ForTii® F11

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This quick start instruction gives an indication of the key settings for processing ForTii® F11 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

ForTii® 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_2 purge can also be used. Hot air ovens or hopper driers are not suitable for pre–drying ForTii® 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	100	*212*
0.2 – 0.5	4 – 8	100	*212*
>0.5	<100 or 24 or 4	100 110 120	*212* *230* *248*

TEMPERATURE SETTINGS

Barrel temperature

Due to the high melting point of ForTii® 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 *176 – 302°F*	330–340°C *626–644°F*	330–335°C *626–635°F*	330–335°C *626–635°F*	325–335°C *617–635°F*	320–330°C *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® F11 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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