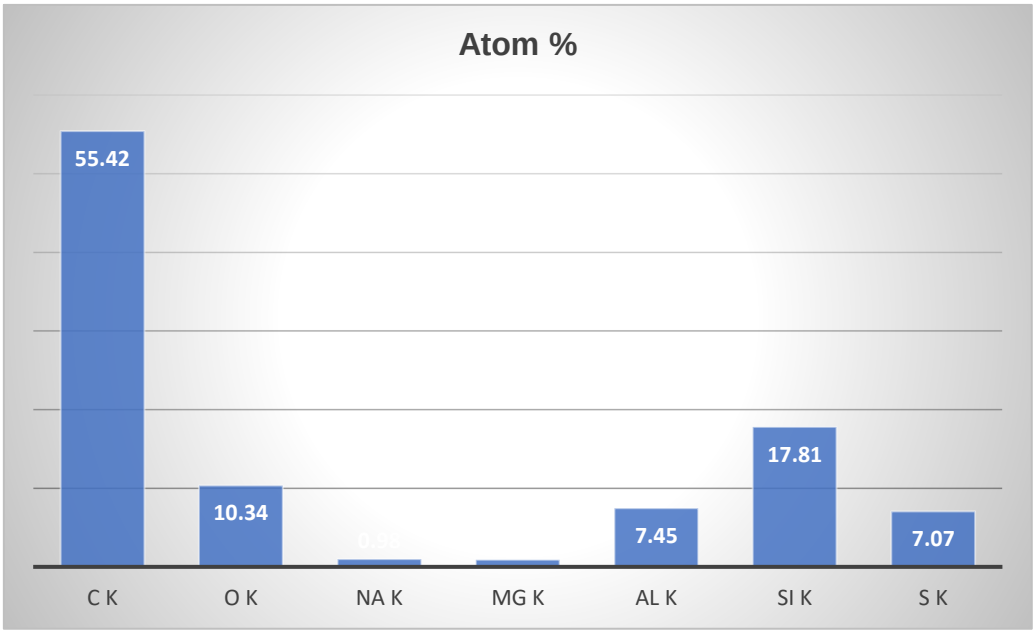
Tabel Sampel KOA (HMA Murni tanpa Campuran)

No	Element	Ek Elektron-foto (Kev)	Massa %	Atom %
1	O K	0,525	81,18	90,71
2	Mg K	1	3,53	2,25
3	Al K	2,307	1,38	0,77
4	Si K	2,621	1,07	0,54
5	P K	3,312	0,61	0,28
6	Cl K	3,69	12,23	5,45
7	Ca K		ND	ND
8	Fe K		ND	ND
	TOTAL	**13,755**	**100**	**100**

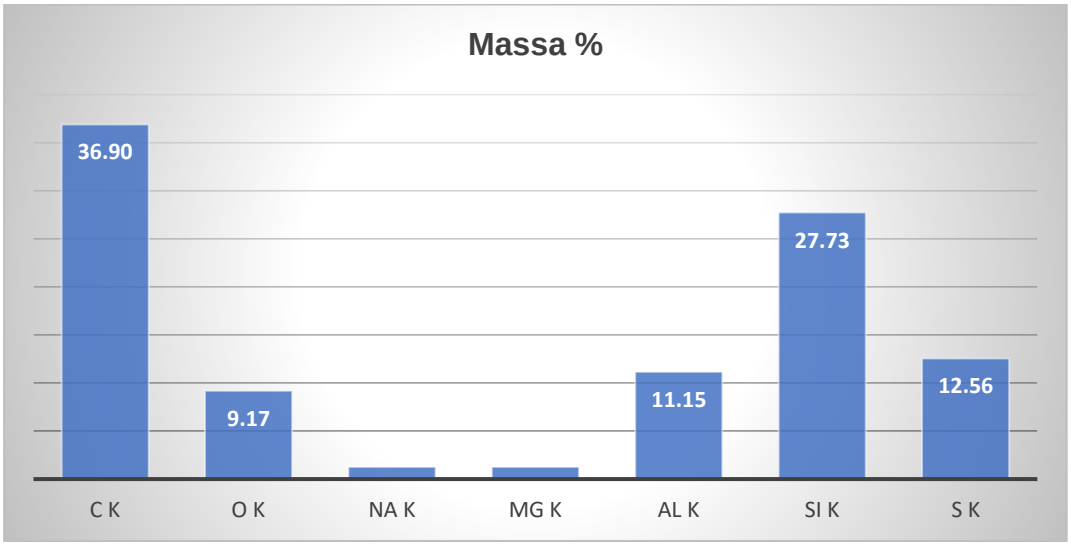
Ket : K = Huruf Kulit elektron (memiliki nilai kuantum n=1)



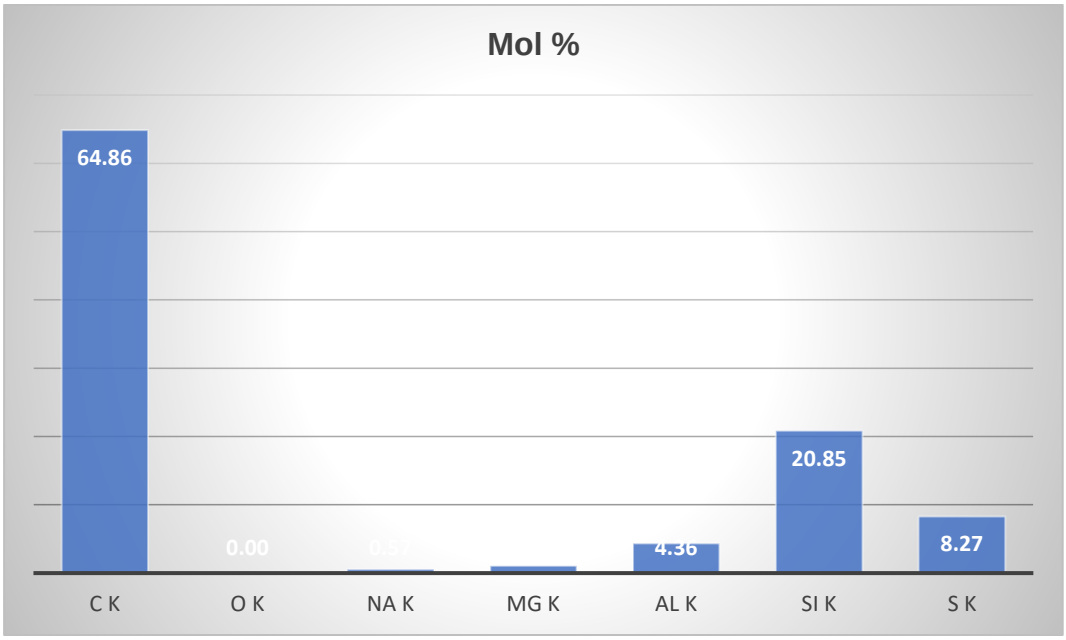
Grafik Energi (EC) Tegangan Emisi Minimum (keV)



Grafik Persen Atom (%)



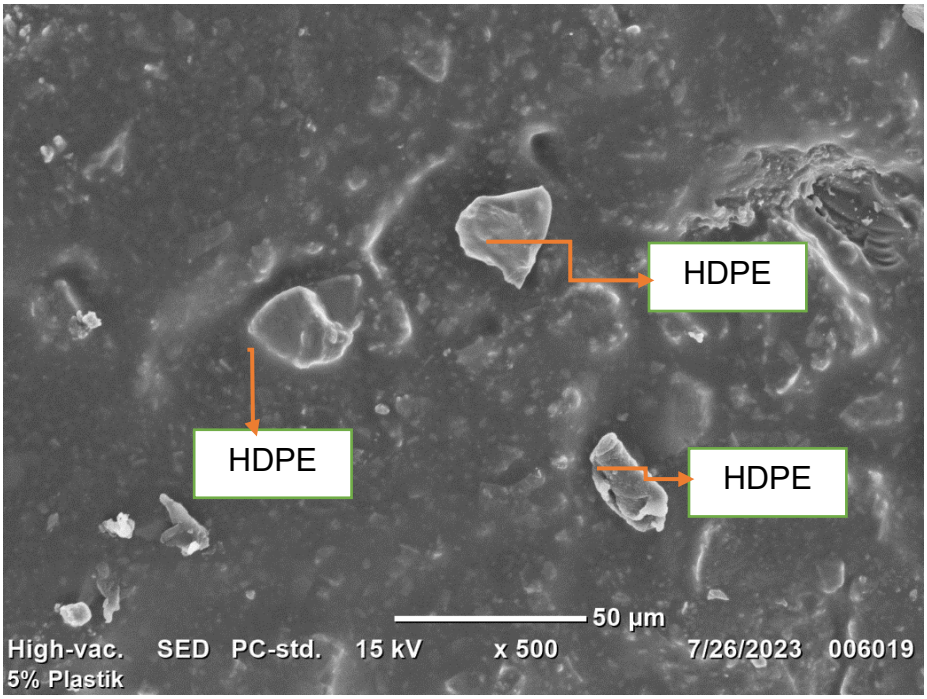
Grafik Persen Massa (%)



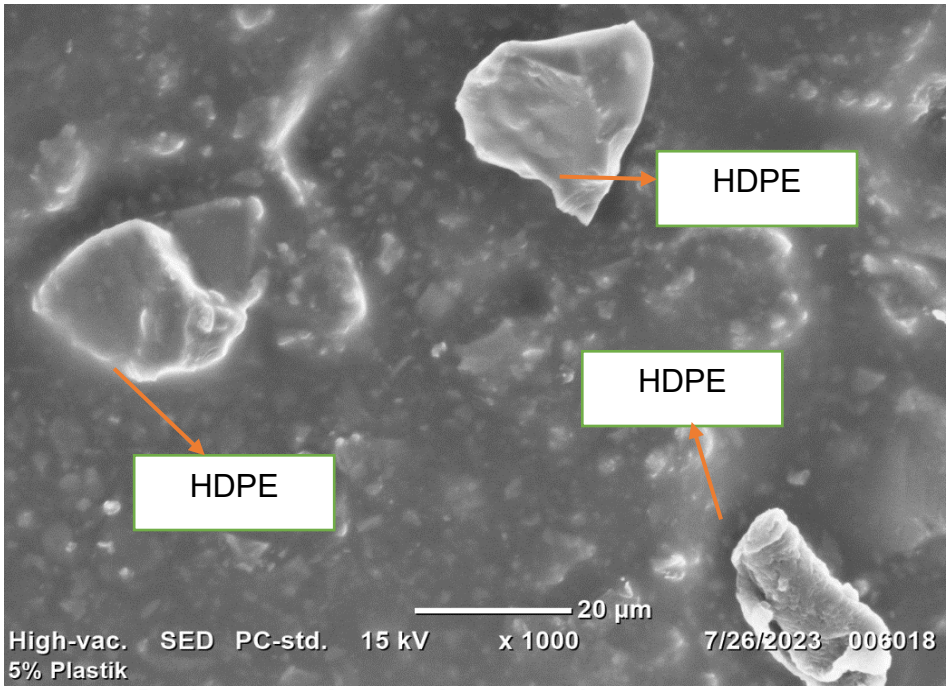
Grafik Persen Mol (%)

Foto Hasil Uji SEM Polymer HDPE Persentase Campuran 5%

Temperatur 200^{0}C



Perbesaran 500 x dengan ukuran 50µm



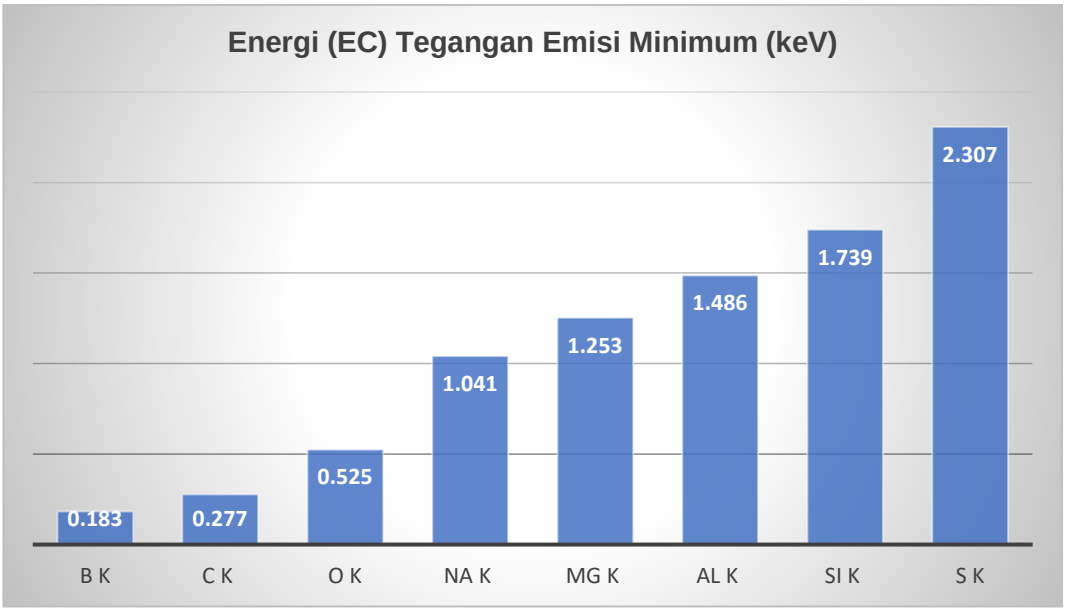
Perbesaran 1000 x dengan ukuran 20µm

Hasil Uji Energy Dispersive X-Ray (EDS) Polymer HDPE Persentase Campuran 5% Tempetarur 200^{0}C

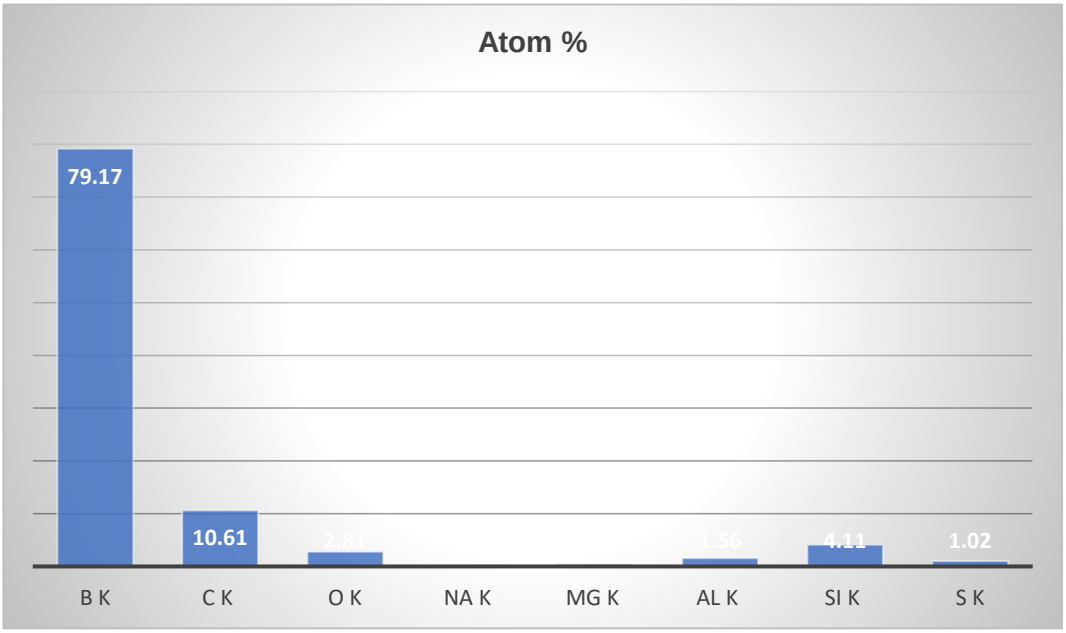
Tabel Sampel 5% Plastik Temperatur 200^{0}C

No	Element	Ec Tegangan Emisi Minimum (keV)	Massa %	Atom %	Mol %
1	B K	0,183	69,27	79,17	69,85
2	C K	0,277	10,32	10,61	18,73
3	O K	0,525	3,64	2,81	-
4	Na K	1,041	0,55	0,30	0,26
5	Mg K	1,253	0,81	0,41	0,73
6	Al K	1,486	3,41	1,56	1,38
7	Si K	1,739	9,35	4,11	7,25
8	S K	2,307	2,66	1,02	1,81
	TOTAL	**8,811**	**100**	**100**	**100**

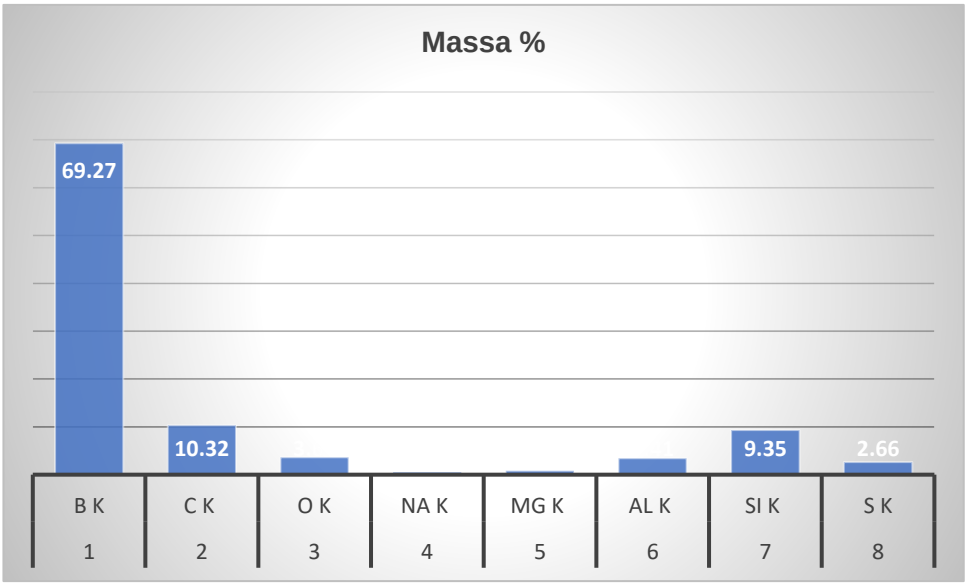
Ket : K = Huruf Kulit elektron (memiliki nilai kuantum n=1)



Grafik Energi (EC) Tegangan Emisi Minimum (keV)



Grafik Persen Atom (%)



Grafik Persen Massa (%)

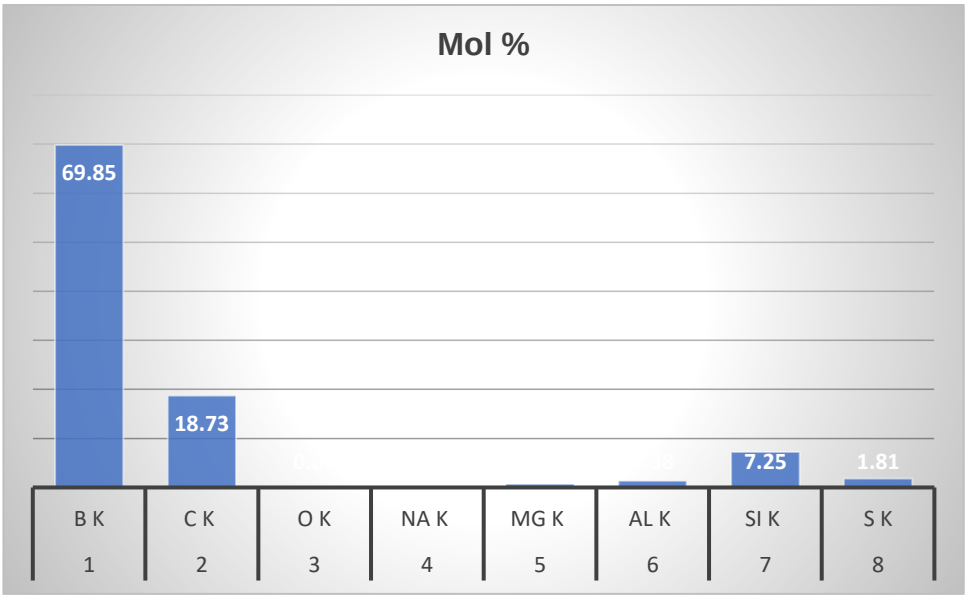
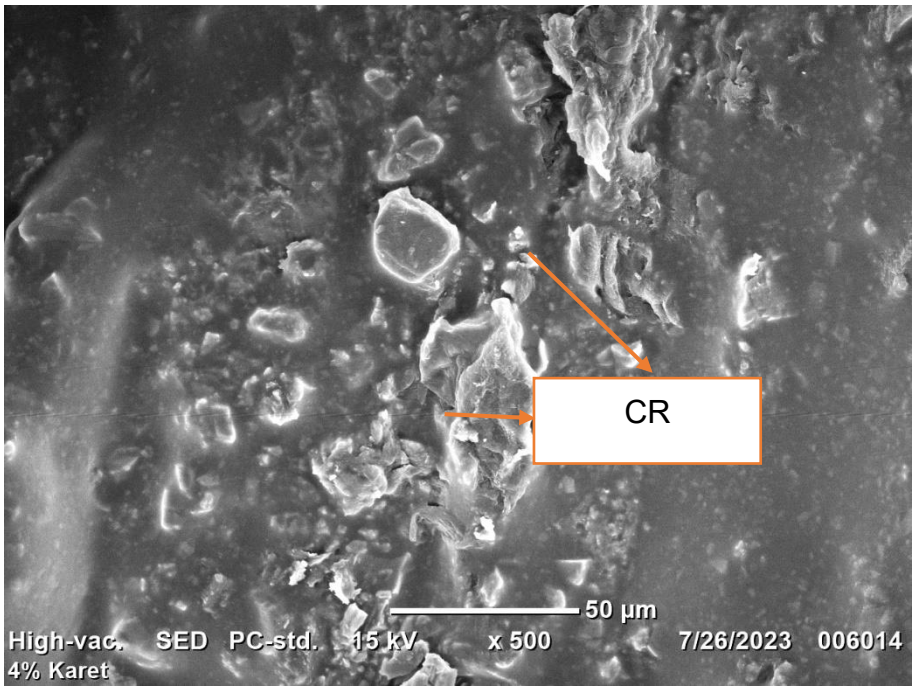
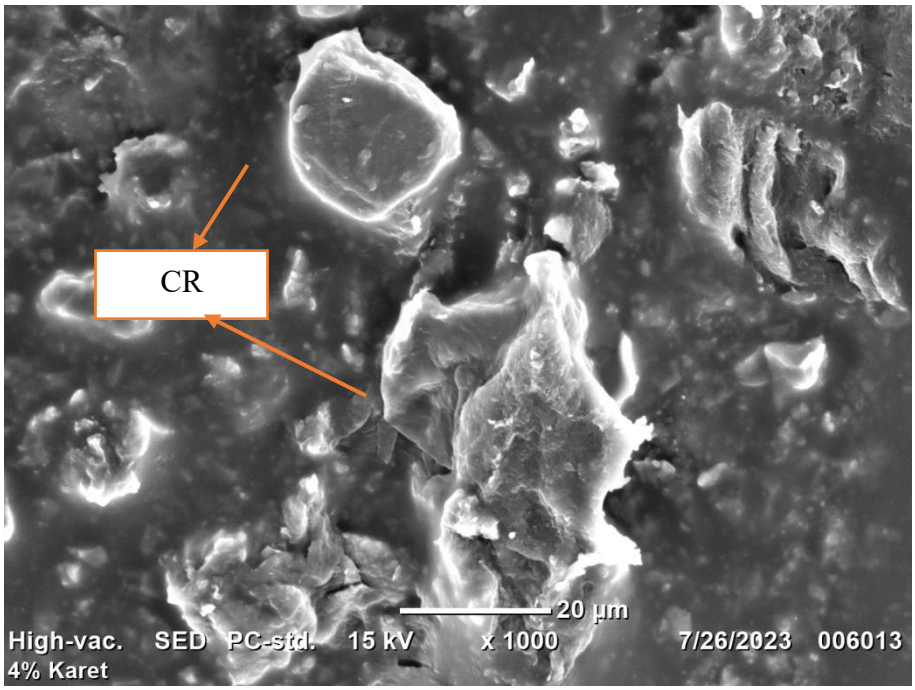


Foto Hasil Uji SEM Limbah Karet/ Crumb Rubber (CR) Persentase Campuran 4% Tempetarur 200^{0}C



Perbesaran 500 x dengan ukuran 50µm

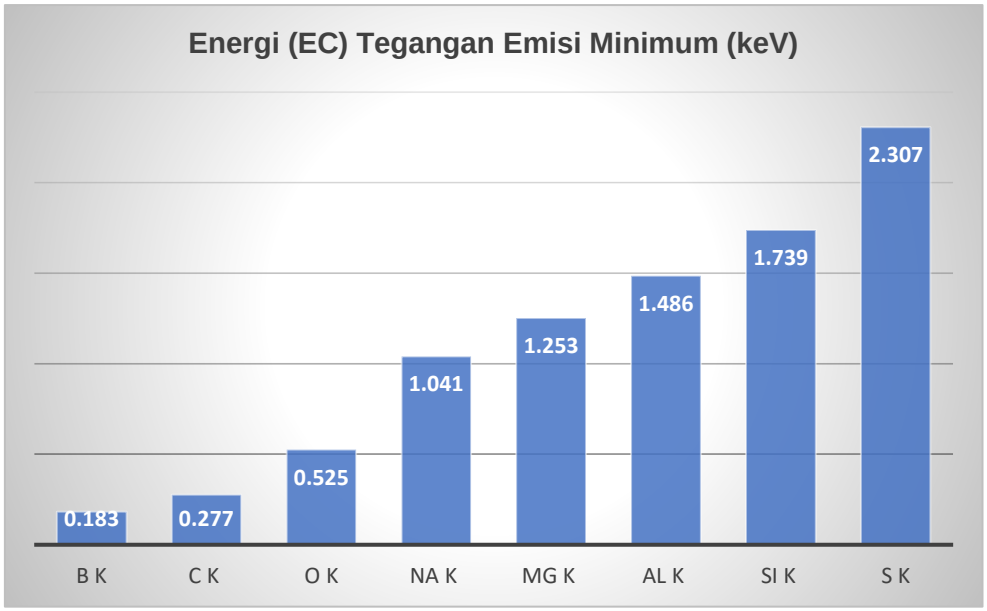


Hasil Uji Energy Dispersive X-Ray (EDS) Limbah Karet Persentase Campuran 4% Temperatur 200^{0}C

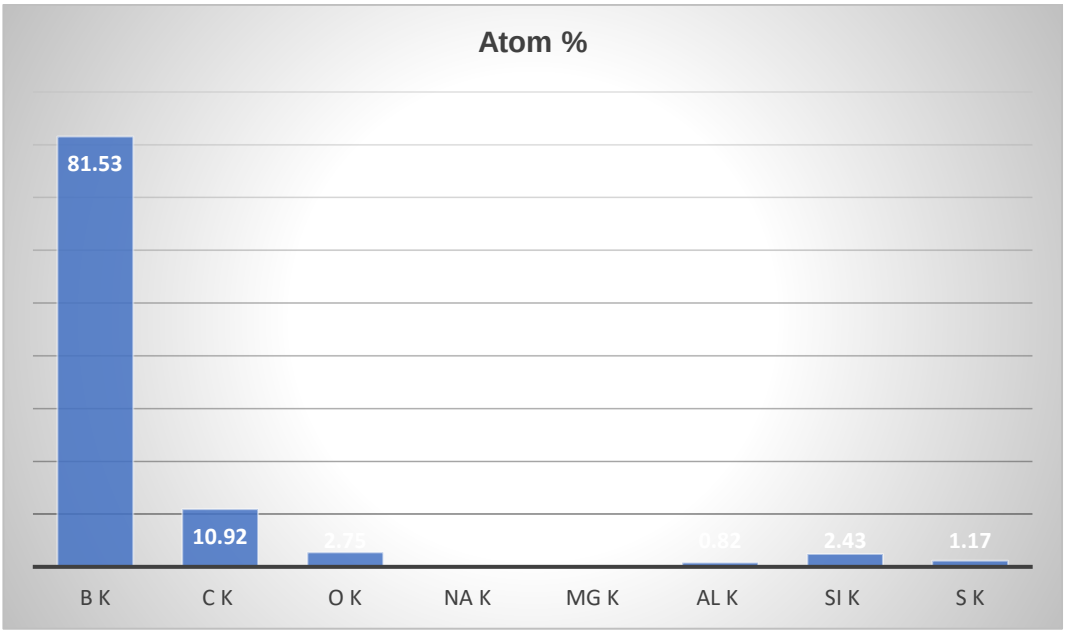
Tabel Sampel 4% Karet Temperatur 200^{0}C (CR)

No	Element	Ec Tegangan Emisi Minimum (keV)	Massa %	Atom %	Mol %
1	B K	0,183	73,86	81,53	72,86
2	C K	0,277	10,99	10,92	19,51
3	O K	0,525	3,69	2,75	-
4	Na K	1,041	0,47	0,24	0,22
5	Mg K	1,253	0,28	0,14	0,25
6	Al K	1,486	1,85	0,82	0,73
7	Si K	1,739	5,72	2,43	4,35
8	S K	2,307	3,14	1,17	2,09
	TOTAL	**8,811**	**100**	**100**	**100**

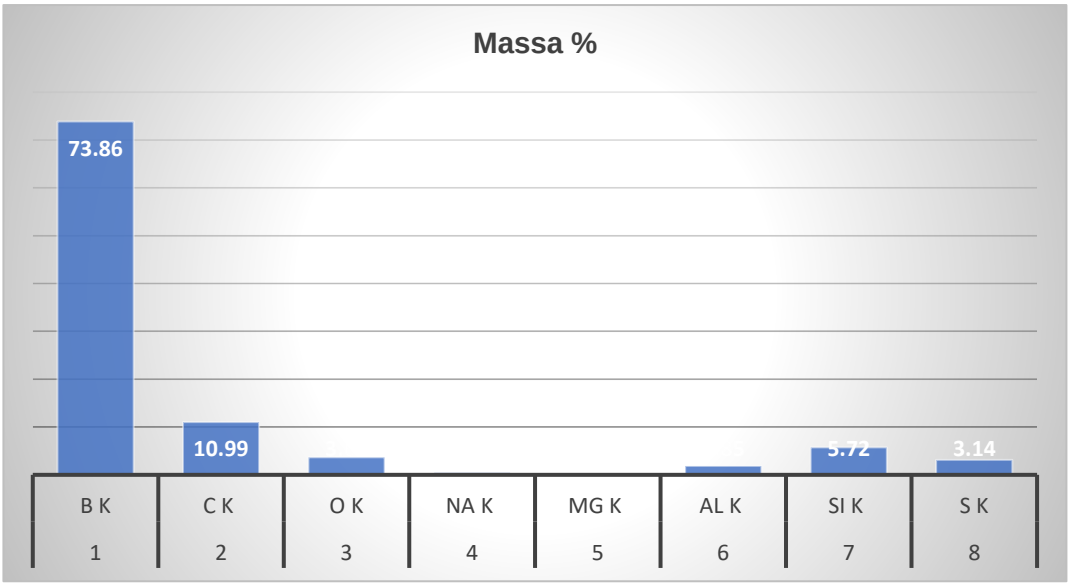
Ket : K = Huruf Kulit elektron (memiliki nilai kuantum n=1)



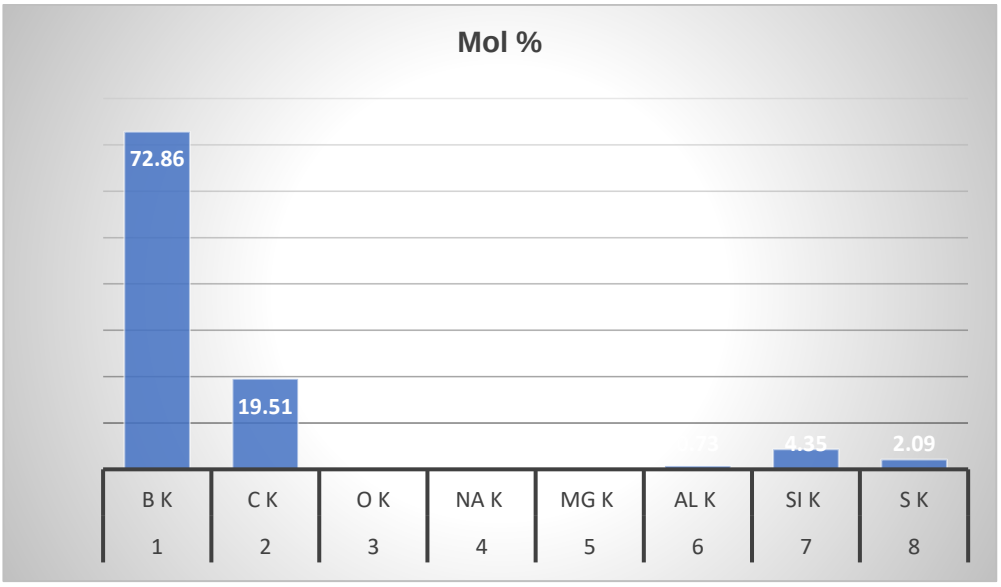
Grafik Energi (EC) Tegangan Emisi Minimum (keV)



Grafik Persen Atom (%)



Grafik Persen Massa (%)



Grafik Persen Mol (%)