

## SPHERON<sup>®</sup> 6400 carbon black



### GENERAL DESCRIPTION

Engineered for performance, our SPHERON<sup>®</sup> 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<sup>®</sup> 6400 carbon black has an extremely low surface area with a medium-high structure. The unique morphology of SPHERON<sup>®</sup> 6400 carbon black has been especially developed for rubber applications with high electrical resistivity requirements.

### PERFORMANCE FEATURES

SPHERON<sup>®</sup> 6400 carbon black has been developed to provide improved performance for a wide range of hose, extrusion and molded applications. SPHERON<sup>®</sup> 6400 carbon black combines very good dispersion, high loading, excellent extrusion characteristics, high green strength and high electrical resistivity.

SPHERON<sup>®</sup> 6400 carbon black disperses more easily and quickly than most traditional carbon black semi-reinforcing products, thereby shortening mix cycle times and reducing mixing passes.

SPHERON<sup>®</sup> 6400 carbon black enables high electrical resistivity specifications to be fulfilled without high white filler levels that can be detrimental for processing and physical compound properties.

### TYPICAL APPLICATIONS

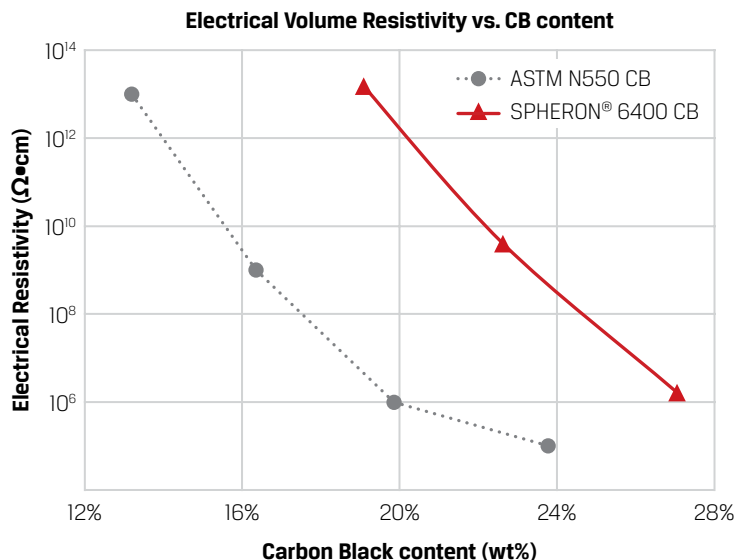
- ◆ Rubber parts with high electrical resistivity specifications
- ◆ Automotive coolant and industrial/consumer hoses
- ◆ Automotive weather stripping, door seals and extruded profiles

# SPHERON® 6400 carbon black

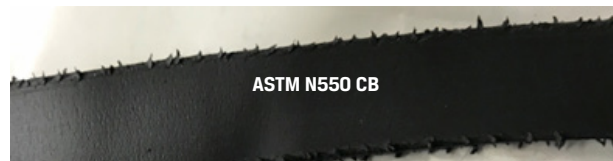
## TECHNICAL DATA

1) SPHERON® 6400 carbon black (CB) morphology and high cleanliness can lead to good rubber reinforcement and high electrical resistivity with smooth surface of extruded rubber parts:

a) Percolation curves (EPDM 100 phr, White Filler: variable phr to maintain ~75 Shore, Oil 35 phr )



b) Smoother extrusion with SPHERON® 6400 CB at ~75 Shore, 10<sup>8</sup> Ω•cm (EPDM 100 phr, Oil 35 phr):



ASTM N550 CB: 53 phr (17wt%), White Filler 115 phr, Density 1,330 g/liter



SPHERON® 6400 CB: 76 phr (24wt%), White Filler 90 phr, Density 1,300 g/liter

	SPHERON® 6400 CB	SPHERON® 5000 CB	ASTM N660 CB	ASTM N772 CB
CB loading (phr)	150	130	130	160
<b>Mooney Viscosity</b>				
ML (1+4) @100°C (MU)	61	61	54	53
<b>Hardness</b>				
Shore A (3 sec.)	63	63	62	63
<b>Tensile Properties</b>				
Tensile Strength (MPa)	10.5	12.2	13.4	12.2
100% Modulus (MPa)	3.7	3.9	3.2	3.0
Elongation @ Break (%)	422	423	439	438
<b>Dispersion</b>				
Visual Rating (more stars is better)	★★★★★	★★★★★	★★	★★

2) SPHERON® 6400 carbon black offers better dispersion and comparable rubber properties to ASTM N772 and SPHERON® 5000 carbon blacks (test formulation: 100 EPDM phr, 75 Oil phr, S-cure system)

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