

MONARCH[®]465 Specialty Carbon Black

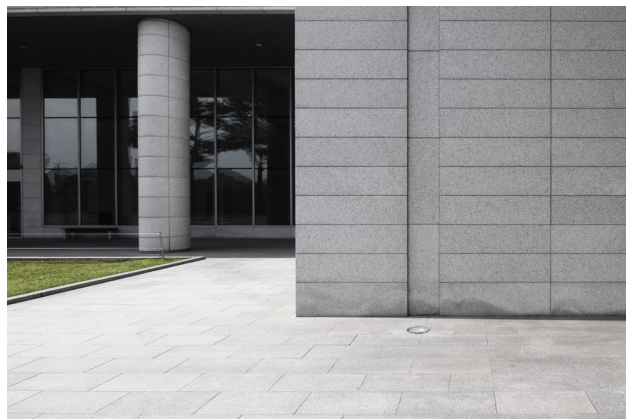
Product highlights

MONARCH[®]465 specialty carbon black is designed to be used in room temperature vulcanized (RTV) silicone sealants for marble construction. It imparts jetness, blue undertone, gloss, and heat stability.

MONARCH[®]465 specialty carbon black is especially suited for black color paste preparation with hydroxyl terminated polydimethylsiloxane as a matrix. This product allows for easy dispersion by conventional compounding mixers. It also enables excellent heat stability.

Key applications

MONARCH[®]465 specialty carbon black is suitable for use in RTV silicone sealants for construction and industrial applications.



Performance in black color pastes

MONARCH[®]465 specialty carbon black can be dispersed in hydroxyl terminated polydimethylsiloxane easily through conventional compounding mixers, e.g., planetary mixer, 3-roller mixer, kneader, twin screw extruder etc.

Figure 1 shows the Fineness (μm) measurement of a black color paste, the model formulation containing 26wt% carbon black in 1500 cst hydroxyl terminated polydimethylsiloxane. The paste containing MONARCH[®]465 specialty carbon black exhibited good fineness.

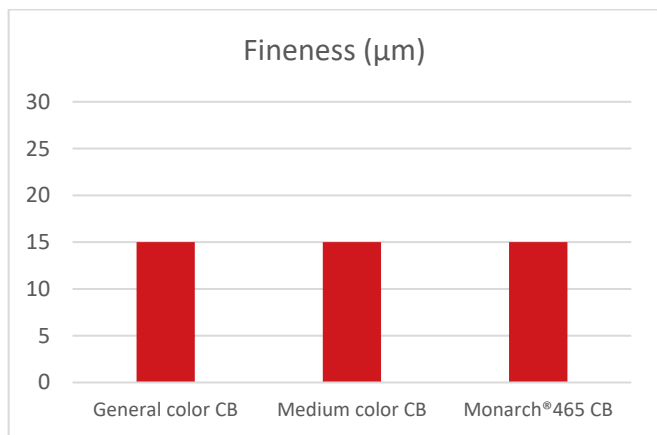


Figure 1, Fineness is measured upon black color paste formulation, carbon black loading is 26wt% in 1500cst hydroxyl terminated polydimethylsiloxane

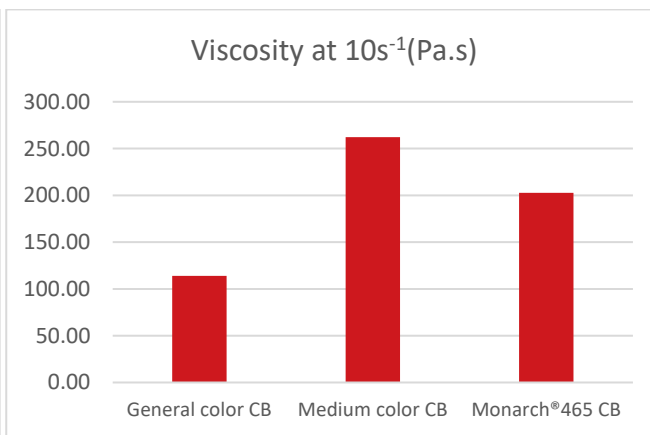


Figure 2, Viscosity profiles of black color pastes at 10 s^{-1} shear rate, carbon black loading is 26wt% in 1500cst hydroxyl terminated polydimethylsiloxane

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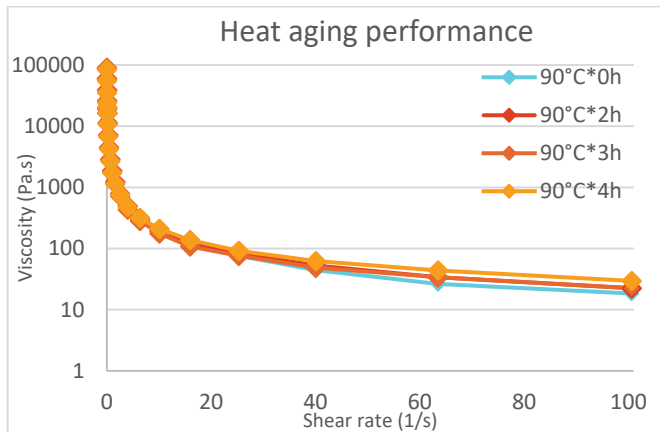


Figure 3, Heat aging performance of color paste of MONARCH[®]465

MONARCH[®]465 specialty carbon black enables good flowability. Figure 2 above shows the viscosity of the 26wt% color pastes at 10s⁻¹ shear rate. The data demonstrate that MONARCH[®]465 specialty carbon black enables formulation good flowability at medium viscosity.

MONARCH[®]465 specialty carbon black can achieve good compatibility with hydroxyl terminated polydimethylsiloxane. Figure 3 shows the viscosity of color paste containing 26wt% MONARCH[®]465 specialty carbon black after aging at 90°C for 0, 2, 3, 4 hours respectively. The data shows that MONARCH[®]465 specialty carbon black can provide excellent thermal stability in black paste.

Performance in RTV silicone sealant applications

MONARCH[®]465 specialty carbon black performed very well in a model one component (1K) RTV silicone sealant formulation¹. The final loading of carbon black was 1% in the cured RTV film. The results show that MONARCH[®]465 specialty carbon black delivered the best jetness (lowest L*, Figure 4) and similar gloss (Figure 5) in the RTV silicone formulations tested.

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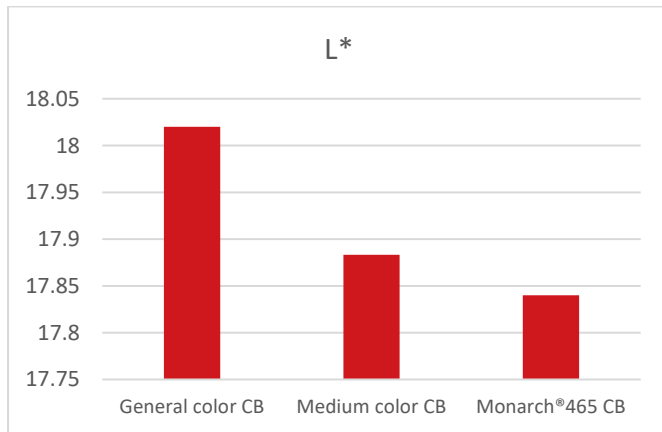


Figure 4, Model 1K RTV Silicone sealant formulation jetness tests: cured at 23°C, 50% relative humidity for 7 days, thickness is 2mm

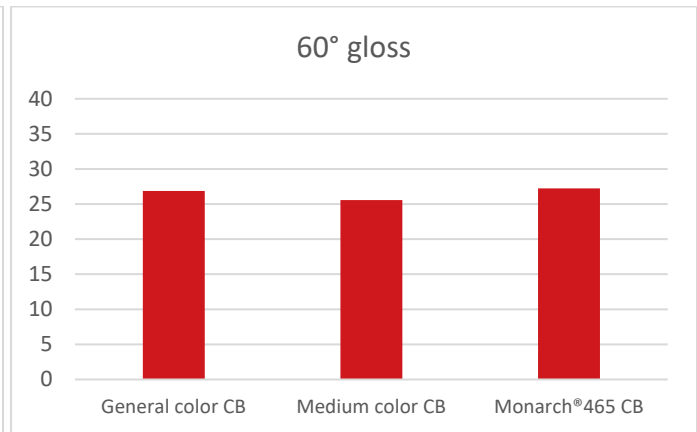


Figure 5, Model 1K RTV Silicone sealant formulation gloss tests: cured at 23°C, 50% relative humidity for 7 days, thickness is 2mm

¹Cabot model 1K RTV silicone sealant formulation contains 1wt% carbon black, hydroxyl terminated silicone gum, silicone fluid, fillers and silane coupling agent. More details on model formulation and rheology test parameters are available by contacting your Cabot representative.

Product form and logistics

- ◆ Product Form: Fluffy powder
- ◆ Regional availability: Global
- ◆ Bag Packaging Options: 10kg/bag, 520kg/pallet
- ◆ Bulk Packaging Options: Multiple

For information on product-specific storage conditions, please refer to the applicable Safety Data Sheet (SDS) available from your Cabot representative or at cabotcorp.com.

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