CABOT

PRODUCT DATA SHEET

STERLING® VH carbon black







GENERAL DESCRIPTION

STERLING® VH carbon black is a pelleted semi-reinforcing material introduced by Cabot Corporation in the early 1970's. The product conforms to ASTM N650 carbon black target values, and combines ASTM N660 carbon black level of surface area with ASTM N550 carbon black level of structure.

PROPERTIES	TEST METHOD (ASTM)	UNITS	TYPICAL VALUE
Iodine adsorption number	D1510	mg/kg	36
Oil absorption number (OAN)	D2414	ml/100g	122
OAN after crushing (COAN)	D3493	ml/100g	82
STSA surface area	D6556	m^2/g	35

PERFORMANCE FEATURES

STERLING VH carbon black offers moderate rubber reinforcement, low hysteresis with high static and dynamic moduli. The reinforcement properties are slightly lower, but STERLING VH carbon black has dispersion and extrusion properties that surpass ASTM N550. These characteristics make STERLING VH carbon black particularly suited for extruded rubber applications which do not need very high reinforcement, but require good dynamic properties and low heat build-up and will benefit from good extrudability.

TYPICAL APPLICATIONS

- Industrial Rubber Products
  - Extruded rubber articles like hoses and construction profiles
  - Engine mounts and belt inner layers
- Tires
  - Sidewalls and ply skim compounds in passenger car tires

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TECHNICAL DATA

The two tables show a comparison in basic rubber properties between STERLING® VH carbon black and semi-reinforcing grades ASTM N550 and N660 at equal, 50 phr carbon black loadings.

Test Formulation 1: ASTM D3192 (NR)

	STERLING® VH	ASTM N550	ASTM N660
Loading (phr)	50	50	50
PHYSICAL PROPERTIES			
Hardness			
Shore A	60	60	
Tensile Properties			
Tensile Strength, MPa vs. IRB	-3.4	-2.8	-2.9
300% Modulus, MPa vs. IRB	1.4	1.1	-1.1
Elongation at Break, % vs. IRB	-40	-40	0
Resilience, % ASTM D1054 vs. IRB	+8	+7	+9

Test Formulation 2: ASTM D3191 (SBR)

	STERLING® VH	ASTM N550	ASTM N660
Loading (phr)	50	50	50
PROCESSING PROPERTIES			
Extrusion, Shrinkage %			
ASTM D2230 Method B Index relative to STERLING VH	99	100	112
PHYSICAL PROPERTIES			
Hardness			
Shore A	60	60	60
Tensile Properties			
Tensile, MPa vs. IRB	-7.3	-4.8	-6.9
300% Modulus , MPa vs. IRB	-2.1	-0.6	-4.5
Elongation at Break, % vs. IRB	+50	-5	+60

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