

KUMHO KNB

NBR(Acrylonitrile Butadiene Rubber)

1. Product Introduction

KUMHO KNB is a cold emulsion copolymer of acrylonitrile and butadiene. It has excellent resistance to hydrocarbon solvents, vegetable oils, acids, alkalis, and many other liquids and gases.

Resistance to abrasion, heat, water, and flexing are also provided by our NBR.

KUMHO KNB is suitable for injection molding of rubber products with various shapes, and it can be used with a relatively large amount of plasticizer.

KUMHO KNB is widely used for packings, gaskets, hoses, rolls, shoe soles and heels and other applications.

2. Product Application

Grade	Packages	Applications	
KNB 1845	35kg / Bale, 1.05 MT / Box	Packings, Gaskets, Hoses, Rolls, Shoe soles and heels, Other applications requiring oil resistance	
KNB 25LM			
KNB 25M			
KNB 25LH			
KNB 25H			
KNB 3345			
KNB 35LL			
KNB 35L			
KNB 35LM			
KNB 35M			
KNB 35H			
KNB 0230			
KNB 0230L			
KNB 40M			
KNB 40H			
KNB 3430G			Packings, Gaskets, Hoses, Rolls, Shoe soles and heels, Other applications requiring oil resistance, Low mould fouling
KNB 3445G			

3. Handling Precautions

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.

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KUMHO PETROCHEMICAL

KUMHO KNB

NBR(Acrylonitrile Butadiene Rubber)

4. Typical Properties of KUMHO NBR

Items	Grade	KNB	KNB	KNB	KNB	KNB	KNB	KNB	KNB	KNB	KNB	KNB	KNB	KNB	KNB	KNB	KNB	
		1845	25LM	25M	25LH	25H	3345	35LL	35L	35LM	35M	35H	40M	40H	0230	0230L	3430G	3445G
Bound AN (%)	18	28				33	34				41		35		34			
Raw MV (ML ₁₊₄ , 100)	45	50	60	70	80	45	33	41	50	60	80	60	80	56	42	30	45	
Specific Gravity	0.93	0.96				0.97	0.98				1.00		0.98		0.98			
Compound Properties ^{*1)}																		
Comp'd MV (ML ₁₊₄ , 100)	70	73	90	101	114	67	54	66	78	90	110	92	113	80	64	50	65	
Rheometer (160 , ARC ± 1)																		
ML (lbf · in)	8.9	14.1	15.7	18.0	21.0	9.9	9.7	10.4	11.9	15.5	16.5	11.5	13.9	11.6	10.9	13.0	15.5	
MH (lbf · in)	36.4	40.4	41.0	42.0	43.5	39.5	38.9	40.2	41.4	44.0	46.3	41.9	45.1	43.2	42.7	46.0	45.0	
Ts 1 (Min.)	3.2	3.0	2.9	3.3	3.0	3.0	3.8	3.1	2.2	2.0	2.2	3.2	2.7	2.3	2.6	3.1	3.0	
T' 50 (Min.)	6.0	4.7	4.3	4.9	4.7	5.8	6.0	5.2	4.2	4.2	4.0	6.6	6.2	3.8	4.0	5.5	5.0	
T' 90 (Min.)	12.0	17.0	16.9	16.0	15.6	16.7	16.9	16.3	15.3	16.3	16.1	19.6	20.1	12.9	12.4	17.0	16.5	
^{*2)}																		
300% Modulus (kgf/cm ²)	110	140	155	168	175	145	132	141	148	153	168	160	170	160	150	125	135	
Tensile Strength (kgf/cm ²)	240	275	285	285	285	310	300	310	313	327	334	345	360	300	295	290	320	
Elongation (%)	500	510	480	440	400	530	570	550	530	520	500	560	540	500	510	520	550	
Hardness (Shore-A)	70	73	73	73	73	74	74	74	74	74	74	75	75	74	74	73	73	
ASTM #1 Oil																		
Immersion Change ^{*3)}																		
300% Modulus (%)		23	22	24	24		42	35	39	40	43	45	47	40	38			
Tensile Strength (%)		-7	-8	-8	-10		-8	-13	-6	-6	-4	-1	-1	-3	-3			
Elongation (%)		-20	-20	-23	-18		-29	-28	-23	-21	-20	-26	-29	-25	-24			
Hardness (Change)		-4	-4	-4	-3		0	0	0	-1	0	4	4	-1	-1			
Volume (%)		2	2	2	3		-1	0	0	0	0	0	-1	0	0			

*1) NBR 100, ZnO 3, S/A 1, HAF Black (IRB#7) 40, Accelerator TBBS 0.7, Sulfur 1.5 Total : 146.2

*2) 150 × 40 Min. Press Vulcanization

*3) 100 × 70hrs, Change Rate

*4) KNB Products-Nitrosamine Free

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

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