

# ForTii<sup>®</sup> LDS85B

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This quick start instruction gives an indication of the key settings for processing ForTii<sup>®</sup> LDS85B 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://envalior.plasticsfinder.com>. Our online guidelines are recommendations to help with material processing and/or to evaluate and resolve potential processing issues.

## MATERIAL HANDLING

### Drying

ForTii<sup>®</sup> 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°C / -22 and -40°F. Vacuum driers with N<sub>2</sub> purge can also be used. Hot air ovens or hopper driers are not suitable for pre-drying ForTii<sup>®</sup> grades; the use of such driers may result in non-optimum performance.

| Moisture content           | Time                  | Temperature |      |
|----------------------------|-----------------------|-------------|------|
|                            |                       | [°C]        | [°F] |
| 0.1 – 0.2 and as delivered | 2                     | 100         | 212  |
| 0.2 – 0.5                  | 4 – 8                 | 100         | 212  |
| >0.5                       | <100<br>or 24<br>or 4 | 100         | 212  |
|                            |                       | 110         | 230  |
|                            |                       | 120         | 248  |

## TEMPERATURE SETTINGS

### Barrel temperature

Due to the high melting point of ForTii<sup>®</sup> this temperature should be set high enough to provide a homogeneous melt without getting too near to the degradation temperature of 350°C / 662°F. A flat or rising temperature profile is recommended. Optimal settings are governed by barrel size and residence time. Furthermore, the temperature settings for small parts/machines can typically be 5–10°C lower to avoid excessive outgassing/mold deposit.

| Mold/Tool                 | Measured melt          | Nozzle                 | Front                  | Center                 | Rear                   |
|---------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 80 – 150°C<br>176 – 302°F | 330–340°C<br>626–644°F | 330–335°C<br>626–635°F | 330–335°C<br>626–635°F | 325–335°C<br>617–635°F | 320–330°C<br>608–626°F |

Given barrel temperature settings are for shot weights > 2 grams. For smaller shot weights (< 2 grams) barrel temperature settings are typically 5–10°C lower.

## MELT RESIDENCE TIME

The optimal Melt Residence Time (MRT) for ForTii<sup>®</sup> LDS85B is ≤ 2 minutes with preferably at least 50% of the maximal shot volume used. The MRT should not exceed 4 minutes. A full self-service MRT calculation can be done using the following [link](#).

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