

PROCESSING GUIDE FOR EXTRUSION OF FIREGUARD® 910 SERIES INSULATION COMPOUNDS

EQUIPMENT & CONDITIONS	SUGGESTIONS						
Compound Drying	Recommended. Typical condition 170°F for 4 hours minimum.						
Color Concentrate	PVC-based color concentrates used at 2% or less.						
Machine Type	Typical PVC extrusion equipment.						
Screw Design	<p>A) Metering Type, with shallow flights and long metering section</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 (sperial preferred) screw designed for semi-rigid PVC.</p> <p>C) Spirex barrier screw with Pulsar® mixer.</p>	Metering Section	50%	Transition Section	25%	Feed Section	25%
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Feed Section	25%						
Compression Ratio	2.75:1 CR target (2.5:1 to 3.0:1 range)						
L/D Ratio	24/1 target (20:1 to 24:1 range)						
Screen Packs	40/60/80/100 Recommended for thin-wall extrusion.						
Screw RPM	Critical: 30 RPM minimum (choose extruder size to accommodate this)						
Screw Cooling	Not Recommended						
Water Bath	Critical: 160°F minimum for first 15 feet (180°F - 190°F preferred), followed by air gap before second trough. Remainder of trough needs to be cool (chilled if possible).						
Tooling	<p>Cross-head: Low inventory cross-heads.</p> <p>Die Design: Pressure type, with steep single angles (tip and die with same angle) typical angle is 16 degrees.</p> <p>Pressure Die: Size die 5% over final diameter for optimum speed and physicals.</p> <p>Tubing Die: Die should have no land.</p>						
Copper Preheat	Critical: 250°F - 275°F actual copper temperature entering the head for best results.						

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SUGGESTIONS
Machine Temperatures

Hardness Range	Typical Barrel Settings	Melt Temperature Range
Shore A79 - 85	320°F - 365°F	380°F - 385°F
Shore A86 - 90	340°F - 375°F	385°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

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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