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## CARBON BLACKS

### VULCAN<sup>®</sup>, REGAL<sup>®</sup>, STERLING<sup>®</sup>

#### PRODUCT DESCRIPTION:

Carbon Blacks are the most utilized fillers in the Rubber Industry. Based on its cost and performance, no other filler can match the properties of carbon black. Used for nearly 100 years, carbon blacks have been reinforcing rubber compounds both physically and chemically. Cabot Corporation has been producing carbon blacks for nearly 120 years and is now the world leader in the manufacturing of this essential ingredient. With production facilities in 18 countries on 5 continents, Cabot produces and develops carbon blacks for all rubber applications. Vulcan, Regal and Sterling blacks are standard furnace grades most commonly used in the industry. They vary in surface area (Iodine) and structure (DBP) so compounders are able to select the appropriate black, or combination of blacks, for their applications. The Vulcan blacks are considered reinforcing or hard blacks. These Sterling blacks are considered semi-reinforcing blacks. \* Regal 300 black is N326 reinforcing black.

#### REINFORCING:

<i>Vulcan</i>	<i>9</i>	<i>10</i>	<i>10H</i>	<i>6</i>	<i>7H</i>	<i>300*</i>	<i>3</i>	<i>M</i>	<i>K</i>
ASTM	N110	N120	N134	N220	N234	N326	N330	N339	N351
Iodine	145	122	142	121	120	82	82	90	68
DBP	113	114	127	114	125	72	102	120	120

#### SEMI-REINFORCING:

<i>Sterling</i>	<i>SO</i>	<i>VH</i>	<i>V</i>	<i>NS-1</i>	<i>NS</i>
ASTM	N550	N650	N660	N762	N774
Iodine	43	36	36	28	29
DBP	121	122	90	64	72

Compounders choose carbon blacks basically by Iodine and DBP values. Iodine number represents the black's surface area. The higher the number, the more surface area is available to reinforce the rubber matrix. This affects failure properties like abrasion, tear, tensile strength, etc. The DBP number represents the structure (bulkiness) of the black. Again the higher DBP number equates to higher structure. This affects non-failure properties like modulus, die swell, loading capacity, conductivity and especially dispersion. For specialty cleaner (low impurities) blacks for improved: extrusion and injection molding, surface appearance, conductivity, dispersability, dynamic and flex properties, ECD (electrochemical degradation), etc. see additional Sterling, Spheron<sup>®</sup> and Conductive Carbon Blacks Technical Data Sheets.

<sup>®</sup> VULCAN, REGAL, SPHERON and STERLING are registered trade names of Cabot Corporation. wol - 1/08, t-vulcan, regal, sterling

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