ReZalloy Rx® 1100 Datasheet and Process Guide

Medical TPU & PEBA Alloys

Description

ReZalloy Rx®grades provide low modulus properties and exceptional bonding performance. ReZalloy Rx® grades are capable of bonding to polar substrates such as PEBA, TPU, COPE, SBC, PC, ABS, PET, etc.

Form	Pellets
Appearance	Translucent
Applications	Catheters
Markets	Medical, Healthcare
Processing Method	Extrusion, Injection Molding

Typical Material Properties

ReZalloy Rx™ Product Line					
Property	**1135A**	**1140A-LV**	**1140A**	**1150A**	**1160A**
Durometer (ASTM D2240)	35A	40A	40A	50A	60A
Tensile Strength at 50% Elongation (ASTM D412)	75 psi	115 psi	100 psi	170 psi	245 psi
Ultimate Tensile Strength (ASTM D412)	195 psi	1180 psi	390 psi	990 psi	1850 psi
Ultimate Elongation (ASTM D412)	420 %	900 %	500 %	660 %	740 %
DIN Abrasion Loss (DIN 53516)	660	210	340	125	50
Melt Flow - 190C, 8.7kg (ASTM D1238)	9 g/10min	38* g/10min	25 g/10min	23 g/10min	15 g/10min

Note: * Melt flow test conditions 190C, 2.16kg

Drying Requirements

This material should be dried at 160°F until moisture level is less than 0.02%. To minimize material degradation due to hydrolysis, it is recommended that this material is dried prior to any heat exposure during forming or assembly processes.

Recommended Extrusion Temperatures

ReZalloy Rx™ Product Line					
Grade	**1135A**	**1140A-LV**	**1140A**	**1150A**	**1160A**
Zone 1	160 (320)	130 (266)	160 (320)	170 (338)	170 (338)
Zone 2	170 (338)	140 (284)	170 (338)	180 (356)	180 (356)
Zone 3	180 (356)	150 (302)	180 (356)	190 (374)	190 (374)
Clamp	190 (374)	160 (320)	185 (365)	195 (383)	195 (383)
Crosshead	190 (374)	160 (320)	185 (365)	195 (383)	195 (383)
Die	185 (365)	155 (311)	180 (356)	190 (374)	190 (374)

Note: Temperatures expressed in °C (°F)

Extruder and Tooling Design

ReZalloy Rx™ Extruder and Tooling Configuration	
Screw Type	General Purpose, Barrier Screw
L/D Ratio	25 - 30
Compression Ratio	3
Feed Zone Length	33%
Compression Zone Length	33%
Metering Zone Length	33%
Area Draw Ratio	2 - 16
Typical Mesh Screen Pack	20-40-80-20

Additional Process Considerations

Cooling the extruder feed throat is critical for preventing bridging or surging. ReZalloy Rx™ grades can be tacky during processing. Rollers, pullers, and additional contact points should be constructed from a suitable low friction material.

Drying Requirements

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Purging

A low viscosity TPU, LDPE, or EVA resin is recommended for purging prior to or after extrusion or injection molding. To prevent degradation and gel generation, it is recommended to maintain a slow throughput while the line is sitting idle with ReZalloy Rx™ in the barrel.

Handling

ReZalloy Rx™ grades are supplied as free-flowing pellets. The Safety Data Sheet should be consulted for other detailed guidelines.

Storage

Typical shelf life of the ReZalloy Rx™ is two years from date of delivery in unopened packaging. When not being used, the container and liner should be closed and stored in a cool dry area protected from UV light.

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See Safety Data Sheet for Health & Safety Consideration