

MEDIUM COLOR CARBON BLACKS IN POLYESTER/ACRYLIC ENAMELS



Application description

Polyester and acrylic enamels offer formulators a balance of color performance, exterior durability, flexibility and low cost. As a result, they are often selected for applications where both low cost and durability are concerns.

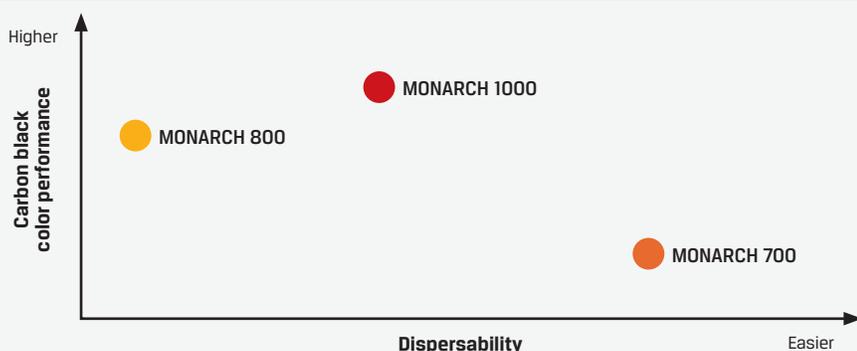
Our medium carbon blacks are an excellent choice for use in industrial and coil coating polyester/acrylic systems because they enable excellent jetness with good opacity and high gloss.

CABOT PRODUCT OFFERING

Carbon black product	Masstone jetness	Typical surface area (N ₂ SA) m ² /gram	Typical structure (OAN/DBP) cc/100 grams	Typical tint strength ASTM D-3265	Product characteristics
MONARCH [®] 1000	Highest	343	110	146	Medium high jetness in masstone applications
MONARCH 800		210	74	148	Good balance of color and dispersability
MONARCH 700	Lowest	200	122	148	Good color and jetness, easier to disperse than MONARCH 800 carbon black

The data in the table above are typical test values intended as guidance only, and are not product specifications. Product specifications are available from your Cabot representative.

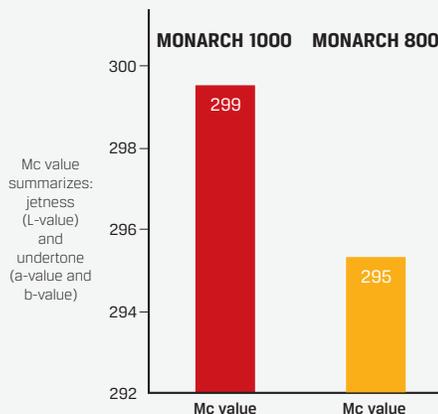
PRODUCT PERFORMANCE



Medium color blacks can be used for both tinting and masstone color. They are used in a wide variety of formulations and so the selection of the appropriate product is based on specific color requirements and processing conditions. MONARCH 1000 carbon black offers both excellent color and ease of dispersion.

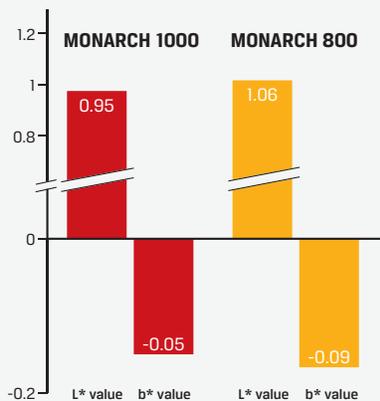
PRODUCT PERFORMANCE

Masstone jetness of carbon blacks



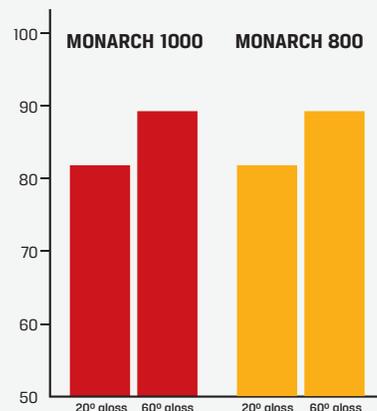
MONARCH 1000 carbon black demonstrates higher masstone jetness than MONARCH 800 carbon black. Mc value is a summary measure that includes both darkness (L-value) and undertone (a-value and b-value).

Blue undertone of carbon blacks



MONARCH 800 carbon black demonstrates a slightly stronger blue undertone than MONARCH 1000 carbon black. MONARCH 1000 carbon black demonstrates stronger jetness. Product selection can be based on customer preference.

Gloss development of carbon blacks



Both MONARCH 800 and MONARCH 1000 carbon blacks demonstrate similar gloss development.

NOTE: The product performance results above were obtained using the model formulation that follows. Only the carbon black was changed.

MODEL FORMULATION

Masstone black polyester/acrylic formulation

Polyester/acrylic black gloss millbase

Product name	Description	Amount (%)
Setal 26-1035	Resin	40.55
Butyl acetate	Solvent	23.73
Methoxy propyl acetate	Solvent	23.72
Carbon black	Pigment	12.00
Total		100.00

- ◆ Premix at 4000 RPM in high speed disperser for 10 minutes to wet out
- ◆ Run in Skandex shaker for 2 hours using 1.0 mm zirconium media

Polyester/acrylic black gloss letdown

Product name	Description	Amount (%)
Setal® 1715VX74	Resin	Resin
Setalux® 1184SS51	Resin	Resin
Cymel® 325	Resin	Resin
Cymel 303	Resin	Resin
BYK® 346	Wetting agent	Wetting agent
Butyl acetate	Solvent	Solvent
Propylene glycol monomethyl ether acetate	Solvent	Solvent
Total		100.00

Polyester/acrylic black gloss finish formulation

Component	Amount (%)
Polyester/acrylic black gloss millbase	12.92
Polyester/acrylic black gloss letdown	87.08
Total	100.00

- ◆ Stir together at 300 RPM for 10 minutes
- ◆ Dilute with Aromatic 100 solvent to 35-40 seconds in No.4 Ford cup
- ◆ Spray onto cold roll steel, flash off for 20 minutes
- ◆ Cure at 140 °C for another 20 minutes



Technical Support

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