

ENDURE™ E33 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 extend 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™ E33 carbon black has good abrasion resistance and low hysteresis and is relatively easy to disperse with fast incorporation and good dispersion. Offers reinforcement similar to compounds made with ASTM N300 series carbon blacks but with a considerable reduction in hysteresis.

TYPICAL APPLICATIONS

- ◆ Bottom cover of low rolling resistant conveyor belts
- ◆ Base of rubber tracks
- ◆ Tread of rubber tracks

ENDURE™ E33 carbon black

TECHNICAL DATA

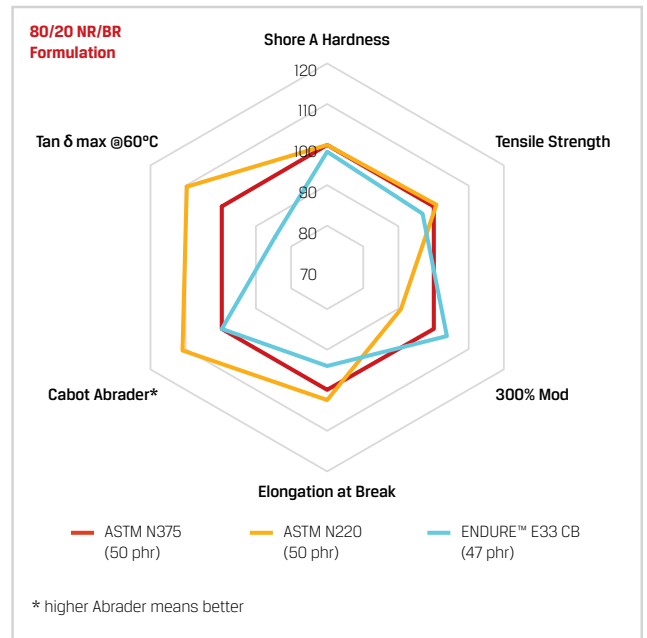
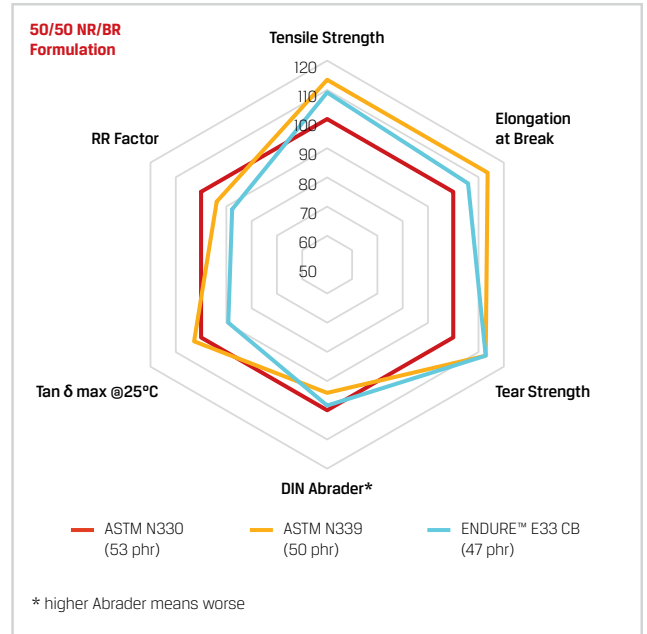
ENDURE™ E33 carbon black can reduce the hysteresis of rubber compounds compared to compounds made with ASTM N300 and N200 series carbon black, while maintaining good reinforcement properties.

50/50 NR/BR Formulation	ASTM N330	ASTM N339	ENDURE™ E33 CB
Loading, (phr)	53	50	47
Hardness, (Shore A)	68	67	67
Tensile Strength, (MPa)	20.5	23.3	22.4
100% Mod, (MPa)	3.7	3.6	3.8
300% Mod, (MPa)	16.9	16.3	17
Elongation at Break, (%)	351	399	372
Tear Strength, (N/mm)	86	97	97
DIN Abrader (mm³)*	66	62	65
Rebound @23°C, (%)	60	60	62
Tan δ max @23°C	0.16	0.17	0.14
RR Factor	0.083	0.078	0.073

* higher DIN Abrader means worse

80/20 NR/BR Formulation	ASTM N375	ASTM N220	ENDURE™ E33 CB
Loading, (phr)	50	50	47
Hardness, (Shore A)	61	61	60
Tensile Strength, (MPa)	27.4	27.6	26.5
100% Mod, (MPa)	2.1	1.9	2.1
300% Mod, (MPa)	10.8	9.8	11.2
Elongation at Break, (%)	600	615	565
Cabot Abrader (Index)*	90	100	90
Rebound @23°C, (%)	56	54	60
Tan δ max @60°C	0.2	0.22	0.17

* higher Cabot Abrader Index means better



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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