

» APPLICATION BULLETIN

Orange Nylon Colorants for High-Voltage Electric Vehicle (EV) Connectors

The electric vehicle (EV) industry is growing rapidly as governments worldwide encourage sustainable energy. One of the critical components inside an EV is the charging connector, which comprises high-voltage parts that deliver power to the vehicle's battery. However, separating these high-voltage parts from other components in the vehicle is crucial to prevent damage or injury. A cautionary orange color is often used in EVs to distinguish high-voltage power connectors and cables from other parts. It is also a preferred choice for automotive manufacturers as a warning of potential safety hazards.

This is where Avient's orange nylon colorants can help. Its portfolio of OnColor™ polymer colorants was developed to improve the heat and long-term color stability of cautionary orange polymers for high-voltage EV connectors, offering the following benefits:

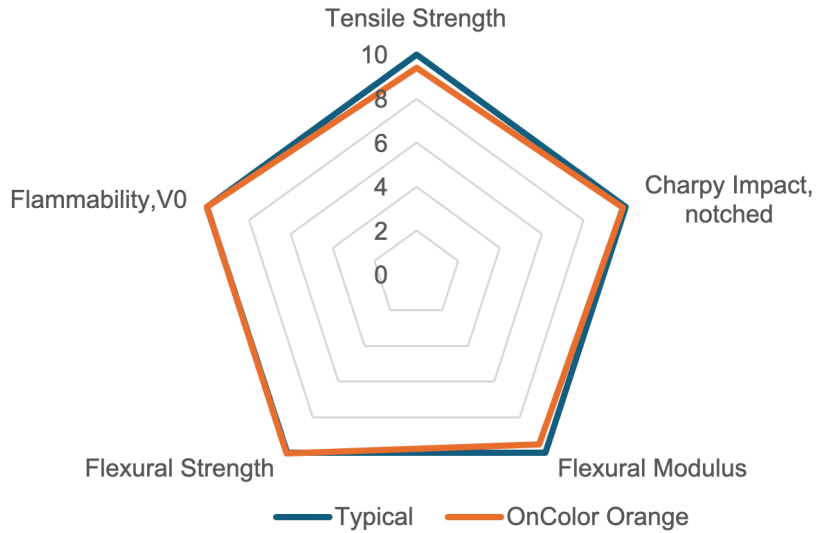
- Long-term fading resistance in thermal aging tests at up to 130°C for 1,000 hours,
- No migration, excellent processing stability
- Lower corrosion risk vs. typical comparable colorants
- No impact on flame retardancy and limited adverse effects on essential mechanical characteristics, including flexural and impact strength

Avient's orange nylon colorants are available in several validated RAL, Pantone, and JPMA orange shades for compounding, injection molding, and extrusion.



MECHANICAL & FLAME-RETARDANT PERFORMANCE

Comparison of PA66/GF/NHRF typical
and with OnColor™ AB23447398



LONG-TERM HEAT AGING PERFORMANCE



Heat-aging condition: 130°C, 1,000 hours in PA66/GF/FR compound

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