

Milliken® RESIST™ Orange RAL

Extreme-Performance Orange Solutions for High-Heat Engineering Polymers

Engineered for Demanding
E-Mobility Applications

RESIST™ orange solutions are engineered for e-mobility connector applications in PBT, PA6, PA66, PPA and other high heat engineering polymers. Designed to withstand processing temperatures beyond 300°C and prolonged heat ageing exposure, they maintain controlled RAL 2003 colour performance in demanding high-temperature environments.

The portfolio spans cost-competitive solutions for standard injection-moulded connectors through to high-performance grades for severe operating conditions.



Key Application Requirements

- Colour stability at high processing temperatures
- Stability through 1,000-hour heat ageing
- Compatibility with glass-filled systems
- Limited impact on CTI performance
- Minimal impact on mechanical properties

Application Based Selection

COMPONENT TYPE	TYPICAL MATERIALS	PERFORMANCE DEMANDS	RECOMMENDED SOLUTIONS
Service Plugs & Standard Connectors	PBT, PA6	• Dimensional stability • Mechanical retention • Electrical property retention • Moderate processing temperatures	KeyPlast® Orange LFP RESIST® Orange 8080
High-Voltage Connectors	PA66, PK, PPA, PPS	• Elevated melt temperatures • 1,000-hour heat ageing • Flame-retardant compatibility • CTI sensitivity	RESIST® Orange 8085 RESIST® Orange 9092 RESIST® XTR Orange 9185 RESIST® XTR Orange 9798
Busbar Insulators & Components	PA66, PPA, PPS, PK, PA11, PA12	• Direct current contact • Thermal cycling • High heat resistance • FR specifications	RESIST® Orange 8085 RESIST® Orange 9092 RESIST® XTR Orange 9185 RESIST® XTR Orange 9798

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Technical Performance Summary

RESIST™ orange solutions are structured across defined performance tiers to align colour performance with component requirements and polymer selection.

Standard grades provide cost-effective solutions for PBT and PA6 service components, while high-heat grades are engineered for PA66, PPA and other high-temperature systems requiring extended thermal stability.

PERFORMANCE TIER	PRODUCT	CI	HIDING POWER	HEAT STABILITY PA6	HEAT STABILITY PA66	HEAT AGEING	POLYMER SUITABILITY
Standard	KeyPlast® Orange LFP	SO60	Transparent	280°C	NA	Not suitable	PBT, PA6
	RESIST® Orange 8080	DO47	Transparent	260°C	260°C	Good	PBT, PA6
High-heat	RESIST® Orange 8085	Proprietary	Transparent	280°C	280°C	Excellent	PBT, PA6, PA66
	RESIST® Orange 9092	PO68	Opaque	310°C	300°C	Excellent	PBT, PA6, PA66
	RESIST® XTR Orange 9185	Proprietary	Transparent	300°C	300°C	Excellent	PBT, PA6, PA66, PPA, PPS*, PEEK*
	RESIST® XTR Orange 9798	Proprietary	Opaque	310°C	300°C	Excellent	PBT, PA6, PA66, PPA

*Heat stability values based on 0.20% dye loading (masstone) and 0.20% + 1.0% TiO₂ (tint) per DIN EN 12877.



Contact us for more information
chemical.milliken.com/contactus

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