

50IS (HIPS)



Application

Refrigerator food holder, part of radio and TV, plastic toys, foods container, sheet & film of Yogurt receptacles

Feature

HIPS is made by dissolving the rubber in a styrene monomer and then polymerizing the styrene in the usual way. HIPS retains some rubber content to increase impact strength. In addition, high heat resistance and fluidity allow the products various processing methods. This products meet the standards of foods and health from FDA in America, thus the products guarantee non-toxicity for food packing materials and toys.

Properties	Test Method	Test Condition	Unit	Value
Physical				
Specific Gravity	ASTM D792		g/cc	1.03
Molding Shrinkage	ASTM D955		%	
Melt Flow Index	ASTM D1238(G)	200°C/ 5kg	g/10min	8
	–	220°C/ 10kg	g/10min	80
	ASTM D1238(I)	230°C/ 3.8kg	g/10min	19
Mechanical				
Tensile Strength at yield	ASTM D638	50mm/min	kg/cm ²	270
			lb/in ²	3,880
Tensile Modulus	ASTM D638	1mm/min	kg/cm ²	18,000
			lb/in ²	
Elongation at yield	ASTM D638	50mm/min	%	5
Elongation at break	ASTM D638	50mm/min	%	59
Flexural Strength at yield	ASTM D790	15mm/min	kg/cm ²	430
			lb/in ²	6,100
Flexural Modules	ASTM D790	15mm/min	kg/cm ²	22,000
			lb/in ²	314,000
Izod Impact Strength (Noched)	ASTM D256	1/4" , '23°C	kg·cm/cm	8
		1/4" , '-30°C	kg·cm/cm	5
		1/8" , '23°C	kg·cm/cm	12
		1/8" , '-30°C	kg·cm/cm	6
Rockwell Hardness	ASTM D785	R-Scale	–	99
Thermal				
Heat Deflection Temp	ASTM D648	18.5kg/cm ² , 1/4" (annealed)	°C	80
			°F	175
		18.5kg/cm ² , 1/4" (unannealed)	°C	80
			°F	176
		4.6kg/cm ² , 1/4" (annealed)	°C	91
			°F	195
4.6kg/cm ² , 1/4" (unannealed)	°C	88		
	°F	191		
Vicat Softening Temp	ASTM D1525	5kg, 50°C/h	°C	87
			°F	189
Flammability	UL94	1/8"	class	HB
		1/10"	class	
		1/16"	class	HB
	IEC707	1/8"	mm/min	FH3-31
		1/16"	mm/min	