+135-3858-6433 (GuangDong)
+188-1699-6168 (ShangHai)
+852-6957-5415 (HongKong)

Hanwha | TOTAL

COMPOUND PP

High-Impact, High-Gloss PP Compound Resins

▶SI51C
▶SH52C

● Description

High glossy compound PP SI51C and SH52C are improved heat resistant PP grades. These products have the high heat-resistance required for use in electric heating equipment parts, as well as superior surface gloss and scratch-resistance.

These are Korea's best high heat-resistant, high glossy compound PP products, They are designed for the exterior housing s of household appliances which require an elegant appearance, such as rice cookers, toasters, irons, jars, pots, and bread makers.

● Characteristics

SI51C and SH52C employ high crystalline PP (HIPP: High Isotactic PP) as the base resin which contributes to heat-resistance, rigidity and scratch-resistance, all of which are superior to those found in common PP.

These grades of PP also feature excellent the mechanical-property balance required for use in electric heating equipment. Our SI51C & SH52C has superior thermal durability reflected in its RTI Relative Thermal Index) certification value of temperature, 120℃, based on the regulation of UL746B.

- Superior resistance to thermal strain, thus these grades can be used for parts in electric irons, toasters, bread-makers and other household appliances
- Superior flexural modulus and rigidity
- Economic use as specific gravity (1.00g/cm3), is lower than that of common high gloss PP (1.06~1.15)
- Superior impact-resistance and size stability
- Certified by Japan's Welfare Ministry. Odorless characteristics and chemical resistance in these grades make them excellent for use in food-related electronic goods
- Thermal durability at high-temperatures is superior, thus, suitable for use in electric heating equipment;
- Surface gloss and scratch-resistance are excellent, thus, ideal for use on parts that require a neat finish;
- RTI/UL746B certification for products exported to Europe and the U.S.A

.

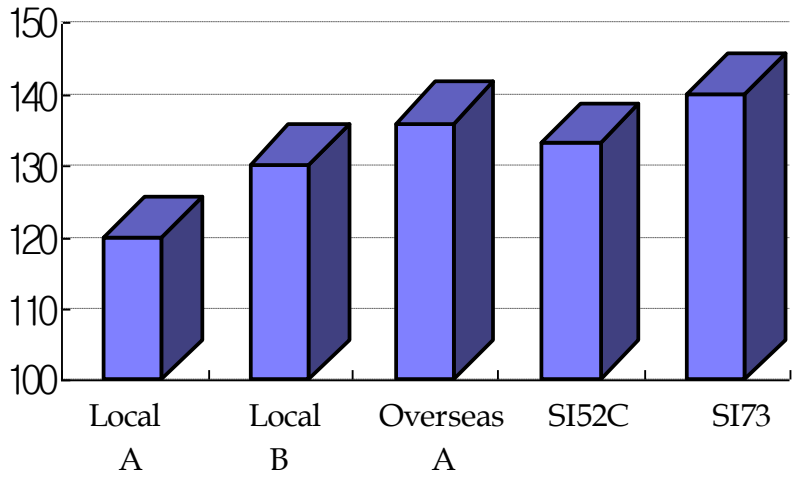

Fig.1 Comparison of HDT with other Brand

+135-3858-6433 (GuangDong)
+188-1699-6168 (ShangHai)
+852-6957-5415 (HongKong)

Applications

- Rectangular rice cooker housings bodies, bases, and covers
- Bread-makers, irons, and hot pots
- Electronic products requiring high heat-resistance, high glossiness, and clear finish

Major Property Requirement

- High heat-resistance and rigidity
- Long-term thermal stability
- Food-related products requiring sanitation

General Processing Guide

The product is manufactured under general high glossy PP processing standards and typical processing conditions are as follows:

Conditions		Data
Cylinder Temp.	Feeding zone	170 ~ 190
	Plasticizing zone	180 ~ 200
	Metering zone	180 ~ 210
Nozzle Temp. (℃)		180 ~ 210
Mold Temp. (℃)		50 ~ 70
Injection Pressure(kg/cm^2)		400 ~ 700
Back Pressure (kg/cm^2)		5 ~ 20
Injection Speed (%)		40 ~ 70

● Physical Properties

Properties	Test Method	Condition	Unit	SI51C	SH52C
Physical Properties					
Melt Index	ASTM D1238	230℃	g/10min	12.0	12.0
Specific Gravity	ASTM D 792	-	g/cm³	1.0	1.1
Mechanical & Thermal Property					
Tensile Strength at Yield	ASTM D638	50mm/min	kg/cm²	400	385
Elongation at Break			%	100	40
Flexural Modulus	ASTM D790	5mm/min	kg/cm²	25,000	23,000
Izod Impact Strength	ASTM D256	23℃	kg.cm/cm	4.0	4.0
Heat Distortion Temperature	ASTM D648	4.6kg/㎠	℃	140	133
Surface Hardness	ASTM D785	Rockwell	R-Scale	110	102
Processing & Rheological Property					
Mold Shrinkage	HANWHA TOTAL	2mm(t)	%	1.3~1.5	1.1~1.5
Recognition					
UL94	-	-	-	HB	HB
UL746B	-	-	-	120℃	120℃
Food Application				YES	YES

● Food Contact Application

- ▶ There may be some limitation to apply Hanwha Total SI51C, SH52C to the food packaging
- ▶ Thus, the verification on the suitability is necessary. In case you might need additional information, please contact Hanwha Total Composite Development Team.

● Other Information

The information in this document can be used for reference only, not to be construed as specification. Customers are responsible for determine whether our product and information is suitable for their particular purpose and for the compliance with related law.
Hanwha Total assumes no obligation or liability for the information in this document.