1587 INDUST

Description

Product Description

Indust 1587 resins are modified ethylene vinyl acetate polymers. They are available in pellet form for use in conventional extrusion and coextrusion equipment designed to process polyethylene resins.

Restrictions

Material Status

Commercial: Active

Typical Characteristics

Characteristics / Benefits

Physical properties of Indust Series 1587 resins are typical of EVA resins with similardensity and melt index values.

Application

Indust 1587 series resins adhere to a wide variety of materials. They are most oftenused to adhere to PE, ionomers, EVA, and in some cases PVC, PS.

Typical Properties

Physical	Nominal Values	Test Method(s)	
Density ()	0.95 g/cm³	ASTM D792	ISO 1183
Melt Flow Rate (190°C/2.16kg)	6.7 g/10 min	ASTM D1238	ISO 1133

Thermal	Nominal Values	Test Method(s)	
Melting Point	74°C (165°F)	ASTM D3418	ISO 3146
Freezing Point	51°C (124°F)	ASTM D3418	ISO 3146
Vicat Softening Point	50°C (122°F)	ASTM D1525	ISO 306

Additional

Adhesive Evaluation

The performance of any adhesive resin should be evaluated within the context of the application. The adhesive is designed to bond materials that would not ordinarily adhere to each other. In most cases, peel strength is used as a measure of performance. Although this is a convenient test, peel strength is affected not only by adhesion, but also by peel angle, separation rate, temperature, and tensile and modulus properties of the materials, and often by the time elapsed since the formation of the bond. Post-treatment of the multi-layer structure, such as heat sealing, thermoforming or orientation can also affect peel strength.

If peel strength is used as a measure of adhesive performance, it is imperative that peel strength be evaluated not only at the time of manufacture, but throughout the life of the product and under all the various conditions to which the structure will be exposed. Only then can the performance of the adhesive be related to peel strength.

Publish Date: 22.02.2018
Revision No: 00

1587 INDUST

Processing Information

General

Maximum Processing Temperature	235°C (455°F)
General Processing Information	The temperature profile shown below is for initial evaluations of Indust adhesive resins in the 1587series.

Because the Indust 1587 Series resins have low softening points, it is a good idea to run the rear of the extruder as cool as possible, then build quickly to the melt temperature. Water cooling of the screw and/or hopper feed throat may help avoid bridging problems.

We suggest that the maximum melt temperature be limited to 235C to guard against overheating the EVA. If adhesion results are adequate, we suggest evaluating even lower melt temperatures.

Variation of these suggested temperature profiles may be appropriate depending upon the screw configuration, potential extruder horsepower limitations, potential back pressure limitations, the need to match rheologies and/or the stability of the other resins in the coextrusion. Film quality will also depend upon the residence time of the adhesive resin in the system. Dead spots may result in localized overheating and should be avoided by ensuring the flow path for the adhesive is as streamlined as possible.

We suggest using a standard polyolefin screw when extruding Indust series resins. Excessively deep flights should be avoided as they might result in poor melting of the adhesive resin. Excessively high shear screws should also be avoided to minimize gel and degradation formation. It is also important to properly size the extruder for the output desired. Running large extruders at very low should be avoided.

When extruding Indust 1587 series resins as an exposed outer surface in a multi-layer coextrusion, problems related to the tackiness and high coefficient of friction of these products may be evident. In this case, it is suggested that the extrusion temperature be lowered to 160C - 185C or less. Addition of slip and silica-based antiblock packages may also be appropriate to prevent blocking and improve film handling, although these additive packages may modify the resin’s bonding characteristics.

If the coextrusion process is stopped for short periods of time, the screw in the adhesive extruder should be kept turning at a low RPM level. For a permanent shutdown, the BYNEL adhesion resin should be purged out using an available polyethylene resin run at the same extrusion temperature used during the extrusion process of the adhesive resin. Making frequent changes in screw speed during the shutdown process and subsequent start-up will help remove the previous material from the system more effectively. Sometimes upon start-up of the adhesive resin, excessive amounts of gel may be observed. This may be due to the natural ability of the adhesive resin to act as a purging compound. In this case, continued extrusion will eventually clear up the problem.

Materials of construction used in the processing of this resin should be corrosion resistant. Nickel plating has been satisfactory, but experiments have shown that chrome surfaces have the least adhesion to acid based polymers. In recent years, the quality of chrome plating has been deteriorating due to environmental pressures, and the corrosion protection has not always been adequate. Chrome over top of stainless steel seems to provide the best combination for corrosion protection and ease of purging.

Publish Date: 22.02.2018
Revision No: 00

1587 INDUST

Cast Film / Sheet Processing	Nominal Values
Feed Zone	135°C (275°F)
Second Zone	160°C (320°F)
Third Zone	185°C (365°F)
Fourth Zone	210°C (410°F)
Fifth Zone	235°C (455°F)
Adapter Zone	235°C (455°F)
Die Zone	235°C (455°F)

Regional Centres

Evolpoly operates in more than 30 countries. For help finding a local representative, please contact one of thefollowing regional customer contact centers:

Americas

Evopoly Company
Run Plaza – 520
350 Centre Road
Wilmington, Delaware
1935 U.S.A.
Phone: 1-302-524-1000
Fax: 1-302-563-5423

Asia Pacific

Evopoly China Holding Co.
Shanghai Branch
Zhangjiang Hi-Tech Park
Pudong New District, Shanghai
P.R. China
Phone: 1-302-524-8520
Fax: 1-302-563-7410

Europe / Middle East / Africa

Evopoly de Nemours S.A.
CH-1218 Le Grand Saconnex
Geneva, Switzerland
Phone: 1-302-854-5244
Fax: 1-302-563-7852

Publish Date: 22.02.2018
Revision No: 00