

## PET pellets for Heat-resistant tableware Type No.3760

### PET Heat-resistant reusable tableware

Due to environmental protection, Environmental Protection Administration in Taiwan announced that major shopping malls will ban the provision of disposable tableware, and reusable tableware must be provided for consumers to use in the future.



In addition to stainless steel and ceramics, this kind of reusable tableware is mainly made of plastic materials-polypropylene (PP) and melamine due to cost and process convenience, but current recycling technology of PP and melamine is relatively unskilled and cannot be collected and recycled effectively.

PET is a common PET bottle material on the market. It is more sophisticated in recycling technology than PP and melamine. PET can be recycled and reprocessed into fabrics or plastic products.

Environmentally friendly heat-resistant tableware made by PET pellets Type No.3760 pellets. The structure of the PET tableware is hardened through the crystallization process during processing, so the heat resistance temperature can reach to 150 °C, and the shelf life is about 3-5 years. The waste PET tableware can be reprocessed like recycled PET bottles to achieve the sustainable materials.

### The properties of plastic tableware

Material	PET	PP	Melamine
Heat resistance temperature	150°C	140°C	130°C
Advantages	Easy recycle, Non-toxic Acid and alkali resistance,	Non-toxic Acid and alkali resistance	Printable
Disadvantages	Need to crystallization during the process	Poor UV resistance	Difficult to recycle

Type No.3760 Pellets properties			
Item	Units	Value	Test Method
Intrinsic Viscosity	dl/g	0.76 ± 0.02	ASTM D4603
Specific gravity	g/cm <sup>3</sup>	1.35	ASTM D792
Melting point	°C	245 ± 3	ASTM D3418
Mechanical strength			
Item	Units	Value	Test Method
Tensile strength	MPa	60.1	ASTM D638
Elongation	%	5.0	ASTM D638
Flexural strength	Mpa	91.6	ASTM D790
Flexural modulus	Mpa	2520	ASTM D790
Impact strength	Kg-cm/cm	3.3	ASTM D256
Shrinkage	%	0.8	ASTM D955
The properties of plastic tableware			
物性 Item	PET	PP	Melamine
Heat resistance temperature	150°C	140°C	130°C
Abrasion test	Excellent	medium	bad
Microwave	O	O	X
dishwasher	O	O	X
UV disinfection	O	X	X
Drop test(1 m)	No broken		

## Processing conditions

1. Processing : Injection molding
2. Drying condition: 140~160 °C (2-4 hours)
3. Screw temperature: 260~290 °C
4. Mold temperature: 130~140 °C
5. Suggest to cooperate with NANYA Nucleating Masterbatch (5~10%)

## Contact information

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