

3500 SERIES POLYETHYLENE COLOR CONCENTRATES



Breen Color Concentrates' **3500 Series** polyethylene color concentrates are specially developed for use with modern moisture cure crosslink compounds, including those utilizing ambient cure technologies. The carrier resin is a proprietary polyethylene that has excellent performance and compatibility characteristics. **3500 Series** products may also be used with conventional polyethylene compounds. These products are not recommended for use with CV XLPE compounds as the extrusion temperatures normally used in such processes are too low to adequately melt and mix these products. **3500 Series** colors were developed in conjunction with Borealis ® and have been approved by Borealis for use with Visico / Ambicat® compounds. These color concentrates are designed to match designated Munsell colors, as specified within EIA-359-A "Standard Colors for Wire Identification and Color Coding, Wire and Cable Limits". The recommended letdown level is 1% however Breen recommends that customers perform tests to determine the actual level of color concentrate needed for the compound(s) being used.

Breen's **3500 Series** colors are formulated with pigments and other raw materials that have been demonstrated to have little or no adverse impact in crosslink rate and scorch when used with Moisture cure compounds. **3500 Series** colors do not intentionally contain diarylide pigments, lead, hexavalent chromium, cadmium, mercury or other restricted or prohibited materials. They are compliant, as supplied, with RoHS, REACH SVHC, CONEG, California Proposition 65, WEEE and all automotive industry chemical inventories. Recommended applications include wire and cable insulation and jacketing, tubing and PEX conduit.

Form: Underwater cut pellets, approximately 3 to 4 mm.

Shelf Life: Practice FIFO. 12 to 18 months when stored in dry conditions

Storage and Processing Recommendations: Store in closed containers. Recommended melt temperature should be as recommended by the compound manufacturer. The recommended process temperature window for the 3500 Series colors is 340F to 400F. High intensity mixing screws may be needed for use with FR crosslink compounds.

Breen Color Concentrates warrants that the product shall conform to seller's applicable specifications or specifications requested by buyer and agreed to by seller in writing. Breen Color Concentrates does not make any warranties for its products whether expressed or implied of merchantability or fitness for a particular purpose. It is the buyer's responsibility to test the seller's products for suitability in buyer's application. The sole liability of Breen Color Concentrates for any claims against its products shall be the value of the purchase price of the product sold.

Product Range

Product Code	Munsell Color ¹	Color Stability ²	Heat Resistance, °C ³	Volume Resistivity ⁴	Dielectric Constant ⁴	Dissipation Factor ⁴
Black 3500	Black	8	300	1.3 x 10 ¹⁵	2.01	0.00030
Blue 3501	Blue	8	280	1.0 x 10 ¹⁵	1.93	0.00032
Blue 3502 (aqua)	Aqua	7	280	1.1 x 10 ¹⁵	2.02	0.00024
Brown 3503	Brown	6 – 7	250	9.7 x 10 ¹⁴	1.96	0.00022
Gray 3504	Gray (Slate)	8	300	6.7 x 10 ¹⁴	1.84	0.00024
Green 3505	Green	7	280	1.1 x 10 ¹⁵	1.82	0.00024
Orange 3506	Orange	8	280	1.2 x 10 ¹⁵	1.94	0.00018
Pink 3507	Pink (Rose)	7	280	6.3 x 10 ¹⁴	1.87	0.00020
Purple 3508	Purple	7-8	300	7.0 x 10 ¹⁴	2.01	0.00016
Red 3509	Red	7-8	300	6.7 x 10 ¹⁴	1.93	0.00020
Yellow 3510	Yellow	6-7	260	6.9 x 10 ¹⁴	1.92	0.00020
White 3511	White	8	300	1.2 x 10 ¹⁵	1.99	0.00018

1. Munsell Color: As specified within EIA-359-A “*Standard Colors for Wire Identification and Color Coding, Wire and Cable Limits*”.
2. Color Stability: Based on Blue Wool Scale 1 – 8 rating system for the pigments contained in the product. 8 denotes highest light stability.
3. Heat Resistance: The maximum temperature that the color concentrate can be exposed to for 5 minutes without undergoing noticeable color change.
4. Volume Resistivity: Measured on samples containing 1/100 color/natural HDPE using ASTM D-150.

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