

Glass Fiber Reinforced PA66(Bloom-Free) Retardant CR-M1431

CR-M1431 is a flame retardant developed for glass fiber reinforced PA66 and keep bloom-free of the product. This FR product can be offered as powder or masterbatch. What's more, the processing flowability and mechanical properties of the FR GF-PA 66 is improved, compared with Clariant retardants.

1. Materials

PA66: ShenMa EPR-27

Retardant: CR-M1431 (A masterbatch CR-M1431B is used here)

Glass fibre: megalith EDR14-2000-988A--30%

2. Processing

Drying: 90°C, 4~6h

Extrusion temperature: 240~285°C

Injection temperature: 270~285°C; mold temperature: 80~100°C

3. Application Example Data

Table 1. Flame Retarding Properties

	Method	Thickness	17% CR-M1431	14% CR-M1431
UL rating	UL94	0.8mm	V0	/
UL rating	UL94	1.6mm	V0	V0
GWFI	IEC 60695	1.6mm	960°C	960°C
GWFI	IEC 60695	1.0mm	960°C	960°C
GWIT	IEC 60695	1.6mm	700°C	700°C
GWIT	IEC 60695	1.0mm	700°C	700°C

Table 2. Mechanical and thermal properties

	Method	Unit	17% CR-M1431	14% CR-M1431
Tensile strength	ISO 527	MPa	131	141
Elongation at break	ISO 527	%	2.5	2.6
Flexural strength	ISO 178	MPa	192	202
Flexural modulus	ISO 178	MPa	9000	9100
Charpy notched impact strength	ISO 179	kJ/m ²	9.6	10.6
HDTA(1.8MPa)	ISO 75	°C	235	236

Table 3. Other properties

	Method	unit	17% CR-M1431	14% CR-M1431
Melt index (280°C / 2.16kg)	ISO 1133	g/10min	6.5	9.5
Density	ISO 1183-1	g/cm ³	1.42	1.42
Blooming free time	85°C, 85%RH	h	>3000	>3000

4. Summary

CR-M1431 has outstanding blooming stability, can be stable up to 3000hrs under 85%RH/85°C test condition. What's more, the processing flowability and mechanical properties of the FR GF-PA 66 is improved, compared with Clariant retardants PA66.