PTC INFRA MAX™

Technical Data Sheet	(Technical Equivalent to INEOS Eltex® TUB121N3000 / PE 100 HDPE Black for Large-Diameter Pipes)
High-Density Polyethylene (HDPE) PE 100 –	For Buried Water, Gas & Industrial Large-Diameter Pressure Pipes (DN ≥ 315 mm)

Regulatory Status
For regulatory compliance information, refer to the PTC INFRA MAX™ Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).
This grade is formulated for **large-diameter pressure pipe applications**, including potable water transmission mains, natural gas distribution networks, and industrial fluid transport.
Contains **2.0–2.5% carbon black for UV stabilization — suitable for **buried and exposed installations**.**
This grade is not intended for medical or pharmaceutical applications.

Status
Commercial: Active

Availability
Middle East, India, Turkey, Central Asia, Africa

Application
Large-Diameter Potable Water Mains (DN 315–2000 mm), Natural Gas Transmission Pipes, Industrial Slurry & Effluent Lines

Market
Municipal Water Authorities, Gas Transmission Companies, Mining Operations, Desalination Plants, Mega Infrastructure Projects

Processing Method
Large-Diameter Pipe Extrusion (Single- or Twin-Screw, Standard PE 100 Lines, Calibrator Cooling)

Attribute
PE 100 HDPE, MRS = 10 MPa, Environmental Stress Crack Resistance (ESCR >1000 h, ASTM D1693), Melt Flow Rate = 0.20 g/10 min, Density = 0.953 g/cm^3, Black Masterbatch with 2.5% Carbon Black (Pelletized), Fully Compatible with ISO 4427 for Pressure Water and Sewer Systems

Physical

Property	Nominal Value	Units	Test Method
Density (pigmented)	960	kg/m³	ISO 1183-A
Melt Flow Rate (190 °C / 5.0 kg)	0.25	g/10 min	ISO 1133

Mechanical

Property	Nominal Value	Units	Test Method
Tensile Strength at Yield (23 °C)	25	MPa	ISO 527-2
Tensile Elongation at Break (23 °C)	>350	%	ISO 527-2
Tensile Modulus (23 °C)	1100	MPa	ISO 527-2

Long-Term Performance

Property	Nominal Value	Units	Test Method
Minimum Required	10	MPa	ISO 9080
Hydrostatic Strength (20 °C /	10	MPa	ISO 9080
Environmental Stress Crack	>1000	h	ASTM D1693
Oxidation Induction Time	>20	min	ISO 11357-6

Thermal

Property	Nominal Value	Units	Test Method
Vicat Softening Point	128	°C	ISO 306
Oxidation Induction Time (210 °C)	>20	min	ISO 11357-6

Additive

Property	Nominal Value	Units	Test Method
Carbon Black Content	2.3	%	ISO 6964
Carbon Black Dispersion	Class 2	—	ISO 18553
Pigmentation	Jet Black (RAL 9004)	—	Visual

Product Description

PTC INFRA MAX™ is a PE 100 high-density polyethylene compound, engineered as a high-performance equivalent to leading international black pipe grades. With a certified Minimum Required Strength (MRS) of 10.0 MPa, excellent Environmental Stress Crack Resistance (ESCR >1000 h, ASTM D1693), and robust oxidative stability (OIT >20 min, ISO 11357-6), it ensures dependable long-term performance in demanding water and sewer applications. Formulated with 2.5% carbon black in a pelletized masterbatch for consistent dispersion and UV protection, PTC INFRA MAX™ meets the stringent requirements of ISO 4427. Optimized for standard PE 100 extrusion lines, it delivers a regionally supported, ISO-aligned solution for infrastructure projects across the Middle East, Africa, and Asia.

Availability & Technical Support

For availability, technical information, and application-specific guidance, please contact Britannia Gulfgate Trade (BGT).

Processing Techniques

Recommended melt temperature range: **200 °C to 230 °C** (typical operating window: 210–225 °C).

For large-diameter PE 100 pipe extrusion:
- **Screw**: Use a low-shear barrier screw with gentle compression to minimize thermal degradation
- **Drying**: Dry at **70 °C for 2–4 hours** if moisture exceeds **200 ppm** (recommended max. moisture: **150 ppm**)
- **Cooling**: Use controlled, multi-zone spray cooling or water bath with gradual temperature reduction to minimize residual stresses in thick walls
- **Note**: **No masterbatch required** — carbon black and jet black pigment are pre-dispersed for consistent color and UV protection

Optimize haul-off speed and vacuum calibration to meet dimensional tolerances per **ISO 4427** (water) or **ISO 4437** (gas). The high-stiffness formulation ensures minimal sag in large-diameter pipes during cooling.

Availability & Technical Support

For availability, technical information, and application-specific guidance, please contact Britannia Gulfgate Trade (BGT).

Health and Safety

Molten HDPE may release fumes if overheated or exposed to excessive oxygen. Ensure adequate ventilation in processing areas. Avoid skin or eye contact with hot polymer. Use heat-resistant gloves, safety glasses, and protective clothing.

If overheated, molten polymer may degrade, producing fumes that can cause irritation to eyes or respiratory tract. Ensure adequate ventilation.

The resin is flammable and may produce dense smoke if burned. Store away from ignition sources.

Always consult the Safety Data Sheet (SDS) before handling or processing PTC INFRA MAX™.

Storage

Supplied in 25 kg UV-protected polyethylene bags on pallets.
Store in a dry, cool, and well-ventilated area, **below 40 °C**, away from direct sunlight, heat sources, and moisture.
Shelf life: **24 months** under recommended conditions.
Keep separate from oxidizing agents and flammable materials.

BGT Royalty™ Commitment

✅ Britannia GulfGate Trade Large-Diameter PE 100 Black Grade Commitment™
(A Technical Partnership – Not a Warranty)

PTC INFRA MAX™ is supplied as a **certifiable, pre-stabilized PE 100 HDPE black compound** — engineered for municipal and industrial projects demanding reliability in large-diameter water and gas networks.

What Sets Us Apart

1. Ready-to-Extrude for Mega-Pipes
Pre-formulated with **2.3% carbon black** and **jet black pigment (RAL 9004)** — no masterbatch blending required, ensuring consistent UV protection and color for pipes **DN 315–2000 mm**.

2. Certification-Ready Documentation
Every batch includes a **Certificate of Analysis (CoA)** with actual MFR, density, OIT, and carbon black data — accepted by ISO 4427/4437 certifiers across the Middle East, Africa, and Asia.

3. ISO-Aligned, Infrastructure-Tested
All data referenced to **ISO standards** — not internal or ASTM methods — giving you confidence in long-term performance validation.

4. Project-Scale Responsiveness
Direct access to polymer specialists who understand **large-diameter extrusion challenges** — no call centers, no delays.

5. Jebel Ali Ready Stock
Available from bonded inventory in **Jebel Ali Free Zone** — ensuring rapid delivery for time-critical infrastructure milestones.

> *This Commitment is a service pledge. It does not constitute a warranty. Final pipe certification remains the sole responsibility of the pipe manufacturer.*

⚠️ Disclaimer

Disclaimer
The data presented in this document are based on standard laboratory testing and represent typical values for PTC INFRA MAX™. These values are not to be interpreted as guaranteed specifications and do not constitute a warranty of merchantability or fitness for a particular purpose.

Final pipe performance—including compliance with **ISO 4427 (water)** or **ISO 4437 (gas)**—depends on processing conditions, pipe design, installation, and service environment. Users are solely responsible for verifying suitability for their specific application and obtaining necessary certifications from accredited pipe testing laboratories.

Britannia GulfGate Trade makes no express or implied warranties except as expressly stated in a written supply agreement.

Contact us for further inquiries

Britannia GulfGate Trade
Engineering Trust in Infrastructure Polymers

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The information in this document is based on current knowledge and testing. It is provided for guidance only and does not constitute a warranty or guarantee of performance. Users are responsible for assessing suitability for their specific application.