

NYCOA Polyamide 512

Polyamide 6

Nycoa (Nylon Corporation of America)

Message:

NYCOA 512 is a fast cycling nucleated and lubricated Nylon 6 used for injection molding applications. This material features outstanding processability, chemical resistance, and an excellent balance of mechanical properties.

NYCOA 512 is recognized by Underwriters Laboratories to standard UL 94-V-2 for thickness as low as 0.7 mm. It is also listed by the National Sanitation Foundation (NSF) under standard 61 for use in products that come into contact with food or potable water

Typical applications include plumbing fittings and housings, thin wall molding, toys and hardware items.

General Information			
UL YellowCard	E86478-252066		
Additive	Nucleating agent		
	Lubricant		
Features	Nucleated		
	Workability, good		
	Fast molding cycle		
	Good chemical resistance		
	Lubrication		
	Compliance of Food Exposure		
Uses	Pipe components		
	Shell		
	Toys		
Agency Ratings	NSF 61		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.13	g/cm ³	ASTM D792
Molding Shrinkage			ASTM D955
Flow	1.2	%	ASTM D955
Transverse flow	1.4	%	ASTM D955
Water Absorption (24 hr)	1.7	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	120		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹	90.0	MPa	ASTM D638
Tensile Elongation ² (Break)	40	%	ASTM D638
Flexural Modulus ³	2800	MPa	ASTM D790

Flexural Strength ⁴	110	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	45	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	191	°C	ASTM D648
1.8 MPa, not annealed	68.3	°C	ASTM D648
Melting Temperature	221	°C	DSC
Flammability	Nominal Value		Test Method
Flame Rating (0.700 mm)	V-2		UL 94

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	221 - 241	°C
Middle Temperature	235 - 252	°C
Front Temperature	246 - 260	°C
Nozzle Temperature	254 - 266	°C
Processing (Melt) Temp	249 - 266	°C
Mold Temperature	76.7 - 87.8	°C
Injection Rate	Fast	
Back Pressure	0.138 - 0.517	MPa
Cushion	1.59 - 6.35	mm
Screw L/D Ratio	16.0:1.0	
Screw Compression Ratio	3.0:1.0	

NOTE

1. 50 mm/min
2. 50 mm/min
3. 50 mm/min
4. 50 mm/min

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