

### Technical Data Sheet



### Petrothene NA321210

Low Density Polyethylene

#### Product Description

Petrothene NA321 is a series of homopolymer low density polyethylene resins designed for film applications requiring premium clarity with strength and stiffness. NA321 is selected by customers for bread bags, light produce, food packaging, bubble wrap and other packaging films enhanced by clarity and sparkle. NA321 contains an antioxidant.

#### Regulatory Status

For regulatory compliance information, see Petrothene NA321210 [Product Stewardship Bulletin \(PSB\)](#) and [Safety Data Sheet \(SDS\)](#).

|                          |                                                                                                                                                  |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Status</b>            | Commercial: Active                                                                                                                               |
| <b>Availability</b>      | Asia-Pacific; North America; South & Central America                                                                                             |
| <b>Application</b>       | Clarity Film; Compounding; Film Wrap; Food Packaging Film; Lamination Film; Packaging Foam, and other Foam applications; Surface Protection Film |
| <b>Market</b>            | Compounding; Flexible Packaging                                                                                                                  |
| <b>Processing Method</b> | Blown Film; Cast Film; Compounding                                                                                                               |

| Typical Properties                 | Nominal Value | English Units | Nominal Value | SI Units | Test Method |
|------------------------------------|---------------|---------------|---------------|----------|-------------|
| <b>Physical</b>                    |               |               |               |          |             |
| Melt Flow Rate, (190 °C/2.16 kg)   | 2.0           | g/10 min      | 2.0           | g/10 min | ASTM D1238  |
| Base Resin Density, (23 °C)        | 0.9225        | g/cm³         | 0.9225        | g/cm³    | ASTM D1505  |
| Product Density, (23 °C)           | 0.9231        | g/cm³         | 0.9231        | g/cm³    | ASTM D1505  |
| <b>Film</b>                        |               |               |               |          |             |
| Dart Drop Impact Strength, F50     | 130           | g             | 130           | g        | ASTM D1709  |
| <b>Tensile Strength at Break</b>   |               |               |               |          |             |
| MD                                 | 3000          | psi           | 21            | MPa      | ASTM D882   |
| TD                                 | 2700          | psi           | 19            | MPa      | ASTM D882   |
| <b>Tensile Strength at Yield</b>   |               |               |               |          |             |
| MD                                 | 1600          | psi           | 11            | MPa      | ASTM D882   |
| TD                                 | 1700          | psi           | 12            | MPa      | ASTM D882   |
| <b>Tensile Elongation at Break</b> |               |               |               |          |             |
| MD                                 | 400           | %             | 400           | %        | ASTM D882   |
| TD                                 | 550           | %             | 550           | %        | ASTM D882   |
| <b>1% Secant Modulus</b>           |               |               |               |          |             |
| MD                                 | 32000         | psi           | 220           | MPa      | ASTM D882   |
| TD                                 | 35000         | psi           | 240           | MPa      | ASTM D882   |
| <b>Elmendorf Tear Strength</b>     |               |               |               |          |             |
| MD                                 | 300           | g             | 300           | g        | ASTM D1922  |
| TD                                 | 300           | g             | 300           | g        | ASTM D1922  |
| <b>Optical</b>                     |               |               |               |          |             |
| Haze                               | 5.8           | %             | 5.8           | %        | ASTM D1003  |
| Gloss                              | 75            |               | 75            |          | ASTM D2457  |
| <b>Additive</b>                    |               |               |               |          |             |

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|           |          |          |            |
|-----------|----------|----------|------------|
| Slip      | 750 ppm  | 750 ppm  | LYB Method |
| Antiblock | 1000 ppm | 1000 ppm | LYB Method |

| Product  | Product Density(g/cm³) | Haze(%) | Gloss( ) | Slip(ppm) | Antiblock (ppm) |
|----------|------------------------|---------|----------|-----------|-----------------|
| NA321013 | 0.9225                 | 5.0     | 80       | None      | None            |
| NA321210 | 0.9231                 | 5.8     | 75       | 750       | 1000            |

### Notes

Data obtained from 2.0 mil film produced on a 2" extruder with a 4" die, 370°F melt temperature, 2.5:1 BUR, 0.025" die gap at 60 lbs/hr.

These are typical property values not to be construed as specification limits.

### Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

### Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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