

## BLACK PEARLS<sup>®</sup> 2000 carbon black



### GENERAL DESCRIPTION

BLACK PEARLS<sup>®</sup> 2000 carbon black is a very fine particle sized, super high surface area, conductive product with an extremely high structure. It is a furnace process carbon black designed for critical applications demanding excellent conductivity and good physical properties.

BLACK PEARLS 2000 carbon black offers excellent conductivity and anti-static discharge properties at very low loadings in rubber compounds.

### PERFORMANCE FEATURES

BLACK PEARLS 2000 carbon black has better electrical conductivity properties in rubber compounds than other Cabot conductive carbon blacks, VULCAN<sup>®</sup> XC-72, VULCAN<sup>®</sup> P and STERLING<sup>®</sup> C products. BLACK PEARLS 2000 carbon black is used in applications where other conductive carbon black products cannot meet the balance between conductivity and rubber property specifications.

The percolation curve for BLACK PEARLS 2000 carbon black in rubber relative to other conductive carbon blacks can be found below.

Rubber components having electrical resistivity in  $10^3$  to  $10^6$  ohm-cm range are normally classified as "antistatic" and components below  $10^3$  ohm-cm are classified as "conductive". Rubber components made with BLACK PEARLS 2000 carbon black meet these conductivity requirements at relatively low carbon black loadings.

BLACK PEARLS 2000 carbon black is also recommended for use in blends with other carbon blacks. The addition of a small percentage of BLACK PEARL 2000 carbon black can help to meet the required conductivity or anti-static level without the need for complex re-compounding without impacting other rubber properties. The rubber reinforcement properties of BLACK PEARLS 2000 carbon black are very high, well beyond the level offered by ASTM N100 and N200 type carbon blacks.

### TYPICAL APPLICATIONS

- Antistatic and conductive applications
  - Hospital flooring and sheeting
  - Conveyor and power transmission belts
  - Hoses for mining, petroleum
  - Cable screening

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## TECHNICAL DATA

**Test Formulation:** 100 EPDM, 75 Paraffinic Oil, 65 CaCO<sub>3</sub> with sulfur cure vulcanization system

	BLACK PEARLS® 2000	VULCAN® XC-72	VULCAN® P
<b>Loading (phr)</b>	47	88	103

### PROCESSING PROPERTIES

#### Mooney Viscosity

ML (1+4) at 100°C, (M.U.)	73	75	66
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### PHYSICAL PROPERTIES

#### Hardness

Shore A	63	66	67
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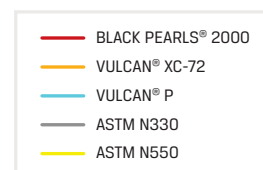
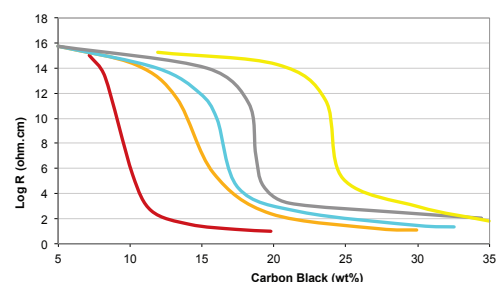
#### Tensile Properties

Tensile Strength, MPa	17.0	14.0	13.3
100% Modulus, MPa	2.6	3.1	2.8
200% Modulus, MPa	4.8	5.6	5.6
300% Modulus, MPa	7.6	7.7	8.3
Elongation at Break, %	560	517	510

#### Resilience

Zwick Rebound, %	34	39	35
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Percolation curve in the EPDM test formulation:



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BP2000\_pds 09/2014

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