Georgia Gulf Data Sheet

HHP-190 FR NATURAL

Georgia Gulf HHP-190 FR NATURAL is a special purpose profile extrusion alloy designed for applications requiring the following properties:

- Heat Resistance & Thermal Stability
- Impact Strength & Toughness
- Colorability
- Flame Retardant
- UV Color Stability
- Dimensional Stability
- Chemical Resistance

General Properties	Test Method	Typical Value
Specific Gravity	ASTM D-792	1.27
UL Rating, at 0.065 in.	UL-94	V-1
Mechanical Properties	**Test Method**	**Typical Value**
Tensile Yield Strength, psi	ASTM D-638	6,700
Tensile Modulus, psi	ASTM D-638	350,000
Tensile Impact, ft-lbs/in^2	ASTM D-1822	46
Flexural Strength, psi	ASTM D-790	11,100
Flexural Modulus, psi	ASTM D-790	350,000
$^1/_8$" Notched Izod Impact Strength, ft-lbs/in	ASTM D-256	10
Gardner Impact, in-lbs/mil	ASTM D-4226	3
Hardness, Shore D	ASTM D-2240	80
Hardness, Rockwell R	ASTM D-785	110
Thermal Properties	**Test Method**	**Typical Value**
Heat Deflection Temperature at 66 psi, °F Heat Deflection Temperature at 264 psi, °F	ASTM D-648	205 190
Coefficient of Thermal Expansion, in/in °F	ASTM D-648	4.1 x 10^{-5}

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Processing Information

Georgia Gulf HHP-190 is mildly hygroscopic. Drying before extrusion is recommended at 170°F for 2 to 6 hours to ensure optimum performance and surface characteristics.

Recommended Extruder Size and Screw Design

Screw L/D	Extr. L/D	# Feed Flights	Feed Depth (in)	# Metering Flights	Metering Depth (in)	Comp. Ratio
60"/2.5"	24:1	5	0.500-0.575	5-12	0.200-0.210	2.0-2.5
84"/3.5"	24:1	5	0.600-0.700	5-12	0.240-0.280	2.0-2.5

Recommended Melt Temperature 370-390°F

Recommended Heat Profile for Start-Up
(Barrel Zone Temperatures)

Zone	Temperature
1	300°F
2	310°F
3	320°F
4	330°F
5	340°F
Gate	350°F
Die	350°F

After start-up, temperature adjustments up or down may be necessary until extrusion impact, surface and die flow are acceptable. Adjustments in 5°F increments are recommended. Normally, Zone 1 temperature should not be varied since feed rate may be affected.

If a screen pack is used, a 20/40 mesh combination should be sufficient.

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