

# Stanyl® TS350

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This quick start instruction gives an indication of the key settings for processing Stanyl® TS350 to ensure best crystallization and prevent material degradation as a result of hydrolysis or thermal load. It is a summary of the Injection Molding Recommendations which can be found in our Plastics Finder at <https://plasticsfinder.com>. Our online guidelines are recommendations to help with material processing and/or to evaluate and resolve potential processing issues.

## MATERIAL HANDLING

### Drying

Stanyl® grades are hygroscopic and absorb moisture from the air relatively quickly. Moisture absorption is fully reversible under the following drying conditions without compromising material quality. Preferred driers are de-humidified driers with dew points maintained between  $-30$  and  $-40^{\circ}\text{C}$  /  $-22$  and  $-40^{\circ}\text{F}$ . Vacuum driers with  $\text{N}_2$  purge can also be used. Hot air ovens or hopper driers are not suitable for pre-drying Stanyl® grades; the use of such driers may result in non-optimum performance.

| Moisture content           | Time          | Temperature |            |
|----------------------------|---------------|-------------|------------|
| [%]                        | [h]           | [°C]        | [°F]       |
| 0.1 – 0.2 and as delivered | 2             | 80          | 176        |
| 0.2 – 0.5                  | 4 – 8         | 80          | 176        |
| >0.5                       | <100<br>or 24 | 80<br>105   | 176<br>221 |

## TEMPERATURE SETTINGS

### Barrel temperature

Optimal settings are governed by barrel size and residence time. Due to the high melting point of Stanyl® this temperature should be set high enough to provide a homogeneous melt without getting too near to the degradation temperature of  $330^{\circ}\text{C}$  /  $626^{\circ}\text{F}$ . A flat or rising temperature profile is recommended.

| Mold/Tool                 | Measured melt          | Nozzle                 | Front                  | Center                 | Rear                   |  |
|---------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--|
| 80 – 120°C<br>176 – 248°F | 310–320°C<br>590–608°F | 300–320°C<br>572–608°F | 300–320°C<br>572–608°F | 300–320°C<br>572–608°F | 280–320°C<br>536–608°F |  |

## MELT RESIDENCE TIME

The optimal Melt Residence Time (MRT) for Stanyl® TS350 is  $\leq 4$  minutes with preferably at least 50% of the maximal shot volume used. The MRT should not exceed 6 minutes.

A full self-service MRT calculation can be done using the following [link](#).

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