

# COMPOUND PP

Compound PP for Heat Resistance

- ▶ TB51
- ▶ TB52
- ▶ TB53
- ▶ TB54

## ● **Description**

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Manufactured by adding an inorganic filler, talc to polypropylene, Hanwha Total's heat-resistant PP compounds are designed for use in injection molding, and feature highly improved strength and heat-resistance.

Produced with a variety of base PPs, such as HIPP (High Isotactic or High Crystalline Polypropylene), Hanwha Total's special processing technology results in PP of the highest quality.

These products feature superior rigidity and impact strength, long-term heat resistance and anti-static property. Dimensional stability is another plus!

These Hanwha Total products are widely used in electric and electronic parts, household appliances and automobiles.

## ● **Characteristics**

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- ▶ Addition of an inorganic filler, talc enhances heat-resistance and dimensional stability;
- ▶ Superior strength and impact-resistance;
- ▶ Superior processability.

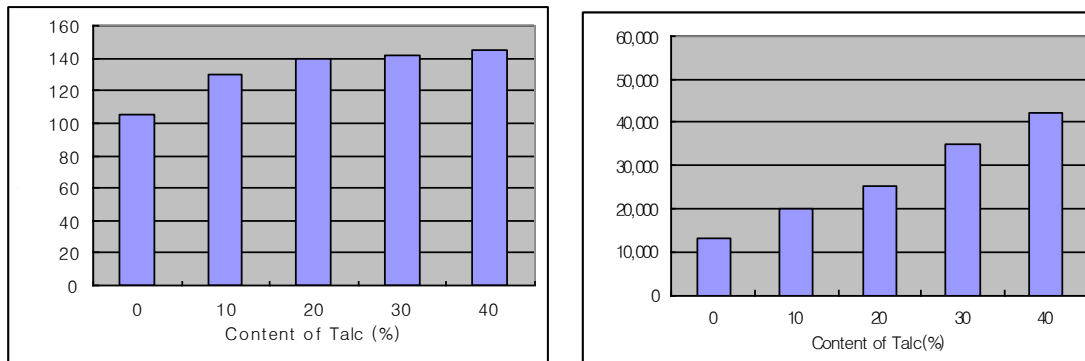


Fig 1. The effect on heat resistance and stiffness of contents of talc

## ● Applications

### ► Electric/electronic products

- Dish washer and microwave oven parts such as doors, air covers, air ducts;
- Washing machines parts (such as balances), and TV speaker cabinets;
- Household goods such as food containers.

## ● Physical Properties

Properties	Test Method	Condition	Units	TB51	TB52
Melt Index	ASTM D1238	230℃, 2.16kg	g/10min	10.0	11.0
Density	ASTM D1505	-	g/cm³	0.97	1.04
Tensile Strength at Yield	ASTM D638	50mm/min	kg/cm²	350	350
Elongation at Break	ASTM D638		%	60	60
Flexural Modulus	ASTM D790	5mm/min	kg/cm²	20,000	25,000
Izod Impact Strength	ASTM D256	23℃	kg.cm/cm	5.5	5.0
Rockwell Hardness	ASTM D785	Rockwell	R-Scale	95	93
Heat Deflection Temp.	ASTM D648	4.6kg/cm²	℃	130	139
Shrinkage Ratio	HANWHA TOTAL	2mmt	%	1.2~1.6	1.0~1.4
Flammability	UL94	-	-		HB

\* Data shown above are representative values for reference purposes only, and not to be construed as specifications.

Properties	Test Method	Condition	Units	TB53	TB54
Melt Index	ASTM D1238	230℃, 2.16kg	g/10min	10.0	9.0
Density	ASTM D1505	-	g/cm <sup>3</sup>	1.12	1.24
Tensile Strength at Yield	ASTM D638	50mm/min	kg/cm <sup>2</sup>	340	340
Elongation at Break	ASTM D638		%	60	40
Flexural Modulus	ASTM D790	5mm/min	kg/cm <sup>2</sup>	35,000	42,000
Izod Impact Strength	ASTM D256	23℃	kg.cm/cm	4.5	4.0
Rockwell Hardness	ASTM D785	Rockwell	R-Scale	91	89
Heat Distortion Temp.	ASTM D648	4.6kg/cm <sup>2</sup>	℃	142	145
Shrinkage ratio	HANWHA TOTAL	2mmt	%	0.8~1.2	0.6~1.0
Flammability	UL94	-	-	HB	HB

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## ● **General Processing Guide**

### ► Typical Processing Conditions:

- Feeding zone 180 ~ 200℃
- Plasticizing zone 190 ~ 210℃
- Metering zone 200 ~ 220℃
- Mold temperature 50 ~ 80℃
- Screw rpm 30 ~ 80
- Injection Pressure 400 ~ 900 kg/cm<sup>2</sup>
- Holding Pressure 600 ~ 1000 kg/cm<sup>2</sup>

Actual injection conditions must be adjusted according to the types of injection machines and sizes of parts.

## ● **Food Contact Application**

- ▶ There may be some limitation to apply Hanwha Total TB51, TB52, TB53, TB54 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.