



---

## NEXUS PC/PBT 7820

*Molding Grade PC/PBT*

---

### *Typical Properties*

---

PROPERTY	UNITS	TYPICAL VALUE	TEST STANDARD
<b>PHYSICAL</b>			
Specific Gravity		1.20	ASTM D792
Melt Flow (230° C/3.8 Kg)		10.0 g / 10 min	ASTM D1238
<b>SHRINKAGE</b>			
Linear Flow		.008 - .011 in./in.	ASTM D955
<b>IMPACT</b>			
Notched Izod Impact (73° F, 0.125 in.)		12.5 ft-lb/in.	ASTM D256

## MECHANICAL

Tensile Modulus	280,000 psi	ASTM D638
Tensile Strength at Yield	7,500 psi	ASTM D638
Flexural Modulus	295,000 psi	ASTM D790
Flexural Strength at Yield	12,000 psi	ASTM D790

## THERMAL

DTUL @ 264 psi-unannealed (.125 in.)	210 °F	ASTM D648
---	--------	-----------

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	250 ° F
Drying Time	4.0 hours
Suggested Maximum Moisture	0.020 %
Rear Temperature	470 - 520 ° F
Middle Temperature	480 - 530 ° F
Front Temperature	495 - 540 ° F
Nozzle Temperature	495 - 525 ° F
Processing (Melt) Temperature	500 - 535 ° F
Mold Temperature	150 ° F
Back Pressure	50 - 100 psi
Screw Speed	40 - 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.

Nexus Resin Group, LLC has no control over the use to which others may put this material. Nexus Resin Group, LLC does not guarantee that the same results as described will be obtained by the end user. Nexus Resin Group, LLC does not guarantee the effectiveness or safety of any material for the design or the suitability of the material nor the designs of both for the end user's own particular use. Statements concerning possible or suggested uses of the materials or designs described herein are not to be construed as recommendations for use of such materials or designs.

Nexus Resin Group, LLC  
37 Water Street Mystic, CT 06355  
860-536-1550 Office 860-536-1275 Fax