

# Akulon® K222–D

Print Date: 2024–10–15

This quick start instruction gives an indication of the key settings for processing Akulon® K222–D 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

Akulon® 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 Akulon® 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, residence time and melt viscosity. Be aware that melt viscosity is related to the barrel temperature settings.

Due to the high melting point of Akulon® this temperature should be set high enough to provide a homogeneous melt without getting too near to the degradation temperature of 300°C / 572°F. A flat or rising temperature profile is recommended.

Mold/Tool	Measured melt	Nozzle	Front	Center	Rear
50 – 80°C 122 – 176°F	240–275°C 464–527°F	240–270°C 464–518°F	240–260°C 464–500°F	235–250°C 455–482°F	230–235°C 446–455°F

## MELT RESIDENCE TIME

The optimal Melt Residence Time (MRT) for Akulon® K222–D is ≤ 6 minutes with preferably at least 50% of the maximal shot volume used. The MRT should not exceed 10 minutes.

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

Seller represents and warrants exclusively that on the date of delivery by Seller the product shall be in conformity with the specifications agreed upon. Seller makes no other representations or warranties, whether express or implied. Seller is not responsible or liable for the design of the products of the Customer and it is the responsibility of the Customer to determine that the Seller's product is safe, complies with application laws and regulations, and is technically or otherwise fit for its intended use. Seller does not endorse or claim suitability of its products for a specific application and disclaims each and every representation or warranty, whether express or implied, in that respect.

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.

Copyright © Envalior 2024. All rights reserved. No part of the information may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of Envalior.