ReZilient Rx™ Processing Guide

Introduction

ReZilient Rx™ materials are thermoplastic elastomer (TPE) alloys formulated for use as a general purpose injection molding material. ReZilient Rx is offered in range of hardness as low as 30 shA, has outstanding durability, elasticity, and abrasion resistance.

This processing guide is meant to provide extrusion manufacturers a reference for initial processing and troubleshooting recommendations when handling and extruding ReZilient Rx materials. Those skilled in the art may apply the same tricks to ReZilient Rx as typically used for handling and processing TPE materials. Although this document is focused on injection molding processes ReZilient Rx may be used in extrusion processes.

General Handling Information

- ReZilient Rx is supplied as free flowing , elliptical shaped pellets with average diameter of about 0.125”.
- Their natural appearance is translucent.
- Colorants and radiopaque fillers may be added.
- The shelf life of ReZilient Rx is two years from date of delivery when stored in original unopened packaging at or below standard room temperature and humidity.
- Exposure to UV light and elevated temperature may accelerate degradation and decrease life expectancy.
- Exposure to elevated temperature and humidity may cause pellets to clump. If clumping occurs, mechanical agitation may be applied to return pellets to their free flowing state.
- The ReZilient Rx Safety Data Sheet (SDS) should be consulted for safe handling procedures.

Drying

ReZilient Rx grades are non-hydroscopic and do not require drying prior to processing. In the event of non-ideal storage conditions generating surface moisture, dry ReZilient Rx at 150°F until moisture content is below 0.10%.

Purging

PP or LDPE is recommended for purging into or out of ReZilient Rx TPEs.

Typical Machine Settings

The following settings are recommended as a starting point and can be adjusted as required.

Injection Velocity

Low to moderate

Melt Cushion

≥ 1 mm

Screw Back Pressure

≥ 75 psi

Mold temperature

80°F—110°F

Temperature Window

Rezilient Rx grades are stable in a wide window of temperatures. It is recommended not to exceed 500°F with materials as they will start to discolor.

Barrel Temperatures

The barrel temperatures recommended below have been found to produce the best surface finish.

Recommended Temperatures in °F (°C)							
ReZalloy Grade	GP-30	GP-40	GP-50	GP-60	GP-70	GP-80	GP-90
Nozzle	390 (197)	390 (197)	390 (197)	390 (197)	410 (208)	430 (219)	430 (219)
Front	380 (192)	380 (192)	380 (192)	380 (192)	400 (203)	420 (214)	420 (214)
Middle	370 (186)	370 (186)	370 (186)	370 (186)	390 (197)	410 (208)	410 (208)
Rear	360 (181)	360 (181)	360 (181)	360 (181)	380 (192)	400 (203)	400 (203)