

**Product Information****SOLARENE<sup>®</sup> GPPS, G-144****Description**

**SOLARENE<sup>®</sup>** G-144 is a medium strength, good flow general purpose polystyrene mainly for injection molding. It is particularly useful for blend with high impact polystyrene in heat contact applications.

**Applications**

**SOLARENE<sup>®</sup>** G-144 is useful to home electric parts, toys and miscellaneous goods etc.

**Supplied and storage**

**SOLARENE<sup>®</sup>** G-144 should be kept in its original packages in cool and dry place. Avoid direct exposure to sunlight. **SOLARENE<sup>®</sup>** G-144 can be stored in silos.

**Food contact**

The composition of **SOLARENE<sup>®</sup>** G-144 complies with 21CFR.SEC.177.1640 in FDA regulations, Ministry of Health and Welfare Notification NO. 370 in Japan, KFDA Notification NO. 98-60 in Korea.

**Standard properties**

The statement in the document are based on our present technical knowledge, experience and data selected from the literature. All tests carried out at 23°C unless otherwise stated by own test methods. Mechanical properties are measured on injection molded tests specimens. Neither do they imply any binding assurance of stability for a particular purpose.

**>>Typical Value for Product**

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**SOLARENE<sup>®</sup> GPPS, G-144**

Test item	Unit	Test method		Typical value	
		ISO	ASTM	ISO	ASTM
<b><u>Mechanical properties</u></b>					
Tensile stress at yield	MPa	527	D638		48
Tensile stress at break	MPa	527	D638		48
Tensile strain at yield	%	527	D638		-
Tensile strain at break	%	527	D638		2
Young's modulus	MPa	527	D638		2,300
Flexural strength	MPa	178	D790		88
Flexural modulus	MPa	178	D790		3,380
Charpy impact strength(23°C/-30°C)	kJ/m <sup>2</sup>	179	-		-
Charpy notched impact strength(23°C/-30°C)	kJ/m <sup>2</sup>	179	D6110		-
IZOD impact notched strength(23°C)	kJ/m <sup>2</sup>	180	D256		-
IZOD impact notched strength(-23°C)	kJ/m <sup>2</sup>	180	D256		-
Rockwell hardness(L scale)	-	2039	D785		100
<b><u>Rheological Properties</u></b>					
Melt flow index(200°C-5kg)	g/10min	1133	D1238		8.5
Molding shrinkage(along chain)	%	Injection	Injection		.5
Molding shrinkage(across chain)	%	injection	injection		.4
<b><u>Thermal properties</u></b>					
VICAT softening temp., (B/50)	°C	306	D1525		97
Heat distortion temp., (1.8MPa)	°C	75	D648		77
<b><u>Optical properties</u></b>					
Haze(Injection Mold Specimen)	%		D1003	-	0.4
Yellow index(Pellets)	-		D1925	-	-4.5
<b><u>Burning properties</u></b>					
Flammability, 1.6t	Class		UL94		HB
3.2t	Class		UL94		HB

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Items		Specification	Typical value
<b>Material Test</b>			
lead,	ppm	less than 100	less than 1
cadmium,	ppm	less than 100	less than 1
<b>Volatiles</b>			
styrene,	ppm	less than 5,000 as total amount	300
toluene,	ppm		non detected
ethylbenzene,	ppm		50
iso-propylbenzene,	ppm		non detected
n-propylbenzene,	ppm		non detected
<b>Extraction Test</b>			
heavy metals as Pb, evaporation residue	ppm	less than 1	non detected
n-heptane,	ppm	less than 240	9
20% ethanol,	ppm	less than 30	5
distilled water,	ppm	less than 30	2
4% acetic acid,	ppm	less than 30	1
KMnO4 consumption,	ppm	less than 10	1

**Note**

- SOLARENE G-144 Grade comply with CFR21.177.1640 in FDA, Ministry of Health and Welfare Notification NO. 370 in Japan, KFDA Notification NO. 98-60 in Korea.
- The statement in the document are based on our present technical knowledge experience.