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## CARBON BLACKS -Conductive-

### STERLING® C, VULCAN® XC72, VULCAN XC72R

#### PRODUCT DESCRIPTION:

Sterling C (N293), Vulcan XC72 (N472) and Vulcan XC72R (N472) are both industry standard conductive carbon blacks. Sterling C is the economical choice for achieving conductive or static dissipating levels for a vast range of rubber and plastic applications. Vulcan XC72 is utilized in very demanding applications like ESD (Electrostatic Discharge), power cable, magnetic media parts and devices where increased and maintained conductive and static dissipation properties are required. Compounders have found that Vulcan XC72 has extended their part's life expectancy due to XC72 low levels of sulfur and ash. Vulcan XC72R specialty carbon black is a fluffy (non-pelletized) version of Vulcan XC72 conductive carbon black. Its unique properties allow end products to deliver functionality at relatively lower loading levels compared to other carbon blacks in the XC family. Vulcan XC72R specialty carbon black has good chemical and physical cleanliness, good processability, as well as low sulfur content and ionic contamination.

#### TYPICAL PROPERTIES:

	<u>ASTM#</u>	<u>STERLING C</u>	<u>VULCAN XC72</u>	<u>VULCAN XC72R</u>
Iodine Absorption Number, mg/g	D1510	145	253	253
DBP Absorption, ml/100g	D2414	100	175	190
Ash, %	D1506	0.6	0.1	0.2
Heat Loss, %	D1509	0.7	0.4	1.0
35 Mesh Sieve Residue, ppm	D1514	1.5	10.0	10.0
325 Mesh Sieve Residue, ppm	D1514	5.0	2.0	<10

#### APPLICATIONS:

Compounders view Sterling C as their standard, general purpose conductive black and utilize this conductive black for applications that require a moderate level of conductivity or eliminate annoying static charge. Typical applications include, wire and cable jacketing, static-dissipating hoses, belts, shoe soles, floor mats, etc. Sterling C combines excellent abrasion resistance, tear and tensile strength with good dispersion, processing and conductivity retention after flexing. Typical loading range is 30 – 100 phr depending on the required conductivity and polymer type.

Vulcan XC72 is considered a very high conducting carbon black used in critical applications like: power cables' conductive and insulation shields, ESD sensitive components, safety packages for hazardous goods, articles used in explosive areas, magnetic media, etc. Considerably less loadings are required; typical range is 15 – 50 phr. This black has excellent dispersability and due to low loadings

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allows compounds to be one pass mixed. Care must be taken while processing any conductive black. Over mixing and/or processing can greatly diminish the black's ability to conduct or dissipate electricity.

Vulcan XC72R specialty carbon black is suitable for use across a range of conductive applications like power storage, including batteries and fuel cells, conductive paper, conductive liquid dispersions and catalyst support. Vulcan XC72R specialty carbon black has several important performance features which include a full range of conductivity performance depending on loading (but typically at lower loadings than other XC carbon blacks or standard carbon blacks), good dispersion characteristics to promote surface smoothness and preserve mechanical performance of polymer, low sulfur and grit levels and easier to disperse fluffy form. Compared to other conductive grades of carbon black, Vulcan XC72R specialty carbon black is typically easier to disperse. In addition to conductivity, Vulcan XC72R specialty carbon black will also allow a high level of jetness in end products.

The dispersibility of Vulcan XC72R specialty carbon black will depend on the equipment used and the formulation.

*\* STERLING and VULCAN registered trade names of Cabot Corporation*

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