SolutionPartner

LG Chem

HIPS 405AF

Injection Molding

Description

Flame Retardant

Application

Electric Parts Requring Flame Retardancy

Properties	Test Condition	Test Method	Unit	Typical Value
Physical				
Specific Gravity		ASTM D792	-	1.16
Molding Shrinkage (Flow), 3.2mm		ASTM D955	%	0.4~0.8
Melt Flow Rate	200℃/5kg	ASTM D1238	g/10min	15
Mechanical				
Tensile Strength, 3.2mm		ASTM D638		
@ Yield	50mm/min		kg/cm^2	260
Tensile Elongation, 3.2mm		ASTM D638		
@ Yield	50mm/min		%	>5
@ Break	50mm/min		%	60
Flexural Strength, 3.2mm	15mm/min	ASTM D790	kg/cm^2	440
Flexural Modulus, 3.2mm	15mm/min	ASTM D790	kg/cm^2	22,000
Tear Strength @ Break	50mm/min	ASTM D624	kg/cm	
IZOD Impact Strength, 6.4mm		ASTM D256		
(Notched)	23℃		kg·cm/cm	8
	-30℃		kg·cm/cm	4
IZOD Impact Strength, 3.2mm		ASTM D256		
(Notched)	23℃		kg·cm/cm	10
	-30℃		kg·cm/cm	4
Rockwell Hardness	R-Scale	ASTM D785	-	90
Heat Deflection Temperature, 6.4mm		ASTM D648		
(Unannealed)	18.6kg		℃	77
	4.6kg		℃	82
Vicat Softening Temperature		ASTM D1525		
	5kg, 50℃/h		℃	83
Flammability		UL94		
1.5mm			class	V-0
2.5mm			class	V-0
3.0mm			class	V-0
Relative Temperature Index		UL 746B		
Electrical			℃	50
Mechanical with Impact			℃	50
Mechanical without Impact			℃	50

Note) Typical values are only for material selection purpose, and variation within normal tolerances are for various colors.
Values given should not be interpreted as specification and not be used for part or tool design.
All properties, except melt flow rate are measured on injection molulded specimens and after 48 hours storage at 23℃, 50% relative humidty.

Updated : 27-Dec-11

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Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
Drying Temperature		℃	60 ~ 70
Drying Time		hrs	3 ~ 4
Minimum Moisture Content		%	0.01
Melt Temperature		℃	200 ~ 230
Cylinder Temperature	Rear	℃	180 ~ 200
	Middle	℃	190 ~ 200
	Front	℃	200 ~ 210
Nozzle Temperature		℃	200 ~ 230
Mold Temperature		℃	40 ~ 60
Back Pressure		kg/cm^2	300 ~ 600
Screw Speed		rpm	30 ~ 60

Note) Back Pressure & Screw Speed are only mentioned as general guidelines.
These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.

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