



KUMHO SBR

Styrene Butadiene Rubber

beyond
the best

KUMHO PETROCHEMICAL

I Product introduction I

The KUMHO 1500, 1700 series is a cold emulsion copolymer of Styrene and Butadiene. It is one of the most widely used synthetic rubbers. It provides excellent uniformity compared with natural rubber. Its extrusion properties exceed those of natural rubber and stocks have less tendency to scorch in processing. It is classified by the applied emulsifier, extender oil and stabilizer. Our main products are KUMHO 1500, 1500S, 1502, 1502LL, 1507L, 1507, 1507H, 1712L, 1712C, 1712, 1712H, 1721, 1724, 1745, 1778K, etc.

In addition, KUMHO 1723L, 1723C, 1723, 1723G, 1739, 1763, 1769, 1783, 1789, 1793, 1799 are extended in low PCA (Polycyclic Aromatic Hydrocarbons) oil in accordance with European legislation.

I Handling Precautions I

Direct exposure to sunlight and humidity may cause discoloration or quality deterioration. Keep the product away from direct sunlight, humidity and impurities, and store in a cool place.

I Typical Properties I

Typical Properties													
Item \ Grade		1500	1500NF	1500M	1500S	1502LL	1502	1502W	1502NF	1502G	1507L	1507	1507H
Bound Styrene(%)													
Extender oil	Type	-											
	PHR												
Raw MV (ML ₁₊₄ , 100℃)		52	51	53	52	44	52	52	52	50	30	35	40
Stabilizer		Staining			Non-Staining								
Emulsifier		Rosin Soap											
Coagulant													
Specific Gravity		0.93	0.93	0.93	0.93	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Compound Properties		*2)	*2)	*2)	*2)	*2)	*2)	*2)	*2)	*2)	*2)	*2)	*2)
Compound MV (ML ₁₊₄ , 100℃)		82	81	80	81	75	80	80	80	80	60	64	71
Rheometer (160℃, ARC±1)													
ML (lbf.in)		15.1	15.5	15.5	15.6	14.3	15.4	15.7	15.7	15.6	11.7	12.3	12.8
MH (lbf.in)		49.8	50.3	50.3	49.2	49.6	51.7	51.5	50.2	51.4	47.6	47.9	47.8
ts 1 (Min.)		4.8	4.9	5.3	5.1	4.4	4.5	4.5	4.3	4.3	4.7	4.2	4.7
T'50 (Min.)		12.8	10.9	12.1	11.3	10.5	9.5	10.1	10.3	10.7	11.6	10.6	11.1
T'90 (Min.)		22.0	19.4	21.1	20.1	19.5	18.0	19.5	19.3	19.5	20.6	19.5	20.8
*5)													
300% Modulus (kgf/cm ²)		167	164	160	161	185	206	190	187	186	167	172	183
Tensile Strength (kgf/cm ²)		300	298	297	305	293	300	297	298	286	279	284	290
Elongation (%)		500	500	500	510	430	410	440	450	450	470	470	460
Hardness (Shore-A)		72	72	72	72	72	72	72	72	72	71	71	71

1) SBR 100, ZnO 3, S/A 1, HAF Black (IRB#7) 50, Accelerator TBBS 1.00, Sulfur 1.75 Total : 156.75
 2) SBR 137.5, ZnO 3, S/A 1, HAF Black (IRB#7) 68.75, Accelerator TBBS 1.38, Sulfur 1.75 Total : 213.38
 3) SBR 150.0, ZnO 3, S/A 1, HAF Black (IRB#7) 75, Accelerator TBBS 1.50, Sulfur 1.75 Total : 232.25
 4) 145℃ × 35Min., Press Vulcanization
 5) Unmilled

I Characteristics & Applications I

Grade	Packages	Applications
1,500 Series	35kg / Bale 1.05MT / Box	Tire tread, Footwear, Hoses, Rubberized cloth, Conveyor belts, Other mechanical goods
1,700 Series		

Typical Properties

PH	1712P	1712L	1712C	1712	1712H	1712G	1712NF	1721	1724	1745	1778K	1723L	1723C	1723	1723G	1739	1745T	1763	1769	1783	1789	1793	1799
								40.0	40.0	45.0	23.5	23.5	23.5	23.5	23.5	40.0	45.0	23.5	40.0	23.5	40.0	23.5	40.0
	Paraffinic	Aromatic									Naphthenic	TDAE						Heavy		RAE		T-RAE	
	37.5								50.0	37.5													
	49	35	46	49	53	52	49	54	53* ⁸⁾	70	46	35	44	49	49	54	70	49	54	49	54	49	54
	Staining										Non-Staining	Staining											
Mixed Soap of Rosin Acid and Fatty Acid																							
Salt-Acid																							
4	0.91	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.98	0.97	0.92	0.95	0.95	0.95	0.95	0.97	0.97	0.95	0.97	0.95	0.97	0.95	0.97
	*3)	*3)	*3)	*3)	*3)	*3)	*3)	*3)	*3)	*3)	*3)												
	60	52	59	63	65	66	63	68	60	77	57	52	59	63	66	68	77	63	68	63	68	63	68
8	12.0	11.1	12.3	13.5	13.6	13.6	13.8	12.7	12.7	12.8	13.5	11.5	12.4	12.1	12.0	12.0	13.0	12.0	11.8	12.1	12.1	12.1	12.1
5	35.3	34.7	35.6	37.0	37.4	37.7	37.7	35.5	35.1	38.8	36.0	35.4	36.3	37.3	37.3	35.4	35.3	36.2	35.7	34.5	36.3	35.9	35.0
	5.1	5.9	6.3	5.8	6.1	5.7	6.0	6.5	6.7	6.0	5.7	6.3	6.4	6.1	6.1	7.1	6.3	7.1	7.4	6.2	7.5	6.2	7.5
5	9.9	10.2	10.6	9.9	10.7	10.2	10.8	11.3	11.5	10.1	11.3	12.1	12.4	12.1	12.2	12.3	11.9	12.4	13.4	11.7	12.0	12.5	13.3
5	17.3	17.6	18.4	17.2	18.3	17.7	17.9	19.0	19.5	17.7	20.0	19.4	19.9	19.3	19.3	20.3	19.7	20.6	22.3	20.2	21.3	20.2	21.5
8	130	102	104	108	110	110	106	108	107	123	129	110	111	115	108	115	123	102	110	105	110	110	112
0	230	233	232	243	243	251	240	240	232	245	221	235	235	245	242	250	245	221	240	250	260	240	249
0	550	590	570	580	570	570	590	600	570	550	460	570	570	560	510	590	550	590	620	610	620	590	620
	60	63	63	63	63	63	63	65	66	70	60	62	61	62	62	64	70	63	64	63	66	63	64

NOTE) The above data are typical value; therefore, they may differ slightly from the physical properties of the supplied product.



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