

## VULCAN<sup>®</sup> P carbon black



### GENERAL DESCRIPTION

VULCAN<sup>®</sup> P carbon black is a pelleted highly reinforcing furnace black in the class formerly known as Super Conductive Furnace Black. It has a high surface area per unit mass and some surface porosity. VULCAN P carbon black is designed to impart electrical conductivity to rubber and plastic compounds.

VULCAN P carbon black has an exceptional purity, demonstrated by an extremely low solvent extract level, sulfur content, ash level and sieve residue. This exceptional chemical and physical purity with easier dispersion in rubber distinguishes VULCAN P carbon black from Cabot's STERLING<sup>®</sup> C medium-conductive carbon black.



### PERFORMANCE FEATURES

The effect of VULCAN P carbon black on electrical conductivity in rubber compounds is dependent on carbon black loading. The VULCAN P percolation curve relative to other carbon blacks in rubber can be found below.

Rubber components having electrical resistivity in the range  $10^3$  to  $10^6$  ohm-cm are normally classified as "antistatic" and components below  $10^3$  ohm-cm are classified as "conductive". VULCAN P carbon black can meet these conductivity requirements without need for very high carbon black loadings. Its dispersion and processing in rubber is easier than very super conductive carbon black products.

The rubber reinforcement properties of VULCAN P carbon black are comparable to those of ASTM N300 type carbon blacks.

### TYPICAL APPLICATIONS

- Antistatic and conductive applications
  - Hospital flooring and sheeting
  - Conveyor and power transmission belts
  - Printing rolls
  - 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

	VULCAN <sup>®</sup> P	ASTM N330	ASTM N550
<b>Loading (phr)</b>	103	96	103

### PROCESSING PROPERTIES

#### Mooney Viscosity

ML (1+4) at 100°C, (M.U.)	VULCAN <sup>®</sup> P	ASTM N330	ASTM N550
	66	58	60

### PHYSICAL PROPERTIES

#### Hardness

Shore A	VULCAN <sup>®</sup> P	ASTM N330	ASTM N550
	67	65	65

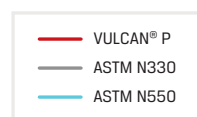
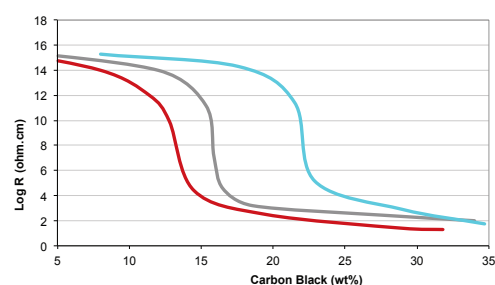
#### Tensile Properties

Tensile Strength, MPa	13.3	13.8	12.0
100% Modulus, MPa	2.8	2.9	3.4
200% Modulus, MPa	5.6	6.0	6.6
300% Modulus, MPa	8.3	9.0	8.7
Elongation at Break, %	510	436	416

#### Resilience

Zwick Rebound, %	35	39	46
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Percolation curve in the EPDM test formulation:



**NORTH AMERICA**  
Cabot Corporation  
1095 Windward Ridge  
Parkway  
Suite 200  
Alpharetta, GA 30005  
USA  
**TEL** +800 472 4889

**SOUTH AMERICA**  
Cabot Brasil Industria e  
Comércio Ltda.  
Rua do Paraíso 148-5th floor  
Sao Paulo - SP, Brazil  
Paraíso CEP.: 04103-000  
**TEL** +55 11 2144 6400  
**CUSTOMER SERVICE**  
0800 195959

**EMEA\***  
Cabot EMEA Business Service Centre  
SIA Cabot Latvia  
101 Mukusalas Street  
Riga, LV-1004  
Latvia  
**TEL** +371 67050700  
\*Europe, Middle East and Africa

**CHINA**  
Cabot China Ltd.  
558 Shuangbai Road  
Minghang District  
Shanghai 201108  
China  
**TEL** +86 21 5175 8800

**ASIA PACIFIC NORTH**  
Cabot Japan K.K.  
Sumitomo Shiba-Daimon Bldg. 3F  
2-5-5 Shiba Daimon,  
Minato-ku  
Tokyo 105-0012  
Japan  
**TEL** +81 3 3431 1770

**ASIA PACIFIC SOUTH**  
PT. Cabot Indonesia  
Talavera Office Park  
Jl. Letjen TB Simatupang  
Kav 22-26, Cilandak  
Jakarta 12430  
Indonesia  
**TEL** +62 21 27584100

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