# INEOS HDPE TUB 121N

High Density Polyethylene Copolymer

INEOS Olefins & Polymers USA

## Message:

TUB 121N is a natural bimodal high density polyethylene copolymer designed for extrusion of potable water, natural gas, industrial and mining pipe. When blended with an approved black concentrate, the resulting formulation ("TUB 121") is listed by the Plastics Pipe Institute (PPI TR-4, as both PE 4710 and PE 100) and is certified to ANSI/NSF Standard 14, CSA B137.1 and CSA B137.4.

| General Information | | | |
|---|---|---|---|
| Features | Copolymer<br>High Density | | |
| Uses | Industrial Applications<br>Mining Applications<br>Natural Gas Distribution<br>Piping<br>Potable Water Applications | | |
| Agency Ratings | EC 1907/2006 (REACH) | | |
| RoHS Compliance | Contact Manufacturer | | |
| Appearance | Natural Color | | |
| Forms | Pellets | | |
| Processing Method | Pipe Extrusion | | |
| **Physical** | **Nominal Value** | **Unit** | **Test Method** |
| Density | 0.949 | g/cm³ | ASTM D4883 |
| Melt Mass-Flow Rate (MFR) | | | ASTM D1238 |
| 190°C/21.6 kg | 8.5 | g/10 min | |
| 190°C/5.0 kg | 0.30 | g/10 min | |
| Environmental Stress-Cracking Resistance (100% Igepal, F50) | > 5000 | hr | ASTM D1693C |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Durometer Hardness (Shore D) | 64 | | ASTM D2240 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Strength [1] | | | ASTM D638 |
| Yield | 24.1 | MPa | |
| Break | 30.3 | MPa | |
| Tensile Elongation [2] | | | ASTM D638 |
| Yield | 10 | % | |
| Break | > 600 | % | |
| Flexural Modulus - 2% Secant | 896 | MPa | ASTM D790A |
| Hydrostatic Design Basis | | | ASTM D2837 |

| | | | |
|---|---|---|---|
| 23°C | 11.0 | MPa | |
| 60°C | 6.89 | MPa | |
| Oxidation Induction Time (210°C) | > 20 | min | ASTM D3895 |
| Thermal Stability | > 240 | °C | ASTM D3350 |
| Cell Classification | 445574C | | ASTM D3350 |
| Minimum Required Strength | 10.0 | MPa | ISO 9080 |
| PENT - Notch Tensile | > 10000 | hr | ASTM F1473 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact | 640 | J/m | ASTM D256 |
| Notched Izod Impact (Area) | 63.0 | $kJ/m^2$ | ASTM D256 |
| Thermal | Nominal Value | Unit | Test Method |
| Brittleness Temperature | < -118 | °C | ASTM D746 |
| Vicat Softening Temperature | 126 | °C | ASTM D1525 |
| NOTE | | | |
| 1. | 51 mm/min | | |
| 2. | 51 mm/min | | |



## Recommended distributors for this material

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