

Nylatron® GS-51

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This quick start instruction gives an indication of the key settings for processing Nylatron® GS-51 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

Nylatron® 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 N₂ purge can also be used. Hot air ovens or hopper driers are not suitable for pre-drying Nylatron® 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	2-4	80	176
0.2-0.5	4-8	80	176

Drier types that are not de-humidified can be operated until 100°C but care has to be taken with natural/light colors for which a color change might be observed upon drying depending on time/temperature exposure.

TEMPERATURE SETTINGS

Barrel temperature

Optimal settings are governed by barrel size and residence time. Furthermore, the level of glass and/or mineral reinforcement and the presence or absence of flame retardant have to be taken into account.

Mold/Tool	Measured melt	Nozzle	Front	Center	Rear
50 - 80°C 122 - 176°F	290-305°C 554-581°F	280-290°C 536-554°F	275-290°C 527-554°F	275-295°C 527-563°F	275-295°C 527-563°F

MELT RESIDENCE TIME

The optimal Melt Residence Time (MRT) for Nylatron® GS-51 is ≤ 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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