

PROCESSING GUIDE FOR EXTRUSION OF APEX™ PVC BUFFER COMPOUNDS

EQUIPMENT & CONDITIONS	SUGGESTIONS						
Compound Drying	Typically not required. 160°F for 4 hours, if desired.						
Color Concentrate	PVC-based color concentrates.						
Machine Type	Typical PVC extrusion equipment. Chrome plated screw and bimetallic barrel.						
Screw Design	<p>A) General Purpose or Barrier Type</p> <table style="margin-left: 40px;"> <tr> <td>Metering Section</td> <td>50%</td> </tr> <tr> <td>Transition Section</td> <td>25%</td> </tr> <tr> <td>Feed Section</td> <td>25%</td> </tr> </table> <p>B) Barrier Maddock (spiral preferred) screw designed for semi-rigid PVC.</p>	Metering Section	50%	Transition Section	25%	Feed Section	25%
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Transition Section	25%						
Feed Section	25%						
Compression Ratio	3:1 target (2.5:1 to 3.5:1 range)						
L/D Ratio	24:1 target (30:1 also OK)						
Screen Packs	40/60/80 (up to 100 mesh OK)						
Screw RPM	As required for proper mixing (Suggested: 30 RPM)						
Screw Cooling	Not Recommended.						
Water Bath	Critical: First 15 feet 170°F minimum to minimize attenuation caused by shrinkage. Air gap before second tank with cold water thereafter.						
Tooling	<p>Cross-head: Low inventory cross-heads.</p> <p>Die Design: Tube (Sleeving) type specifically designed for buffering optical fibers.</p> <p>Tubing Die: 2.0 to 7.0:1 target DDR. As low as possible for minimal shrinkage, with DRB 0.95 - 1.10.</p>						

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SUGGESTIONS

Machine Temperatures

Hardness Range	Typical Barrel Settings	Melt Temperature Range
Shore C65 - 70	320°F - 365°F	365°F - 375°F
Shore C71 - 80	330°F - 375°F	375°F - 380°F
Shore C80 - 90	345°F - 375°F	380°F - 390°F

**Melt temperature should be measured using a pyrometer on the material exiting the cross-head.

Purging

If necessary, use HD polyethylene.

Regrind

Not recommended in this application.

Additional Considerations

Care must be taken to avoid excessive temperatures or delays during extrusion; material should not sit for more than 15 minutes under any circumstances.

Never leave in extruder at elevated temperature without purging.

Never process with an actual melt temperature > 400°F.

****Do not set any temperature zone above 375°F.**

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