

PC Retardant DR-M878

DR-M878 is a new high-efficiency flame retardant developed for polycarbonate (PC), suitable for preparing PC thin-walled flame retardant products, including films, sheets, thin sheets, and thin-walled injection molded parts. DR-M878 does not contain halogens and does not require the addition of PTFE anti-dripping agents, which can perfectly meet the regulatory requirements of fluorine/halogen-free deflationary.

1. Materials

PC: Covestro PC 2805

Flame retardant: Inovia DR-M878

2. Processing

2.1 Drying condition: 120°C, 4 hours.

2.2 Use a high-speed mixer to blend DR-M878 with PC resin, and control the inner temperature of the mixer below 95 °C.

2.3 Extrusion temperature: 250~260 °C

2.4 Casting temperature: 260~275 °C, roller temperature: 140 °C

2.5 Sheet thickness: 0.5 mm

3. Comparison of physical properties of flame-retardant PC sheets

Table 1. Flame retardant performance

Sample	DR-M878	UL 94 rating
PC	0	0.5 mm V2
FR PC	1.5%	0.5 mm V0

Table 2. Mechanical Properties

	Direction	Thickness	Unit	PC	+1.5%DR-M878
Tensile strength	MD	0.5mm	MPa	63	64
	TD			59	62
Elongation at break	MD	0.5mm	%	161	78
	TD			83	34
180° bending performance	MD	0.5mm	Times	9	6
	TD			9	6

Table 3. Thermal Performance

	Method	Unit	PC	+1.5%DR-M878
VST (10N)	ISO 306	°C	144	147
HDT (1.8MPa)	ISO 75	°C	119	120
T_g	-	°C	145	142

Table 4. Processing Flowability

	Method	Unit	PC	PC+1.5%DR-M878
MI (300°C, 1.2kg)	ISO 1133	cm ³ /10min	12	/
MI (280°C, 1.2kg)	ISO 1133	cm ³ /10min	4	12