

Problem	Source(s)	Cause(s)	
Jetting	Machine	Excessive injection speed	
		Barrel temperature too high or too low	
		Nozzle opening too small	
		Inadequate nozzle temperature	
	Mold	Mold temperature too low	
		Gates or runners too small	
		Improper gate location	
Material	Excessive gate land length		
	Improper flow rate		
Knit Lines	Machine	Barrel temperature too low	
		Inadequate back pressure	
		Injection pressure or speed too low	
		Mold temperature too low	
	Mold	Gates or runners too small	
		Improper gate location	
		Excessive gate land length	
Material	Improper flow rate		
Non-fill (Short Shots)	Machine	Insufficient material feed	
		Barrel temperature too low	
		Faulty check valve	
		Inadequate back pressure	
		Nozzle too small	
		Injection pressure or speed too low	
		Insufficient booster or injection time	
		Excessive feed cushion	
		Excessive non-return valve clearance	
		Bridging in feed throat	
		Insufficient press capacity	
		Mold	Mold temperature too low
			Gates or runners too small
	Improper gate location		
	Insufficient venting		
	Cross-section too thin		
	Sprue bushing too long		
	Runner diameter too small		
	Sprue diameter too small		
	Material	Improper flow rate	
Excessive regrind			
Moisture in resin			
Non-uniform particle size			
Shrinkage	Machine	Barrel temperature too high	
		Insufficient injection pressure or time	
		Inadequate cooling time	
		Insufficient cushion and/or hold time	
		Faulty check valve	
	Mold	Mold temperature too high	
		Gates or runners too small	
		Improper gate location	
Material	Excessive gate land length		
	Improper flow rate		
Sink Marks	Machine	Barrel temperature too high	
		Insufficient injection pressure or time	
		Inadequate cooling time	
		Insufficient cushion and/or hold time	
		Faulty check valve	
	Mold	Mold temperature too high opposite ribs	
		Gates or runners too small	

Problem	Source(s)	Cause(s)
Sink Marks (cont.)	Mold (cont.)	Improper gate location
		Excessive gate land length
		Excessive rib thickness
		Entrapped gases
	Material	Unbalanced flow pattern
Improper flow rate		
Splay	Machine	Excessive regrind use
		Barrel temperature too high
		Excessive screw rotation speed (RPM)
		Nozzle too small, too hot, or obstructed
		Excessive shot size
		Trapped air or gases
	Mold	Improper purging
		Gates too small
	Material	Obstruction in gate or runner
		Cracks in mold
Warpage	Machine	Excessive moisture
		Contaminated resin
		Inadequate injection pressure or time
		Inadequate residence time
		Barrel temperature too low
		Nozzle temperature too low
		Inadequate cycle time
		Lack of cushion - underpacking
	Excessive stress buildup	
	Mold	Mold temperature too low
		Gates or runners too small
		Improper gate location
		Uneven mold temperatures
Unusual mold construction due to part design		
Material	Non-uniform ejection	
Material	Improper flow rate	

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