

May 2021

BAMBERGER POLYMERS TECH TIPS

Polyamide/Nylon

Part Conditioning

Post molding moisture absorption occurs over time in all nylon parts due to the hygroscopic nature of the material.

Property Terms:

-Dry as Molded (DAM): Refers to the lowest moisture content immediately after molding.

-Conditioned: Refers to the amount of moisture absorbed in the part naturally or accelerated.

During processing, residual moisture also acts as a plasticizer. This moisture can then cause physical and visual property changes. The molded parts will also absorb moisture from the atmosphere. This results in swelling and causing dimensional changes.

Conditioning

The rate at which this occurs is dependent on such factors as temperature, medium, wall thickness and crystallinity. This can take hours, days or months depending on the method.

-Passive: Part is allowed to absorb moisture naturally from its environment without aid.

-Active: There are multiple techniques to accelerate moisture absorption.

1. **Saturated Steam:** Fastest. Multiple disadvantages and side effects can occur.
2. **Hot Water Storage:** Fast and Economical. Multiple disadvantages and side effects can occur.
3. **Cold Water Storage:** Simple and economical. Less disadvantages than above but has lack of control.
4. **Packing in PE bags with some water:** Most economical. Less control.
5. **Tropical Climate:** Best Method. Through and even control. Expensive equipment.

