

Transparent Semi-Aromatic PA Flame Retardant CR-M0604

CR-M0604 is a novel halogen-free flame retardant specifically developed for transparent semi-aromatic polyamide. It can get UL94-V0@0.8-1.6mm while maintaining the optical properties. Surprisingly, the physical and mechanical properties of the transparent nylon are enhanced, and its processing performance is significantly improved, with only a moderate decline in thermal properties. The resulting flame-retardant transparent nylon is ideally suited for applications in electrical/electronics, automotive industries, electrical appliances, containers, and other fields.

1. Materials:

Transparent PA: DuPont Selar 3426

Flame retardant: Inovia CR-M0604

2. Processing condition:

Drying: 95-105°C, 4h

Extrusion temperature: 190-210°C

Injection temperature: 210-220°C; mold temperature 40-50 °C

3. Application Example Data

Table 1. Flame retardant performance

CR-M0604	UL94 rating
12%	V0@0.8~1.6mm

Table 2. Optical Properties

	Method	Thickness	Base material	+12%CR-M0604
Transmittance (%)	ASTM D 1003	1.6mm	86.8	88.2
Haze (%)	ASTM D 1003	1.6mm	18	7.91
YI	ASTM E313	1.6mm	6.5	3.28

Table 3. Mechanical and Thermal Properties

	Method	Unit	Base material	+12%CR-M0604
Tensile strength	ISO 527	MPa	84	94
Elongation at break	ISO 527	%	3.2	4.7
Flexural strength	ISO 178	MPa	115	124
Flexural modulus	ISO 178	MPa	2899	3062
HDT (1.80 MPa)	ISO 75	°C	104	81

Table 4. Other Properties

	Method	Unit	Base material	+12%CR-M0604
MI(220°C / 5kg)	ISO 1133	cm ³ /10min	3.9	17.2
Density	ISO 1183-1	g/cm ³	1.19	1.19

Note: The data recommended in this document can be used as a reference for various purposes. There will also be some amendments along with new technical improvements. Therefore, when designing the product, the use environment and structure of the product should be fully considered, and whether the product has any problems should be judged by the design company itself.