

Akulon® F136-DH

PA6

High Viscosity, Nucleated, Heat Stabilized, Tube Extrusion

GRADE CODING

Akulon® PA6 non reinforced and non flame retardant injection molding grades.

MATERIAL HANDLING

Storage

In order to prevent moisture pick up and contamination, supplied packaging should be kept closed and undamaged. For the same reason, partial bags should be sealed before re-storage. Allow the material that has been stored elsewhere to adapt to the temperature in the processing room while keeping the bag closed.

Packaging

Akulon® grades are supplied in airtight, moisture-proof packaging.

Moisture content as delivered

Akulon® grades are packaged at a moisture level ≤ 0.15 w%.

Conditioning before molding

To prevent moisture condensing on granules, bring cold granules up to ambient temperature in the molding shop while keeping the packaging closed.

Moisture content before molding

Since Akulon® is delivered at molding moisture specification (≤ 0.15 w%), the resin can be molded without pre-drying. However, to overcome the fluctuation from package to package we advise to pre-dry (see drying section below). Furthermore, pre-drying is required in case the material is exposed to moisture before molding (package damage or open for longer period of time).

Moisture content can be checked by water evaporation methods or manometric methods (ISO 15512).

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Drying

Akulon® grades are hygroscopic and absorb moisture from the air relatively quickly. 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 Akulon® 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	2-4	80	176
0.2-0.5	4-8	80	176

Regrind

Regrind can be used taking into account that this regrind must be clean/low dust content/not thermally degraded/dry, of same composition and similar particle size as the original material. The acceptable level of regrind depends on the application requirements (e.g. UL Yellow Card). Be aware that regrind can cause some small color deviations.

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MACHINERY

Akulon® grades can be processed on general injection molding machines.

Screw geometry

Typically 3-zone screw designs with volumetric compression ratios of approximately 2.5 work fine.

Steel type

Abrasive resistant tool steels which are normally used for glass and/or mineral reinforced materials are also to be used for Akulon® polymers in tools, nozzles and screws.

Nozzle temperature control

The use of an open nozzle with good temperature control and an independently-controlled thermocouple nearby the tip and heater bands with sufficient output is recommended.

Hot runner layout

Try to achieve a close contact with your hot runner supplier and DSM as the material supplier, to be sure that the right hot runner system is chosen.

When processing Akulon® with hot runners, keep in mind these basic rules:

- Central bushing heated separately
- Only use external heated system
- Manifold heated from both sides
- Tip with thermocouple in front (near gate)
- Very accurate temperature control in the gate area

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