

Stanyl® HFX31S

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This quick start instruction gives an indication of the key settings for processing Stanyl® HFX31S 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.

IMR application information

There are specific injection molding technologies and applications for which these Injection Molding Recommendations (IMR) are too broad (e.g. USB-C molding, micro molding, or sensitive colors). For these technologies, the IMR are preferably narrowed down as described in our separate processing leaflet and/or information from our Technical Service Engineers.

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°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 Stanyl® 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	80	176
0.2 – 0.5	4 – 8	80	176
>0.5	<100 or 24	80 105	176 221

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 340°C / 644°F. A flat or rising temperature profile is recommended.

Mold/Tool	Measured melt	Nozzle	Front	Center	Rear
80 – 120°C 176 – 248°F	305–320°C 581–608°F	300–320°C 572–608°F	300–320°C 572–608°F	300–320°C 572–608°F	280–320°C 536–608°F

MELT RESIDENCE TIME

The optimal Melt Residence Time (MRT) for Stanyl® HFX31S 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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Typical values are indicative only and are not to be construed as being binding specifications. Colorants in the product or other additives may cause significant variations in typical values.

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