

Eastman MXF221
copolyester

Visual defects troubleshooting guide

for medical housings
and hardware



Visual defects troubleshooting guide for medical housings and hardware

Black specks



Possible cause	Corrective action
Previous material(s) in the screw, check ring, hot runner, etc.	Purge the machine with Eastman polymers, PC, or commercial purge compounds. If necessary, remove the screw and manually clean the screw and barrel. Take the nozzle and hot runner apart and clean out previous materials.
Raw material contamination	Ensure that any open boxes are covered while in use. Examine pellets for possible contamination.

Jetting



Possible cause	Corrective action
Plastic flow into the part channels or "snake flows"	Raise or lower fill speed to change filling pattern. Change the part or gate so that flow spreads evenly as the part is filled.

Unmelts



Possible cause	Corrective action
Melt temperatures too low	Increase melt temperature.
Screw speed too slow	Increase screw rpm.
Back pressure too low	Increase back pressure.
Shot size too large for machine	Switch to a machine with an appropriate-sized barrel.
Contamination	Find and eliminate source.

Splay



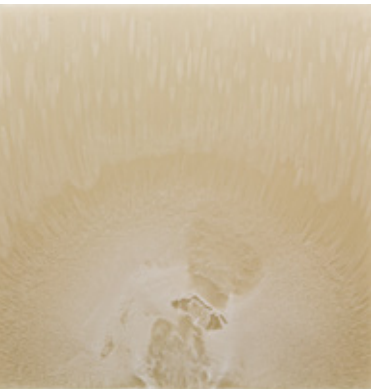
Splay, as defined here, includes any defects that appear as smeared material or bubbles on the part surface, usually oriented in the flow direction.

Possible cause	Corrective action
Appearance alone cannot tell you which type of splay is present. To decide on the likely cause(s), test to prove/disprove what is causing the splay and then take the corrective action indicated. See each type of splay listed to the side.	Examine purge to check for clarity vs. bubbles, etc.
Hot spots in barrel, nozzle, or hot runner	Check actual melt temperature. Check actual hot runner, nozzle, and barrel temperatures. Check heater bands, thermocouples, and controllers.
Residence time too long	Ensure shot size is 30% to 75% of barrel capacity. Melt residence time < 5 minutes Check for dead spots in hot runners and nozzles.
Improperly dried material (Note: Moisture splay is visible only when material is <i>extremely</i> wet.)	Ensure good drying. See processing guidelines for your copolyester formulations.
Gate design	Increase gate size. Change gate geometry, such as using a fan gate. Radius sharp edges. If hot runner, consult hot runner supplier.

Splay fine



Splay and blush





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