



LOTRYL® BESTPEEL 2407

LOTRYL®

Versatile heat seal resin for peelable applications

Description

LOTRYL® BESTPEEL 2407 is a ready-to-use thermoplastic composition designed to make peelable heat seal layers onto various substrates. The base resin is a random copolymer of ethylene and methyl acrylate, polymerized by high-pressure process in autoclave reactor. Modification is introduced to ensure the best processability in the different film technologies, and the suitable properties in heat sealing and peeling.

Applications

LOTRYL® BESTPEEL 2407 is used as top layer of laminates in order to provide the functions of *heat sealability* onto various substrates like PP, PS, PET and PVC, and *easy opening* by interfacial peeling. LOTRYL® BESTPEEL 2407 is easily processed using the technologies of coextrusion coating, cast film coextrusion, blown film coextrusion or sheet coextrusion, to produce multilayers that can be used as lids, either directly or after lamination with other films. For more detailed information and recommendations regarding your specific application, please contact your local ARKEMA technical representative.

Typical properties

Characteristics	Value	Unit	Test Method
Methyl acrylate Content	23-26	% Wt	IRTF (internal)
Melt index (190°C / 2.16 kg)	6-8	g/10min	ISO 1133 / ASTM D1238
Density	0.94	g/cm ³	ISO 1183 / ASTM D1505
Melting point	69	°C	ISO 11357-3
Vicat softening point (10N) ⁽¹⁾	< 40	°C	ISO 306 / ASTM D1525
Flexural modulus ⁽¹⁾	10	MPa	ISO 178 / ASTM D790
Elongation at break ⁽¹⁾	750	%	ISO 527-2 / ASTM D638
Tensile strength at break ⁽¹⁾	6	MPa	ISO 527-2 / ASTM D638
Hardness Shore A ⁽¹⁾	79 / 22	-	ISO 868 / ASTM D2240

⁽¹⁾ On compression molded samples.

Processing

The chemical structure of LOTRYL® BESTPEEL 2407 combines the properties and processability of an autoclave ethylenic backbone together with the softness and polarity brought by acrylic ester groups. Composition has been optimized in order that:

- LOTRYL® BESTPEEL 2407 is highly compatible with polyethylene, leading to perfect adhesion in coextrusion with polyethylene and with most of ethylene copolymers.
- The amount of methyl acrylate comonomer as well as its uniform distribution give optimum compatibility with PP, PS, PET and PVC, which leads to a very balanced performance between strength of sealing and ease of peeling.

LOTRYL® BESTPEEL 2407 is processed with standard polyolefin extrusion equipment. It is not corrosive and its processability is similar to that of LDPE. Temperatures can be chosen in a very wide range. Usual recommendations start from 170°C in blown film extrusion, up to 300 – 310 °C in extrusion coating, thanks to the excellent heat stability of acrylate comonomers.

The composition of LOTRYL® BESTPEEL 2407 has been specifically designed to overcome the processing issues that are usually critical with tacky resins in film technologies, like chill roll release, blocking, bubble splitting and slip properties. LOTRYL® BESTPEEL 2407 is proposed as a ready-to-use resin with outstanding processability at both extrusion and downstream stages.

Purging LOTRYL® BESTPEEL 2407 is readily achieved with LDPE, and it is recommended to do it before shutdown.

Heat sealing and peeling properties

LOTRYL® BESTPEEL 2407 can be used as peelable heat seal layer in many kinds of lid constructions, based on aluminium foil, plastic films, paper, or a combination of them. As examples of constructions:

- Aluminium foil / EAA or Lotader 3210 / BESTPEEL 2407
- OPET / Lotader 4503 / LDPE / BESTPEEL 2407
- OPET / PU adhesive / LDPE / BESTPEEL 2407
- Paper / Lotader 4403 / PA6 / Lotader 4403 / BESTPEEL 2407
- Paper / Lotader 4503 / OPET / Lotader 4503 / BESTPEEL 2407
- PA / Orevac 18370 / PP / Orevac 18370 / BESTPEEL 2407
- PET / Orevac 18390 or Lotader 4603 / BESTPEEL 2407

Such constructions are heat sealable onto PP, PS, APET and PVC. Sealing strength is dependant on factors related to the different materials involved (heat conductivity, thicknesses) and to technological parameters like shape of the sealing tools, actual pressure, and time.

As general recommendations, flat sealing bars and moderate pressure should be preferred for better results and less squeezing of the sealing layer. Sealing temperature should be in the range from 160–180°C to 220-240°C, depending on heat conductivity of the whole structure and on contact time.

Example

<i>Lid construction:</i>	<i>Aluminium / tie / BESTPEEL 2407 (37 µm/6g/15g)</i>
<i>Conditions:</i>	<i>Flat sealing tool, 3 mm wide, 2.2 MPa actual pressure, 1s sealing time</i>
<i>Peeling initiation forces:</i>	<i>14 to 17 N/15mm with PS and PP, 12 N/15mm with APET and PVC</i>
<i>Peeling propagation forces:</i>	<i>5 N/3mm with PS and PP, 4 to 5 N/3mm with APET and PVC</i>

Food status

LOTRYL® BESTPEEL 2407 is compliant with the requirements of European and American regulations for use in food contact. Certificates are available upon request.

Storage, handling and safety

LOTRYL® BESTPEEL 2407 should be stored in standard conditions and protected from UV-light. Improper storage conditions may cause degradation and could have consequences on physical properties of the product.

Safety data sheet as well as information on handling and storage of the **LOTRYL® BESTPEEL 2407** is available upon request to your ARKEMA representative or on the web site www.lotryl.com.

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