



APPEEL™ 20D875

Peelable Resin

General Information

Product Description APPEEL™ 20D875 is a modified ethylene acrylate resin designed to function as a sealing layer for lidding applications. It is most often suggested to provide strong peelable seals over a broad temperature range to a number of container materials including PP, PS, PET and PVC.

APPEEL™ 20D875 is available in pellet form for use in conventional extrusion and coextrusion equipment designed to process polyethylene resins.

Status

Material Status Commercial: Active

Typical Characteristics

Uses Lidding Sealant

Features Low seal initiation temperature, wide process window and strong seals to multiple substrates.

Characteristics / Benefits Contains amide slip agent

Applications General purpose sealant for PP, PS, PET & PVC cups and trays.

Note: films made with APPEEL™ 20D875 are translucent in appearance.

Typical Properties

| Physical | Nominal Values | Test Method(s) | |
|-----------------------------------|------------------------|----------------|----------|
| *Density () | 1.27 g/cm ³ | ASTM D792 | ISO 1183 |
| *Melt Flow Index (190°C/2.16kg) | 11.0 g/10 min | ASTM D1238 | ISO 1133 |
| Thermal | Nominal Values | Test Method(s) | |
| *Melting Point (DSC) | 98 °C (208.4 °F) | ASTM D3418 | ISO 3146 |
| Vicat Softening Point () | 60 °C (140 °F) | ASTM D1525 | ISO 306 |

Heat Seal Evaluation The performance of any sealant resin should be evaluated within the context of the application. The sealant is designed to bond to particular substrate(s). Many variables can affect seal strength, including the physical properties of the substrate being sealed to, thickness, flange or surface design, heat seal temperature, dwell time and pressure. The condition and type of the sealing equipment used, such as roller sealers versus platen seal mechanisms can make a significant difference.

In most cases sealant peel strength is used as a measure of performance. Although this is a convenient test, peel strength is affected not only by substrate adhesion but also by peel angle, separation rate, ambient temperature, tensile and modulus properties of the materials, and often by the time elapsed since the formation of the bond.

If sealant peel strength is used as a measure of sealant performance, it is imperative that peel strength be evaluated not only at the time of initial heat sealing the lid to the substrate, but throughout the life of the product and under all the conditions to which the sealant will be exposed. Only then does peel strength provide a reliable indication of adhesive performance in the specific application

Processing Information

*Maximum Processing Temperature 285 °C (545 °F)
General Processing Information



APPEEL™ 20D875 is moisture sensitive and drying is recommended for 5 hours at 55° C (131° F) before processing if the liner has been previously opened.

If the process is stopped for short periods of time, the screw for the APPEEL™ extruder should be kept turning at a low rpm to keep material flowing.

After processing APPEEL™, purge the material out using a polyethylene resin, preferably with a lower melt flow rate than the APPEEL™ resin in use. The "Disco Purge Method" is suggested as the preferred purging method, as this method usually results in a more effective purging process. Information on the Disco Purge Method can be obtained via your Dow Sales Representative.

Never shut down the extrusion system with APPEEL™ in the extruder and die. Properly purge out the APPEEL™ with a polyethylene, and shut down the line with polyethylene or polypropylene in the system.

Blown Film

Processing Information

Nominal Values

It is suggested that APPEEL™ 20D875 process temperatures be maintained in the 150° C - 190° C (302° F - 374° F) range.

Process temperatures above 190°C (374°F) can result in high sticking of the film.

Due to the higher melt flow rate of APPEEL™ 20D875, it is critical to coextrude with materials of sufficient melt strength.

| | |
|--------------|-------------------|
| Feed Zone | 140 °C (284 °F) |
| Second Zone | 150 °C (302 °F) |
| Third Zone | 160 °C (320 °F) |
| Fourth Zone | 180 °C (356 °F) |
| Fifth Zone | 180 °C (356 °F) |
| Adapter Zone | 180 °C (356 °F) |
| Die Zone | 170 °C (338 °F) |

Extrusion Coating/Lamination

Processing Information

Nominal Values

The melt temperature of APPEEL™ 20D875 should be maintained in the 235°C - 270°C (455°F - 518°F) range in extrusion coating processes.

Selection of a specific melt temperature will depend on screw configuration, potential power limitations, and the need to match melt viscosities. However, melt temperatures above 240°C (464°F) should be avoided because of possible thermal degradation of the resin.

| | |
|--------------|-------------------|
| Feed Zone | 180 °C (356 °F) |
| Second Zone | 230 °C (446 °F) |
| Third Zone | 260 °C (500 °F) |
| Fourth Zone | 270 °C (518 °F) |
| Fifth Zone | 270 °C (518 °F) |
| Adapter Zone | 270 °C (518 °F) |
| Die Zone | 270 °C (518 °F) |

FDA Status Information

APPEEL™ 20D875 resin complies with with Food and Drug Administration Regulation 21 CFR 175.105 - - Adhesives. This Regulation describes adhesives that may be used as components of articles intended for use in packaging, transporting, or holding food, subject to the limitations and requirements therein.

The information and certifications provided herein are based on data we believe to be reliable, to the best of our knowledge. The information and certifications apply only to the specific material designated herein as sold by Dow and do not apply to



use in any process or in combination with any other material. They are provided at the request of and without charge to our customers. Accordingly, Dow cannot guarantee or warrant such certifications or information and assumes no liability for their use.

Regulatory Information

For information on regulatory compliance outside of the U.S.A., consult your local Dow representative.

In Europe a diversity of regulations apply in various countries. Please carefully evaluate the information provided in the European food contact compliance statement.

Please request a copy of the European food contact compliance statement from your local or regional Dow representative.

Ongoing regulatory changes in Europe are linked to the effort to harmonize under the umbrella of European Union Directive. This makes it impossible to accurately describe the food contact status in this brochure. Updated statements describing the situation in the various European countries can be obtained through your local sales representative.

