DuPont Packaging & Industrial Polymers

DuPont™ Appeel® 20D751

Appeel® resins Product Data Sheet

Description

Product Description	DuPont™ Appeel® 20D751 is a modified ethylene acrylate resin designed to function as a sealing layer for lidding applications. It is most often suggested to provide peelable seals over a broad temperature range to a number of container materials including PET, PVC, PS and PP. Appeel® 20D751 is available in pellet form for use in conventional extrusion and coextrusion equipment designed to process polyethylene resins.

Restrictions

Material Status	• Developmental: Active

Typical Characteristics

Uses	• Lidding Sealant

Typical Properties

Physical	Nominal Values	Test Method (s)	
Density ()	0.94 g/cm³	ASTM D792	ISO 1183
Melt Flow Rate (190°C/2.16kg)	2.0 g/10 min	ASTM D1238	ISO 1133

Thermal	Nominal Values	Test Method (s)	
Melting Point (DSC)	94°C (201°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

General

Maximum Processing Temperature	300°C (572°F)
General Processing Information	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 DuPont 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	**Nominal Values**
Blown Film Processing Information	Blown Film: In blown film coextrusion processes the temperature of the Appeel® 20D751 should be maintained in the 160 - 185º C range. It is also important that the Appeel® 20D751 be supported with materials having sufficient melt strength. Additive package: For blown film processing, it is suggested to add 3% to 5% of DuPont Elvax CE9619-1, a special slip and antiblock masterbatch. This masterbatch addition facilitates better web handling and roll formation. Following is an example of a suggested temperatiure profile for blown film processing. Adjustments would then be made to suit the individual process and applications needs.
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)

FDA Status Information	Appeel® 20D751 resin complies with Food and Drug Administration Regulation 21 CFR 177.1340 - - Ethylene-methyl acrylate copolymer resins, subject to the limitations and requirements therein. This Regulation describes polymers that may be used in contact with food, subject to the finished food-contact article meeting the extractive limitations under the intended conditions of use, as shown in paragraph (b) of the Regulation.
Regulatory Information	In Europe a diversity of regulations apply in various countries. In addition, constant changes linked to the effort of their harmonization under the umbrella of European Union Directive can be observed. 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.
Safety & Handling	As with any hot material, care should be taken to protect the hands and other exposed parts of the body when working with molten polymer. At temperature ranges above 300°C (572°F), this resin can evolve low concentrations of fumes. When resins are overheated, more extensive decomposition may occur. Adequate local ventilation should be provided to remove the fumes from the work area. Disposal of scrap presents no special problems and can be by landfill or incineration in a properly operated incinerator. Disposal should comply with local, state, and federal regulations. Resin pellets can be a slipping hazard. Loose pellets should be swept up promptly to prevent falls. For more detailed information on the safe handling and disposal of resins, a Product Safety Bulletin and OSHA Material Safety Data Sheet can be obtained from the regional office serving you

Read and Understand the Material Safety Data Sheet (MSDS) before using this product

Regional Centres

DuPont operates in more than 70 countries. For help finding a local representative, please contact one of the following regional customer contact centers:

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