



NEXUS ABS405

Extrusion Grade ABS

Typical Properties

PROPERTY	UNITS	TYPICAL VALUE	TEST STANDARD
PHYSICAL			
Specific Gravity		1.04	ASTM D792
Melt Flow (230° C/3.8 Kg)		3.0 g / 10 min	ASTM D1238
SHRINKAGE			
Linear Flow		.004 - .007 in./in.	ASTM D955
IMPACT			
Notched Izod Impact (73° F, 0.125 in.)		7.0 ft-lb/in.	ASTM D256

MECHANICAL

Tensile Modulus	320,000 psi	ASTM D638
Tensile Strength at Yield	6,000 psi	ASTM D638
Flexural Modulus	350,000 psi	ASTM D790
Flexural Strength at Yield	10,000 psi	ASTM D790

THERMAL

DTUL @ 264 psi-unannealed (.125 in.)	175 °F	ASTM D648
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FLAMMABILITY

UL Rating (E205256)	HB	UL 94
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The information provided above is based upon typical values and is intended to serve only as a guide. Each user is responsible for determining the suitability of the product for the intended application. NO GUARANTEES OR WARRANTIES ARE IMPLIED OR EXPRESSED.

PROCESS PARAMETER GUIDELINES

<i>Parameter</i>	<i>Typical Recommended Values</i>
Drying Temperature	180 - 200 ° F
Drying Time	2.0 - 4.0 hours
Suggested Maximum Moisture	0.15 %
Rear Temperature	370 - 425 ° F
Middle Temperature	400 - 450 ° F
Front Temperature	425 - 475 ° F
Nozzle Temperature	425 - 525 ° F
Processing (Melt) Temperature	425 - 525 ° F
Mold Temperature	120 - 170 ° F
Back Pressure	25 - 100 psi
Screw Speed	25 - 75 rpm

The values listed above are meant to serve as guidelines. Conditions should be adjusted to optimize material performance to meet the requirements of the specific application.

Troubleshooting Guide

Surface Issues

1. *Check for excessive moisture.* Review the dryer mechanical functions and temperature settings, as well as the time the material is in the dryer. Shooting an air-shot from the barrel can help to diagnose poor drying. Bubbling or foaming in the air shot is a frequent indicator of inadequate drying.
2. *Evaluate sources of heat in the molding process.* Excessive temperature settings, overly fast injection speed, tight gating, or other sources of shear heat can all add abuse to the material and result in surface disruptions.

Brittleness

1. *Check for excessive moisture.* See above under Surface Issues.
2. *Reduce or eliminate the use of regrind.* The additional heat history in the regrind material may hinder performance. If impact returns after returning to 100 percent pellets, regrind can be reintroduced by starting at a low percentage and slowly increasing the percentage until you reach the threshold where brittleness returns.

Part Sticking

1. *Lower mold temperature.* This alters the cooling of the part and may allow it to shrink away from the mold surface in a manner that reduces sticking.
2. *Decrease injection pressure.* Part sticking may be a symptom of overpacking the part, which can be remedied by relieving some of the injection pressure.

3. *Reduce holding pressure.* As with injection pressure, elevated holding pressure can contribute to overpacking the part, as well as preventing the normal shrinkage from occurring. Relieving some of this pressure may help remedy the situation.

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