

PROCESSING GUIDE FOR EXTRUSION OF RIGID PVC PELLETS

EQUIPMENT & CONDITIONS	SUGGESTIONS						
Compound Drying	Typically not required. 120°F for 2 - 3 hours if desired.						
Color Concentrate Type	PVC-based color concentrates						
Machine Type	Typical single screw PVC extrusion equipment						
Screw Design	A) Metering Type Metering Section 25% Transition Section 50% Feed Section 25% B) Barrier or Barrier Maddock screw designed for Rigid PVC C) Chrome plated or a surface treatment recommended for Rigid PVC						
Compression Ratio	1.8:1 to 2.5:1						
L/D Ratio	20:1 to 24:1						
Barrel Type	Bi-Metallic recommended						
Breaker Plate	Not Required but a standard breaker plate or inverted style can be used						
Screen Packs	20/20 Typical (up to 60 mesh OK) A breaker plate without screens is also acceptable to run.						
Screw Cooling	Air cooling can be used if the screw is designed for it, but not required						
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	<table border="1" data-bbox="516 1713 1559 1806"> <thead> <tr> <th data-bbox="516 1713 865 1764">Barrel Temperatures</th> <th data-bbox="865 1713 1214 1764">Die Temperatures</th> <th data-bbox="1214 1713 1559 1764">Melt Temperatures</th> </tr> </thead> <tbody> <tr> <td data-bbox="516 1764 865 1806">310 - 355°F</td> <td data-bbox="865 1764 1214 1806">345 - 365°F</td> <td data-bbox="1214 1764 1559 1806">365 - 385°F</td> </tr> </tbody> </table>	Barrel Temperatures	Die Temperatures	Melt Temperatures	310 - 355°F	345 - 365°F	365 - 385°F
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Downstream Options	**Melt temperature should be measured using a hand held pyrometer Cutting can be done with saws, guillotines or fly knives. Vacuum sizing, spray tank or air rack sizing is acceptable.						

EQUIPMENT & CONDITIONS

SUGGESTIONS

Purging

Use 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 components 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 screw. Increase the speed of the screw until the normal running speed is reached. Run until the melt is smooth. Stop the screw and assemble the preheated die as quickly as possible. Restart the screw 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 screw should then be restarted and run at a low speed until all of the purging compound is removed from the screw and barrel.

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