

# Akulon® Diablo HDT2500

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This quick start instruction gives an indication of the key settings for processing Akulon® Diablo HDT2500 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

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  $-40^{\circ}\text{C}$  /  $-22$  and  $-40^{\circ}\text{F}$ . Vacuum driers with  $\text{N}_2$  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          |                      |
|--------------------------|------|----------------------|----------------------|
| [%]                      | [h]  | $[^{\circ}\text{C}]$ | $[^{\circ}\text{F}]$ |
| 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  $100^{\circ}\text{C}$  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<br>122 – 176°F | 290–305°C<br>554–581°F | 280–290°C<br>536–554°F | 275–290°C<br>527–554°F | 275–295°C<br>527–563°F | 275–295°C<br>527–563°F |  |

## MELT RESIDENCE TIME

The optimal Melt Residence Time (MRT) for Akulon® Diablo HDT2500 is  $\leq 4$  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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