ReZilok Rx®101 Technical Datasheet and Process Guide

Medical Tie-Layer

Description

ReZilok Rx®101 tie-layer resin is a maleic anhydride grafted linear low density polyethylene. This tie-layer resin is used to bond dissimilar materials in coextrusion or reflow processes. ReZilok Rx®101 is optimized for adhesion to a variety of materials through chemical and physical bonding mechanisms.

Form	Pellets
Appearance	Translucent
Applications	Multilayer film and tubing
Markets	Medical, Healthcare, Packaging
Processing Method	Extrusion

Regulatory Status

ReZilok Rx®101 is not considered to have cytotoxic potential according to ISO 10993-5 test results. ReZilok Rx® 101 is supported for use in disposable devices classified by the FDA as Class I & Class II.

Typical Properties

Property	Value	Unit	Test Method
Density	0.92	g/cm^3	Pycnometer
Melt Flow Rate (190°C / 2.16kg)	1.5	g/10 min	ASTM D1238
Melting Temperature	121	°C	ISO 11357-3
Vicat Softening Temperature	102	°C	ISO 306
Hardness	95	Shore A	ASTM D2240
Ultimate Tensile Strength	1910	psi	ASTM D638
Ultimate Tensile Elongation	420	%	ASTM D638
Tensile Strength at Yield	1370	psi	ASTM D638
Tensile Elongation at Yield	67	%	ASTM D638
Flexural Modulus	24	kpsi	ASTM D790

Notes:
Test parts injection molded
Test parts conditioned at 23°C / 50% RH for 24hr
Tensile test speed 50mm/min

Drying Requirements

In order to ensure maximum adhesion performance and extrusion surface quality, it is recommended to dry ReZilok Rx®101 at 160°F until moisture content is below 0.05%. Polyethylene does not typically require drying; however, the grafted maleic anhydride in ReZilok Rx®101 is susceptible to hydrolysis which can render the tie-layer less effective for chemical and physical bonding. In thin walled applications, drying ReZilok Rx®101 removes any potential pellet surface moisture which could influence final product surface aesthetics.

Recommended Process Temperatures

Zone	Temperature (°F)
Feed Zone	300 - 350
Transition Zone	400 - 450
Metering Zone	430 - 480
Adaptor	430 - 480
Die	430 - 480

Additional Process Considerations

A variety of factors can influence the adhesion performance of ReZilok Rx®101 tie-layer resin. Adhesion is generally improved by increasing the melt temperature, the duration of interlayer contact in the melt state, and the interlayer contact pressure.

Purging

An LLDPE resin (or secondly an LDPE) is recommended for purging prior to or after extrusion of ReZilok Rx®101. To prevent gel or char formation, it is recommended to maintain a slow throughput while the line is sitting idle with ReZilok Rx®101 in the barrel.

Handling

ReZilok Rx® resins are supplied as free-flowing pellets. In general, Rezilok can be handled similar to standard polyethylene polymers. A Safety Data Sheet for ReZilok Rx® resins should be consulted for other detailed guidelines.

Storage

Typical shelf life of ReZilok Rx®101 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