SPHERON® 5200 carbon black

GENERAL DESCRIPTION
Engineered for performance, our SPHERON® products were developed as part of Cabot’s ongoing commitment to address market needs and promote solutions for future product design and processing challenges.

SPHERON® 5200 carbon black was especially developed for rubber applications with high electrical resistivity or low hysteresis requirements and offers a unique morphology with good cleanliness as compared to traditional ASTM series carbon blacks.

PERFORMANCE FEATURES
SPHERON® 5200 carbon black disperses more easily and more quickly than ASTM N500, 600 and 700 series carbon blacks, thereby shortening mix cycle times and reducing mixing passes.

It offers rubber reinforcement properties similar to SPHERON® 5000 carbon black but with greater electrical resistivity for avoiding electrical chemical degradation in radiator hoses or contact corrosion problems in applications in contact with aluminum and magnesium metal parts such as window profiles.

SPHERON® 5200 carbon black enables high electrical resistivity specifications to be fulfilled without high white filler levels that can be detrimental for processing and compound physical properties.

In addition, SPHERON® 5200 carbon black offers an interesting balance of high stiffness and low hysteresis, making it the product of choice for dynamic applications such as automotive anti vibration applications.

TYPICAL APPLICATIONS
• Extruded automotive profiles and hoses with high electrical resistivity requirements such as:
  - Automotive weather stripping in contact with aluminum and magnesium metal
  - Automotive coolant hoses

• Applications with special dynamic requirements such as:
  - Automotive anti-vibration parts with low Kd/Ks ratio
TECHNICAL DATA

1) Percolation curve, rubber properties and extrudability in EPDM test formulation relevant to, for example, automotive weather stripping and coolant hose applications:

a) Percolation curves (EPDM 100 phr, Oil 100 phr)

b) Good rubber properties with high resistivity (EPDM 100 phr, Oil 50 phr, S-cure system, Hardness ~60 Shore)

2) Rubber and dynamic properties in 50 NR/50 BR formulation relevant to, for example, automotive anti-vibration.

SPHERON® 5200 carbon black exhibits good strength with reduced hysteresis (Tan δ):

ASTM N550 CB | SPHERON® 5200 CB
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CB loading (phr) | 56 | 62
Viscosity (MU) | 36 | 38
Hardness (Shore A) | 67 | 68
Tensile (MPa) | 19.1 | 19.6
100% Mod (MPa) | 4.1 | 4.9
300% Mod (MPa) | 16.6 | 17.2
Elongation at Break (%) | 328 | 341
Tear Strength (N/mm) | 40 | 36
Tan δ max @25°C | 0.113 | 0.104