

ENDURE™ D53 carbon black



GENERAL DESCRIPTION

Many industrial rubber product applications operate under severe conditions that lead to significant wear and tear. Improved durability of the rubber components may provide a distinct total cost advantage. As part of Cabot's ongoing commitment to deliver solutions that meet our customers' needs, we have developed the ENDURE™ family of carbon blacks engineered for durability.

Improving wear, chunking and tear resistance or reducing heat buildup can result in longer part life, reducing costly equipment downtime, increasing throughput and enhancing end user profitability. Cabot products can enhance rubber part life and durability by optimizing the balance between heat buildup and reinforcement and are identified by the letter "D" in the ENDURE nomenclature system.



In certain applications such as conveyor belts, reduced hysteresis in the rubber compound may also be of interest as it can result in decreased power consumption, representing a significant energy and operating cost saving. In other applications such as rubber tracks and certain mill liners, a decrease in hysteresis can help with extending part life. Cabot products can help reduce energy costs and part life by optimizing the balance between hysteresis and reinforcement and are identified by the letter "E" in the ENDURE nomenclature system.

PERFORMANCE FEATURES

ENDURE™ D53 carbon black is the next step after ASTM N234, N110 and N115 type carbon black in resistance to abrasion in natural and synthetic rubber compounds. Specific mixing conditions are recommended to achieve the desired dispersion.

TYPICAL APPLICATIONS

- ◆ Top cover of high abrasion resistant conveyor belts
- ◆ Tread of rubber tracks
- ◆ Mining mill liners

ENDURE™ D53 carbon black

TECHNICAL DATA

ENDURE™ D53 carbon black can improve reinforcement and abrasion resistance of rubber compounds compared to compounds made with ASTM N300, N234 and N115 carbon black.

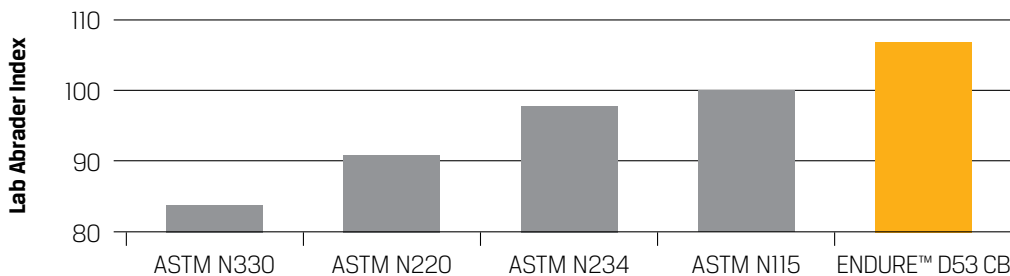
100 NR Formulation	ASTM 234	ASTM N115	ENDURE™ D53 CB
Loading, (phr)	50	50	50
Hardness, (Shore A)	66	65	67
Tensile Strength, (MPa)	29.4	29.2	30.6
100% Mod, (MPa)	2.7	2.5	2.7
300% Mod, (MPa)	14	12.1	14.2
Elongation at Break, (%)	545	570	555
Tear Strength, (N/mm)	142	146	145
Rebound @ 23°C, (%)	50	49	48
Tan δ max @60°C	0.22	0.23	0.24
Cabot Abrader, (Index*)	97	100	110

* higher index is better

Test Formulation: 100 phr NR, 50 phr carbon black

Cabot Abrader (50 phr carbon black in NR test compound)

Higher Index = Better Abrasion Resistance



NORTH AMERICA

Cabot Corporation
4400 North Point Parkway
Suite 200
Alpharetta, GA 30022
USA
TEL +800 322 1236

SOUTH AMERICA

Cabot Brasil Indústria e
Comércio Ltda.
Rua do Paraíso 148-5 andar
Sao Paulo – SP - 04103-000
Brazil
TEL +55 11 2144 6429

EMEA*

Cabot EMEA Business Service
Centre
SIA Cabot Latvia
101 Mukusalas Street
Riga, LV-1004
Latvia
TEL +371 6705 0700
*Europe, Middle East and Africa

CHINA

Cabot China Ltd.
558 Shuangbai Road
Minghang 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 1721

ASIA PACIFIC SOUTH

PT. Cabot Indonesia
Talavera Suite 21F Unit 1-3
Jl. Letjen TB Simatupang
Kav 22-26, Cilandak
Jakarta 12430
Indonesia
TEL +62 21 27584100

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