

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

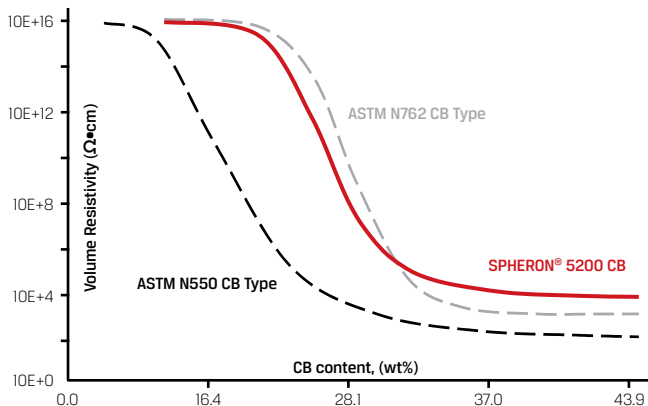
- ◆ Applications with special dynamic requirements such as:
 - Automotive anti-vibration parts with low Kd/Ks ratio

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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)



c) Improved Extrudability (Garvey Die test in EPDM 100 phr, Oil 50 phr, S-cure system)



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

	ASTM N550 CB Type	ASTM N762 CB Type	SPHERON [®] 5200 CB
CB loading (phr)	60	90	70
Viscosity (MU)	36	38	40
Hardness (Shore A)	60	63	60
Tensile (MPa)	15.7	16.2	15.8
100% Mod (MPa)	2.0	2.0	2.1
300% Mod (MPa)	6.1	5.5	6.5
Elongation at Break (%)	577	635	594
Vol Resist (Ω•cm)	5.3E+4	2.8E+11	1.3E+12

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
CB loading (phr)	56	62
Hardness (Shore A)	67	68
Tensile Strength (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

NORTH AMERICA

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

SOUTH AMERICA

Cabot Brasil Indústria 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 Ming-
hang 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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