COMPOUND PP

Non-Dioxin Type, Flame Retardant PP Compound resins

- ▶FH44
- ▶FH44C
- ▶FH44N

● Description

Non-flammable PP, FH44, FH44C, and FH44N, are high heat-resist and non-flammable PP that does not contain Dioxins, which cause environmental problems and harmfulness to human body, and provide excellent and stable non-flammability even with thinking about human and environment.

● Characteristics

Using HIPP(High Isotactic Polypropylene), which is basically excellent balance between heat-resist and shock resistance, as base resin, Non-Dioxin, non-flammable PP, FH44, FH44C, and FH44N, provide rigidity, shock resistance, thermal deformability, long-term stability, and excellent non-flammability of UL94 V-0 grade.

● Applications

- ▶ TV Deflection Yoke (FH44, FH44C)
- ▶ Microwave Body Latch (FH44N)
- ▶ Other electric/electronic parts needing non-flammability (FH44, FH44N)

● Major Properties Requirement

- ▶ UL94 VO rating
- ▶ Non-toxic to human or the environment (non-dioxin type)
- ▶ Long-term anti-thermal stability
- ▶ Resistance to thermo-plasticity

● General Processing Guide

▶ Non-Dioxin non-flammable PP, FH44, FH44C, andFH44N, have a similar processing condition as the previous non-flammable PP. While separate drying before molding is not necessary, drying for about 2 hours at 90~100℃ helps to get better appearance of a molding product in processing.

▶ Use in high temperature causes dismantlement so that it is molded under 230℃ of the resin temperature.

▶ There would be no problem when molding in normal cycle time. In order to avoid dismantlement of non-flammable agents among residual resin, the residual resin in the cylinder should be purged and cleaned with flammable PP at both break and finish.

Standard PP processing conditions may be applied, and the typical processing conditions are as follows:

Conditions		Data
Cylinder Temp.	Feeding zone	170 ~ 180
	Plasticizing zone	180 ~ 200
	Metering zone	180 ~ 210
Nozzle Temp. (℃)		190 ~ 220
Mold Temp. (℃)		40 ~ 70
Injection Pressure(kg/cm^2)		400 ~ 800
Back Pressure (kg/cm^2)		5 ~ 20
Injection Speed (%)		50 ~ 80

● Physical Properties

▶ Resin Properties

Properties	Test method	Condition	Unit	FH44	FH44C	FH44N
Melt index	ASTM D1238	230℃	g/10min	5.0	2.5	9.0
Gravity	STM D792	-	-	1.32	1.25	1.27
Tensile strength at Yield	ASTM D638	50mm/min	kg/cm^2	310	360	290
Elongation at Break			%	30	38	30
Flexural Modulus	ASTM D790	50mm/min	kg/cm^2	32,000	33,000	25,000
IZOD Impact Strength	ASTM D256	23℃	kg.cm/cm	3.7	4.0	8.0
Heat Distortion Temperature	ASTM D648	4.6kgf	℃	134	142	135
Surface Hardness	ASTM D785	Rockwell	R-Scale	96	98	96
Mold shrinkage	Hanwha Total	2mm(t)	%	1.0~1.3	0.8~1.1	0.8~1.1
Non-flammability	UL94	-	-	V-0 (1/32")	V-0 (1/32")	V-0 (1/32")
	UL746B	-	-	120℃	120℃	120℃

* Note: The above data are for reference materials that injection molded test pieces are used to measure their physical property values, and are subject to change according to processing environment.

● Food Contact Application

▶ Hanwha Total FH44, FH44C, FH44N are not intended for use in food-contact and medical applications either.

▶ In case you might need additional technical or regulatory information, please contact Hanwha Total Composite Development Team.

● Other Information

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