KUMHO KNB

NBR(Acrylonitrile Butadiene Rubber)

1. Product Introduction

KUMHO KNB 2875 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 2875		
KNB 3345 KNB 35LL KNB 35L KNB 35LM KNB 35M KNB 35H KNB 0230 KNB 0230L		
KNB 40M KNB 40H		Packings, Gaskets, Hoses, Rolls, Shoe soles and heels, Other applications requiring oil resistance, Low mould fouling
KNB 3430G 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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4. Typical Properties of KUMHO NBR

Items \ Grade	KNB 1845	KNB 25LM	KNB 25M	KNB 25LH	KNB 2875	KNB 25H	KNB 3345	KNB 35LL	KNB 35L	KNB 35LM	KNB 35M	KNB 35H	KNB 40M	KNB 40H	KNB 0230	KNB 0230L	KNB 3430G	KNB 3445G
Bound AN (%)	18	28					33	34					41		35		34	
Raw MV (ML_{1+4}, 100℃)	45	50	60	70	75	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	109	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	19.3	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	43.0	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	3.1	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	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	16.5	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 (kg_f/cm^2)	110	140	155	168	170	175	145	132	141	148	153	168	160	170	160	150	125	135
Tensile Strength (kg_f/cm^2)	240	275	285	285	285	285	310	300	310	313	327	334	345	360	300	295	290	320
Elongation (%)	500	510	480	440	430	400	530	570	550	530	520	500	560	540	500	510	520	550
Hardness (Shore-A)	70	73	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	24		42	35	39	40	43	45	47	40	38		
Tensile Strength (%)		-7	-8	-8	-9	-10		-8	-13	-6	-6	-4	-1	-1	-3	-3		
Elongation (%)		-20	-20	-23	-20	-18		-29	-28	-23	-21	-20	-26	-29	-25	-24		
Hardness (Change)		-4	-4	-4	-3	-3		0	0	0	-1	0	4	4	-1	-1		
Volume (%)		2	2	2	3	3		-1	0	0	0	0	0	-1	0	0		

*1) NBR 100, ZnO 3, S/A 1, HAF Black (IRB#8) 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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