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TEKNOR APEX
Compounding Creativity with Technology

PROCESSING GUIDE FOR EXTRUSION OF RIGID PVC DRYBLEND COMPOUNDS

EQUIPMENT & CONDITIONS	SUGGESTIONS
Compound Drying	Not Required.
Color Concentrate	PVC-based color concentrates or pre-colored.
Machine Type	Conical or Parallel twin screw with vacuum venting.
Screw Design	The screws must be designed to process Rigid PVC.
Barrel Type	Bimetallic recommended.
Breaker Plate	Not Required
Screen Packs	Not Required.
Screw Cooling/Heating	Temperature controlled oil filled screws recommended. Water filled screws can be used but may have a tighter process window.
Tooling	**Die Design:** Flat plate dies are not suggested. Streamlined low inventory design is preferred. Construction materials should be 420 stainless or hard chrome plating.

Machine Temperatures

Barrel Temperatures	Die Temperatures	Melt Temperatures
325°F - 365°F	345°F - 365°F	370°F - 390°F

**Melt temperature should be measured using a hand held pyrometer.

Downstream Options

Cutting can be done with saws, guillotines or fly knives. Vacuum sizing, spray tank or air rack sizing is acceptable.

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EQUIPMENT & CONDITIONS	SUGGESTIONS
Purging	Using a PVC purging compound.
Regrind	Recyclable; mix up to 20% regrind with virgin.
Additional Considerations	Die care is extremely important. At the conclusion of a production run, the die and all associated compontents should be neutralized to remove any residual hydrochloric acid and then treated with a high quality mold preservative/rust inhibitor.
Start-up Procedures	Once the extruder has reached operating temperatures, slowly rotate the screws. Increase the speed of the screws until the normal running speed is reached. Run until the melt is smooth. Stop the screws and assemble the preheated die as quickly as possible. Restart the screws at a low RPM until the melt exits the die. Slowly increase the RPM until the desired speed is reached, monitoring the load at all times. String the material through the downstream equipment.
Shut-down Procedures	Once the PVC has been removed from the feed throat, a purge compound should be introduced and run through the extruder. After the purge compound is the only thing exiting the die (no residual PVC) the extruder can be stopped and the die assembly can be removed for cleaning and storage. The screws should then be restarted and run at a low speed until all of the purging compound is removed from the screws and barrel.

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