

# PROCESSING GUIDE FOR EXTRUSION OF FIREGUARD® 910 SERIES TIGHT BUFFERING COMPOUNDS

EQUIPMENT & CONDITIONS	SUGGESTIONS						
<b>Compound Drying</b>	Recommended. Typical condition 170°F for 4 hours minimum.						
<b>Color Concentrate</b>	PVC-based color concentrates used at 2% or less.						
<b>Machine Type</b>	Typical PVC extrusion equipment.						
<b>Screw Design</b>	<p>A) Metering Type, with shallow flights and long metering section</p> <table border="0" data-bbox="609 772 966 888"> <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> <p>C) Spirex barrier screw with Pulsar® mixer.</p>	Metering Section	50%	Transition Section	25%	Feed Section	25%
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Transition Section	25%						
Feed Section	25%						
<b>Compression Ratio</b>	2.75:1 target (2.5:1 to 3.0:1 range)						
<b>L/D Ratio</b>	24:1 target (20:1 to 24:1 range)						
<b>Screen Packs</b>	40/60/80 typical (up to 100 mesh OK)						
<b>Screw RPM</b>	<b>Critical:</b> 30 RPM minimum (choose extruder size to accommodate this)						
<b>Screw Cooling</b>	Not Recommended						
<b>Water Bath</b>	<b>Critical:</b> First 15 feet 170°F, minimum to minimize attenuation caused by shrinkage. Air gap before second tank with cold water thereafter.						
<b>Tooling</b>	<p><b>Cross-head:</b> Low inventory cross-heads.</p> <p><b>Die Design:</b> Matched tip and die angles for equal flow and fairly tight together for optimum die pressure.</p> <p><b>Tubing Die:</b> DDR 2.0 - 7.0:1 target. As low as possible for minimal shrinkage, with DRB 0.95 to 1.10.</p>						

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## EQUIPMENT & CONDITIONS

## SUGGESTIONS

### Machine Temperatures

Hardness Range	Typical Barrel Settings	Melt Temperature Range
Shore C79 - 85	320°F - 365°F	380°F - 385°F
Shore C86 - 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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### North America

505 Central Avenue  
Pawtucket, RI 02861  
+1-401-725-8000  
1-800-554-9892

### Singapore

41 Shipyard Road  
Singapore 628134  
+65-62652544

### China

Room 1003,  
Lujiazui Finance Plaza  
No. 1217, Dongfang Road  
Pudong, Shanghai 200127  
+86-21-50108083