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LANXESS
Energizing Chemistry

Orange coloring of plastics using our new Bayplast® Orange – a high-performance pigment with high weather- and light fastness for high-temperature applications.

Bayplast® Orange TP LXS 51137 (Pigment Orange 68) is not only very well suitable for the coloration of PA but also for other technically demanding plastics in terms of high-temperature processing or application.

PROPERTIES

Bayplast® Orange TP LXS 51137 is a highly heat-stable pigment and combines high fastness properties and a reddish casted orange color shade. These properties are useful e.g. for PA, where many other colorants fail due to thermal stress or lack of suitability.

- Broadly applicable due to overall excellent heat-stability
- Reddish casted orange for PA and other engineering polymers
- Heat stability: 300°C in PA6, PA6.6 and PBT
- High color strength
- High migration stability
- High light- and weather fastness

APPLICATIONS

Due to the high heat stability in PA and PBT Bayplast® Orange TP LXS 51137 can be used for coloring high voltage components. E-vehicles are operated with up to 400 V direct voltage in the battery circuit and up to 1000 V alternating voltage in the motor circuit. Since this is considered to be potentially life-threatening, orange color is used as an identifying and safety feature for high-voltage cables and connection components in hybrid and electric cars. These high voltage components need to be recognizable over the entire lifetime of a vehicle.

Other known applications are power tool housings or gears. The high light- and weather fastness of Bayplast® Orange TP LXS 51137 enables the development of high-quality color formulations for outdoor applications.

BENEFITS

- Particularly suitable for PA applications
- Expanded product-life cycle
- Outstandingly consistent and exact coloristics
- Suitable for outdoor applications
- Cost-efficient due to high color strength
- Halogen-free
- Use of eco-friendly & harmless solvents in the production process

PERFORMANCE

Bayplast® Orange TP LXS 51 137 exhibits high performance in all kinds of polyamides, but also PBT, PVC, polyolefines, ABS, PC.



Figure:

Color shade example in PA 6 (left) and PBT (right) at 1/3 standard depth with 1% TiO₂

Figure:

Migration fastness in PBT (0,30% in PBT with 1% TiO₂: No migration visible after testing at 80°C for 24h, pressure of 4N/cm²)



Table: Heat stability in °C at 1/3 standard depth with 1% TiO₂ (DIN EN 12877)

	PA 6	PA 6.6	PBT	PS	PC	ABS
1/3 standard depth [%]	0,16	0,17	0,30	0,25	0,15	0,26
Heat stability [°C]	300	300	300	300	320	300

Table: Light fastness at 1/3 standard depth with 1% TiO₂ (DIN EN ISO 4892-2; 8-step blue wool scale)

	PA 6	PA 6.6	PBT	PS	PC	ABS
1/3 standard depth [%]	0,16	0,17	0,30	0,25	0,15	0,26
Reduction with white	7	7-8	7-8	7	7-8	7
Full shade	8 (at 0,10%)	8 (at 0,10%)	7 (at 0,15%)	-	-	-

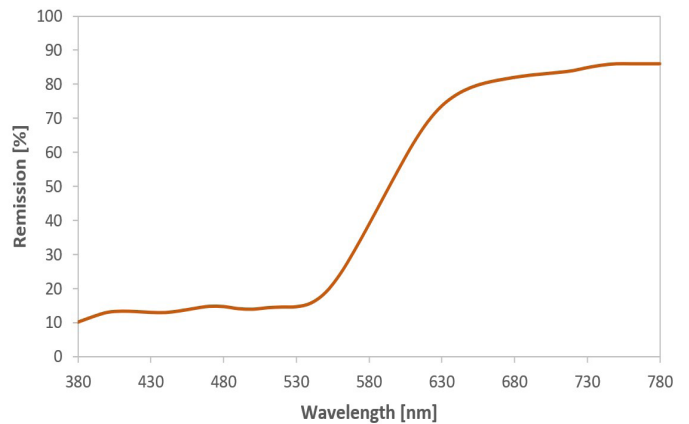


Figure: Typical reflection curve in PA 6 (0,16% with 1% TiO₂)

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