

VULCAN® P

Description

VULCAN® P pelleted carbon black is a highly reinforcing furnace black in the class known as Super Conductive Furnace black.

VULCAN P carbon black is designed to impart electrical conductivity to rubber and plastic compounds in which it is incorporated. It has high surface area per unit mass and exceptional chemical purity.

The high surface area per unit mass coupled with some surface porosity causes a retardation of cure in rubber compounds. At full cure, the modulus in both natural rubber and SBR falls between VULCAN 3 (N330) and VULCAN 6 (N220) carbon black grades.

The effect of VULCAN P carbon black on electrical resistivity is dependent on carbon black loading, the most marked effects being seen above 20 parts per hundred rubber (phr). Typically, a resistivity of 10^6 ohm.cm with 20 phr VULCAN P carbon black may be reduced to 10^4 ohm.cm with 30 phr, 10^2 ohm.cm with 40 phr, and 10 ohm.cm with 80 phr. Highly beneficial effects are also seen when VULCAN P carbon black is used in conjunction with other furnace blacks.

Rubber components having electrical resistivity in the range 10^3 to 10^6 ohm.cm are normally classified as "antistatic": below 10^3 ohm.cm, compounds are classified as "conductive".

The exceptional purity of VULCAN P carbon black is demonstrated by a very low solvent extract (typically 0.01%), sulphur content (typically 0.1%) and sieve residue (figures overleaf).

Applications

Antistatic and conductive applications of VULCAN P include hospital flooring and sheeting, conveyor belting, power transmission belts, mining hose, petrol hose and cable screening.

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