

# barex® 210 Extrusion Grade

Acrylonitrile Copolymer

INEOS Barex

## Message:

Barex 210 Extrusion Grade resin is an impact modified acrylonitrile-methyl acrylate copolymer with excellent gas barrier and a wide range of chemical resistance properties. It can easily be used for producing high barrier packaging by film and sheet extrusion, thermoforming, and extrusion blow molding.

| General Information         |                                  |                   |             |
|-----------------------------|----------------------------------|-------------------|-------------|
| Additive                    | Impact modifier                  |                   |             |
| Features                    | Impact modification              |                   |             |
|                             | Good chemical resistance         |                   |             |
|                             | Compliance of Food Exposure      |                   |             |
|                             | Barrier resin                    |                   |             |
| Uses                        | Packaging                        |                   |             |
|                             | Films                            |                   |             |
|                             | Sheet                            |                   |             |
|                             | Bottle                           |                   |             |
|                             | Medical/nursing supplies         |                   |             |
| Agency Ratings              | EU 2002/96/EC (WEEE)             |                   |             |
|                             | FDA Food Exposure, Not Rated     |                   |             |
|                             | USP Class VI                     |                   |             |
|                             | European food contact, not rated |                   |             |
| RoHS Compliance             | RoHS compliance                  |                   |             |
| Forms                       | Particle                         |                   |             |
| Processing Method           | Film extrusion                   |                   |             |
|                             | Extrusion                        |                   |             |
|                             | Extrusion blow molding           |                   |             |
|                             | Sheet extrusion molding          |                   |             |
|                             | Thermoforming                    |                   |             |
| Physical                    | Nominal Value                    | Unit              | Test Method |
| Specific Gravity            | 1.15                             | g/cm <sup>3</sup> | ASTM D792   |
| Apparent Density            | 0.66                             | g/cm <sup>3</sup> | ASTM D1895  |
| Melt Mass-Flow Rate (MFR)   | 3.0                              | g/10 min          | ASTM D1238  |
| Molding Shrinkage - Flow    | 0.20 - 0.50                      | %                 | ASTM D955   |
| Hardness                    | Nominal Value                    | Unit              | Test Method |
| Rockwell Hardness (M-Scale) | 60                               |                   | ASTM D785   |

| Mechanical                          | Nominal Value | Unit                                          | Test Method |
|-------------------------------------|---------------|-----------------------------------------------|-------------|
| Tensile Strength (Yield)            | 65.5          | MPa                                           | ASTM D638   |
| Tensile Elongation (Yield)          | 3.0           | %                                             | ASTM D638   |
| Flexural Modulus                    | 3380          | MPa                                           | ASTM D790   |
| Flexural Strength (Yield)           | 96.5          | MPa                                           | ASTM D790   |
| Films                               | Nominal Value | Unit                                          | Test Method |
| Oxygen Permeability (23°C, 100% RH) | 0.31          | cm <sup>3</sup> ·mm/m <sup>2</sup> /atm/24 hr | ASTM D3985  |
| Water Vapor Transmission Rate       | 2.0           | g·mm/m <sup>2</sup> /atm/24 hr                | ASTM F1249  |
| Impact                              | Nominal Value | Unit                                          | Test Method |
| Notched Izod Impact                 | 270           | J/m                                           | ASTM D256   |
| Thermal                             | Nominal Value | Unit                                          | Test Method |
| Deflection Temperature Under Load   |               |                                               | ASTM D648   |
| 0.45 MPa, not annealed              | 76.7          | °C                                            | ASTM D648   |
| 1.8 MPa, not annealed               | 68.9          | °C                                            | ASTM D648   |
| CLTE - Flow (20 to 80°C)            | 6.7E-5        | cm/cm/°C                                      | ASTM D696   |
| Specific Heat (20°C)                | 1340          | J/kg/°C                                       | ASTM C351   |
| Thermal Conductivity                | 0.25          | W/m/K                                         | ASTM C177   |
| Optical                             | Nominal Value | Unit                                          | Test Method |
| Gloss (60°, 254 µm)                 | 120           |                                               | ASTM D2457  |
| Transmittance (254 µm)              | 92.5          | %                                             | ASTM D1003  |
| Haze (254 µm)                       | 2.7           | %                                             | ASTM D1003  |
| Yellowness Index (0.254 mm)         | 2.5           | YI                                            | ASTM D1925  |

#### Additional Information

Yield: 24080 in<sup>2</sup>-mil/lb Melt Index, ASTM D1238, 200°C/27.5 lbs: 3 g/10min Water Vapor Trans Rate, ASTM F1249-90, 100°F, 90% RH: 5 g-mil/100in<sup>2</sup>/24hrs-atm Nitrogen Permeability, ASTM D3985, 73°F, 100% RH: 0.2 cm<sup>3</sup>-mil/100in<sup>2</sup>-24hrs-atm Carbon Dioxide Permeability, ASTM D3985, 73°F, 100% RH: 1.2 cm<sup>3</sup>-mil/100in<sup>2</sup>-24hrs-atm

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