



Polyamide 66 - 25% Glass Fiber Reinforced, Heat Stabilized, Flame Retardant, UV Stabilized

1 Scope

1.1 Material Description. This standard covers the properties of a 25% by mass glass fiber reinforced, heat stabilized, flame retardant, ultraviolet (UV) stabilized polyamide 66 (nylon 66), which is used in injected form for molded components.

Additional characteristics beyond the amount of glass fiber reinforcement will be shown in Table 1.

1.2 Symbols. The material abbreviation according to ISO 11469 is >PA66-GF25-FR(VW+YZ)<. The appropriate flame retardant codes for VW and YZ should be filled in by the resin supplier according to ISO 1043-4. (Do not use VW and YZ in the material symbol.)

1.3 Applicability. Typical applications include the following: Ashtrays.

1.4 Remarks. Interior material for center console mounted ashtrays only. Colorfastness and Natural Weathering durations deviate from templated polyamide requirements due to targeted application location (center console mounted ashtrays).

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

ASTM D6869	ISO 188	ISO 1183	ISO 11469
ISO 75	ISO 294	ISO 1874-2	ISO 15512
ISO 179	ISO 527	ISO 3146	SAE J1885
ISO 179/1eA	ISO 527-1/2	ISO 3451	UL 94
ISO 179/1eU	ISO 1043-4	ISO 11357-3	

2.2 GM Standards/Specifications.

GMW3013	GMW3221	GMW14162	GMW14444
GMW3059	GMW3235	GMW14334	GMW15634
GMW3205	GMW3417	GMW14335	GMW16853

2.3 Additional References.

TMC003 Material Safety Data Sheet guidance documents (available at www.gmsupplypower.com).

3 Requirements

3.1 Requirements on Test Specimens. Reference GMW3221.

3.2 Emissions Testing of Interior Materials and Parts. For all Code E designated parts per GMW14444, reference GMW16853 for emissions testing of interior materials and parts.

3.3 Requirements on Delivery. Important physical, mechanical and thermal properties that characterize the material are summarized in charts. The color shall be specified on drawings, in material specifications and otherwise.

Unless otherwise specified, injection molding of test specimens shall be accomplished per ISO 294 with the conditions for injection molding from ISO 1874-2.

All values indicated herein are based on material considered to be in the dry-as-molded state with moisture content of 0.2% maximum (ASTM D6869, ISO 15512, Method A or B, or GMW14335). Immediately after molding, specimens shall be sealed in moisture-proof containers and stored at 22 °C ± 3 °C for at least 24 h prior to test

as specified in ISO 1874-2. All tests shall be performed on unannealed specimens immediately after their removal from the containers in a controlled atmosphere of $22\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ and $50\% \pm 5\%$ relative humidity (RH) unless otherwise specified. In addition, tests specified at temperatures below or above $22\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ shall be conducted at the specified temperature using specimens conditioned at the specified temperature for 4 h minimum.

The minimum values specified in the property tables must be met by test specimens in natural, black, or in a standard sampled color if natural or black are not available.

3.3.1 Compound Properties (Natural, Black and Integrally Colored). See Tables 1 and 2. The following are also required for full standard approval. The minimum number of lots per test required is one in natural: Poisson's Ratio, Coefficient of Linear Thermal Expansion (CLTE), Mold Shrinkage, Stress Strain Curve at multiple temperatures (for example, $-30\text{ }^{\circ}\text{C}$, $23\text{ }^{\circ}\text{C}$, $85\text{ }^{\circ}\text{C}$), Shear Modulus Curve; Differential Scanning Calorimetry (DSC) Curve; and Infrared Spectroscopy Curve. See GMW3013 for the test procedures.

3.4 Performance Requirements. Performance requirements shall be specified on part drawings or in component specifications.