



Rubber & Specialty Polymer Team / Tech-Center  
Jang-Dong 84, Yuseong-gu, Daejeon City, South Korea  
TEL 82-42-860-8350~3 FAX : 82-42-862-1318

## NBR 3280

NBR 3280 is a copolymer of butadiene and acrylonitrile manufactured by cold emulsion polymerization technology of Goodyear Tire and Rubber Company, USA.

NBR 3280 is a non staining, high mooney viscosity, and high acrylonitrile polymer designed to aid in processing operations such as calendaring and extruding for oil and fuel service products. NBR 3280 offers high resistance to fuels, solvents, oils and gas permeation, and also it can be used for economic compound by high loading of plasticizer on compound recipe.

NBR 3280 is recommended to use in industrial and automotive parts such as fuel hoses and packings.

BASIC PROPERTIES		VULCANIZATE PROPERTIES	
Polymerization	Cold Emulsion	Recipes(ASTM D3187)	
Bound AN Content(%)	41.5	NBR 3280	100.0 phr
Volatile Matter(%)	0.3	HAF(IRB #7)	40.0
Ash(%)	Max. 0.5	ZnO	3.0
Stabilizer	Non-Staining	Stearic Acid	1.0
Mooney Viscosity(ML1+4,100℃)	80.5	TBBS	0.7
Color	Tan	Sulfur	1.5
Specific Gravity	0.99	Total	146.2
Packaging Information		Stress-Strain Properties (ASTM D412, 145℃×50min. Cured)	
Bale Weight	35kg	300% Modulus(kg/cm <sup>2</sup> )	178
Storage Condition		Elongation(%)	532
Rubber should be stored in suitable condition such as no sunlight, no heat and dry place.		Tensile (kg/cm <sup>2</sup> )	344

\*The above data is a typical value, therefore there may be a slight difference between the elements of a supplied product and the data.



- DAESAN PLANT : Tel 82-41-661-2702 FAX 82-41-661-2709
- R&D CENTER : Tel 82-42-870-6304 FAX 82-42-861-7146
- SEOUL OFFICE : Tel 82-2-3773-6664 FAX 82-2-3773-3071
- PUSAN OFFICE : Tel 82-51-801-2669 FAX 82-51-801-2650



## NBR 3280 PACKING STUDY

COMPOUND RECIPES		PROPERTIES OF COMPOUNDS	
NBR 3280	100 phr	Mooney Viscosity(ML1+4,100℃)	90
Carbon Black(SRF)	80.0	Rheometer(MDR,160℃×12 min,1° Arc, MDR)	
Zinc Oxide	5.0	ML(1b-in)	3.1
Stearic Acid	1.0	MH (1b-in)	27.7
Antioxidant(RD)	2.0	ts1 (min.)	0.6
Antioxidant(3-C)	1.0	Tc'50 (min.)	1.2
Plasticizer(DOP)	10.0	Tc'90 (min.)	2.3
Sulfur	0.5		
TT	1.0		
CZ	2.0		
Total	202.5		

Basic Properties(145℃×20min. Cured)		
Hardness(shore A)		73
Elongation(%)		420
Tensile (kg/cm <sup>2</sup> )		227
Circulating Oven Aging(100℃×72hrs)		
Hardness Change(point)		+3
Tensile Change(%)		+2.4
Elongation Change(%)		-27.4
Aged ASTM #1 Oil(100℃×72hrs)		
Hardness Change(point)		+3
Tensile Change(%)		+0.7
Elongation Change(%)		-30.7
Volume Swell(%)		-8.3
Aged ASTM #3 Oil(100℃×72hrs)		
Hardness Change(point)		+1
Tensile Change(%)		+1.1
Elongation Change(%)		-28.1
Volume Swell(%)		-4.9
Aged FUEL C(R.T℃×72hrs)		
Hardness Change(point)		-21
Tensile Change(%)		-43.5
Elongation Change(%)		-46.8
Volume Swell(%)		+31.2
Compression Set(160℃×30min. Cured)		
100℃×72hrs(%)		17.4
Rebound(30℃, %)		41.1
AKRON Abrasion		0.2767

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