

# NANCAR<sup>®</sup> 1052

**ISSUED: May 2008**

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## **POLYMER DESCRIPTION :**

**NANCAR<sup>®</sup> 1052** is a medium high acrylonitrile butadiene copolymer with good oil resistance. It is polymerized at low temperature and contains sufficient antioxidant for normal aging conditions. It has low Mooney viscosity, superior processing characteristics and provides compounds with high elongation.

## **APPLICATION :**

**NANCAR<sup>®</sup> 1052** is an excellent multi-purpose nitrile elastomer. It may be blended with vinyl resins to produce smooth extrusions and nerve-free sheets. Suggested usages include applications in seals, hoses, belts, footwear, molded goods, roll covers and adhesives.

## **POLYMER PROPERTIES:**

	Typical Value	Test Method
Bound acrylonitrile, %	33	NANTEX E-001
Mooney viscosity, ML1+4 @ 100°C	52	ASTM D-1646
Heat loss, %	0.4	ASTM D-5688
Specific gravity	0.98	
Solubility in MEK, %	100	
Stabilizer	Non-staining	

## **COMPOUND PROPERTIES:**

### **1. TEST RECIPE : ASTM D-3187**

Ingredients	Parts (phr)
NANCAR <sup>®</sup> 1052	100.00
Zinc Oxide, NBS 370	3.00
Sulfur, 2% MgCO <sub>3</sub> coated	1.50
Stearic Acid, NBS SRM 372	1.00
HAF Black IRB#6	40.00
TBBS, NBS 384	0.70
Total	146.20

### **2. UNCURED STOCK PROPERTIES:**

	Typical Value	Test Method
Mooney viscosity, ML1+4 @ 100°C	85	ASTM D-1646
Mooney scorch, large rotor, 125°C		
Minimum viscosity, Vm	55	ASTM D-1646
Minutes to 5 points rise, t <sub>5</sub>	36.8	
Minutes to 35 points rise, t <sub>35</sub>	41.4	

**NANCAR<sup>®</sup>** is the registered trade mark of nitrile rubber manufactured by NANTEX INDUSTRY CO., LTD.

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### 3. CURED STOCK PROPERTIES:

#### 3.1 ORIGINAL PROPERTIES : CURED @150°C

	Minutes	Typical Value	Test Method
Tensile Strength,	20	250 (24.5)	ASTM D-412
Kg/cm <sup>2</sup> (Mpa)	40	266 (26.1)	
	60	270 (26.5)	
Elongation, %	20	680	
	40	650	
	60	600	
Modulus at 300% Elongation,	20	82 (8.0)	
Kg/cm <sup>2</sup> (Mpa)	40	100 (9.8)	
	60	105 (10.3)	
Hardness, Durometer A, points	20	66	ASTM D-2240
	40	67	
	60	69	
Tear Strength, Die C, Kg/cm	40	58	ASTM D-624
Compression Set, 100°C×70hrs, %	60	56	ASTM D-395

#### 3.2 AGING PROPERTIES : CURED@150°C×40 MINUTES

	Typical Value	Test Method
ASTM #1 Oil Immersion, @100°C×70hrs		ASTM D-471
Tensile strength change, %	-8	
Elongation change, %	-25	
Hardness change, points	-3	
Volume change, %	+0.8	
ASTM #3 Oil Immersion, @100°C×70hrs		ASTM D-471
Tensile strength change, %	-15	
Elongation change, %	-19	
Hardness change, points	-16	
Volume change, %	+18.0	
Test Tube Heat Aging, @100°C×70hrs		ASTM D-865
Tensile strength change, %	-4	
Elongation change, %	-28	
Hardness change, points	+4	