PolyOne

Troubleshooting Guide

Specialty Engineered Materials

OnForce™ LFT Long Fiber Compounds

TROUBLESHOOTING RECOMMENDATIONS		
Problem	**Cause**	**Solution**
Incomplete Fill	Melt and/or mold too cold	1. Increase nozzle and barrel temperatures. 2. Increase mold temperature. 3. Increase injection rate. 4. Increase pack and hold pressure. 5. Increase nozzle tip diameter. 6. Check thermocouples and heater bands.
	Mold Design	1. Enlarge or widen vents and increase number of vents. 2. Check that vents are unplugged. 3. Check that gates are unplugged. 4. Enlarge gates and/or runners. 5. Perform short shots to determine fill pattern and verify proper vent location. 6. Increase wall thickness to move gas trap to parting line.
	Shot size	1. Increase shot size. 2. Increase cushion.
Brittleness	Low melt temperature	1. Increase melt temperature. 2. Increase injection rate. 3. Measure melt temperature with pyrometer.
	Degraded/overheated material	1. Decrease melt temperature. 2. Decrease back pressure. 3. Use smaller barrel/excessive residence time.
	Gate location and/or size	1. Relocate gate to nonstress area. 2. Increase gate size to allow higher flow rate and lower molded-in stress.
	Moisture	1. Dry material to above conditions. 2. Utilize hopper dryers.
Fibers/MIneral on Surface or Uneven Surface Appearance	Melt temperature too low	1. Increase melt temperature. 2. Increase mold temperature. 3. Increase injection speed.
	Insufficient packing	1. Increase pack and hold pressure and time. 2. Increase shot size.
Sink Marks	Part geometry too thick	1. Reduce wall thickness. 2. Reduce rib thickness.
	Melt too hot	1. Decrease nozzle and barrel temperatures. 2. Decrease mold temperature.
	Insufficient material volume	1. Increase shot size. 2. Increase injection rate. 3. Increase packing pressure. 4. Increase gate size.
Flash	Injection pressure too high	1. Decrease injection pressure. 2. Increase clamp pressure. 3. Decrease injection rate. 4. Increase transfer position.
	Excess material volume	1. Decrease pack pressure. 2. Reduce shot size. 3. Decrease injection rate.
	Melt and/or mold too hot	1. Decrease nozzle and barrel temperatures. 2. Decrease mold temperatures. 3. Decrease screw speed.

TROUBLESHOOTING RECOMMENDATIONS

Problem	Cause	Solution
Excessive Shrink	Too much orientation	1. Increase packing time. 2. Increase hold pressure. 3. Decrease melt temperature. 4. Decrease mold temperature. 5. Decrease injection speed. 6. Decrease screw rpm. 7. Increase venting. 8. Increase cooling time.
Not Enough Shrink	Too little orientation	1. Decrease packing pressure. 2. Decrease hold pressure. 3. Increase melt temperature. 4. Increase mold temperature. 5. Increase injection speed. 6. Increase screw rpm. 7. Decrease cooling time.
Color Streaks	Incomplete color dispersion	1. Increase back pressure. 2. Verify color concentrate compatibility. 3. Decrease rear zone temperature. 4. Increase injection rate. 5. Check material for moisture.
Burning	Melt and/or mold too hot	1. Decrease nozzle and barrel temperatures. 2. Decrease mold temperature. 3. Decrease injection rate. 4. Check material for moisure
	Mold design	1. Clean, widen and increase number of vents. 2. Increase gate size or number of gates.
Nozzle Drool	Nozzle temperature too hot	1. Decrease nozzle temperature. 2. Decrease back pressure. 3. Increase screw decompression.
	Incorrect nozzle type	1. Use reverse taper nozzle.
	Moisture	1. Dry material prior to molding. 2. Use hopper dryers.
Weld Lines	Melt front temperatures are too low	1. Increase pack and hold pressure. 2. Increase melt temperature. 3. Increase vent width and locations. 4. Increase injection rate. 5. Increase mold temperature.
	Mold design	1. Decrease injection rate. 2. Increase gate size. 3. Perform short shots to determine fill pattern and verify proper vent location. 4. Add vents and/or false ejector pin. 5. Move gate location.
Sticking in Mold	Cavities are overpacked	1. Decrease injection rate and pressure. 2. Decrease pack and hold pressure. 3. Decrease nozzle and barrel temperatures. 4. Decrease mold temperature. 5. Increase cooling time.
	Mold design	1. Increase draft angle.
	Part is too hot	1. Decrease nozzle and barrel temperatures. 2. Decrease mold temperature. 3. Increase cooling time.

For questions or issues, please call
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