

# NYCOA Polyamide 5033 HS

Polyamide 66

Nycoa (Nylon Corporation of America)

## Message:

NYCOA 5033 HS is a 33% glass fiber reinforced, heat stabilized Nylon 66 resin used for injection molding. It offers an outstanding balance of mechanical properties over standard grades of conventional Nylon 66.

NYCOA 5033 HS has been specifically formulated for optimum thermal stability and chemical resistance. This grade is available in UV stable, custom colors, and impact modified grades.

Typical applications include pedal brackets and supports, air intake manifolds, radiator end tanks, valve covers, and power tool housings.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 33% filler by weight		
Additive	heat stabilizer		
Features	Good chemical resistance		
	Thermal Stability		
	Thermal stability, good		
Uses	Valve/valve components		
	Parts under the hood of a car		
	Shell		
Appearance	Available colors		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.38	g/cm <sup>3</sup>	ASTM D792
Molding Shrinkage			ASTM D955
Flow	0.50	%	ASTM D955
Transverse flow	0.80	%	ASTM D955
Water Absorption (24 hr)	0.70	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	122		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength <sup>1</sup>	200	MPa	ASTM D638
Tensile Elongation <sup>2</sup> (Break)	4.0	%	ASTM D638
Flexural Modulus <sup>3</sup>	8900	MPa	ASTM D790
Flexural Strength <sup>4</sup>	260	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (6.35 mm)	140	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648

0.45 MPa, not annealed	260	°C	ASTM D648
1.8 MPa, not annealed	240	°C	ASTM D648
Melting Temperature	263	°C	DSC

#### Additional Information

The value listed as Melting Point DSC, was tested in accordance with ASTM D789.

Injection	Nominal Value	Unit
Drying Temperature	71.1 - 82.2	°C
Drying Time	4.0 - 6.0	hr
Rear Temperature	266 - 282	°C
Middle Temperature	277 - 293	°C
Front Temperature	288 - 304	°C
Nozzle Temperature	282 - 302	°C
Processing (Melt) Temp	288 - 304	°C
Mold Temperature	76.7 - 87.8	°C
Injection Rate	Fast	
Back Pressure	0.138 - 0.345	MPa
Cushion	1.59 - 6.35	mm
Screw L/D Ratio	16.0:1.0	
Screw Compression Ratio	3.0:1.0 to 4.0:1.0	

#### NOTE

1. 51 mm/min
2. 51 mm/min
3. 51 mm/min
4. 51 mm/min

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#### Recommended distributors for this material

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