



NEXUS PCFG30

Molding Grade PC With 30% Glass

Typical Properties

| PROPERTY | UNITS | TYPICAL VALUE | TEST STANDARD |
|---|-------|---------------------|---------------|
| PHYSICAL | | | |
| Specific Gravity | | 1.43 | ASTM D792 |
| Melt Flow (300° C/1.2 Kg) | | 15.0 g / 10 min | ASTM D1238 |
| SHRINKAGE | | | |
| Linear Flow | | .001 - .003 in./in. | ASTM D955 |
| IMPACT | | | |
| Notched Izod Impact (73° F, 0.125 in.) | | 1.0 ft-lb/in. | ASTM D256 |

MECHANICAL

| | | |
|----------------------------|-------------|-----------|
| Tensile Modulus | 900,000 psi | ASTM D638 |
| Tensile Strength at Yield | 17,000 psi | ASTM D638 |
| Flexural Modulus | 925,000 psi | ASTM D790 |
| Flexural Strength at Yield | 21,500 psi | ASTM D790 |

THERMAL

| | | |
|---|--------|-----------|
| DTUL @ 264 psi-unannealed (.125 in.) | 290 °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 | 550 - 600 ° F |
| Middle Temperature | 575 - 625 ° F |
| Front Temperature | 600 - 650 ° F |
| Nozzle Temperature | 600 - 650 ° F |
| Processing (Melt) Temperature | 600 - 650 ° F |
| Mold Temperature | 175 - 225 ° F |
| Back Pressure | 50 - 200 psi |
| Screw Speed | 40 - 100 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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