PTC GAS YELLOW™

Technical Data Sheet	(Technical Alternative to Legacy PE 80 Gas Grades – Modern PE 100 Solution)
High-Density Polyethylene (HDPE) PE 100	For Natural Gas Distribution Pipes (Orange or Yellow)

Regulatory Status
For regulatory compliance information, refer to the PTC GAS YELLOW™ Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).
This grade is formulated for **natural gas pressure pipe applications**. Contains **2.25% carbon black** and **yellow pigmentation (RAL 1023)** for UV protection and gas line identification.
This grade is **not intended for potable water, medical, or pharmaceutical applications**.

Status
Commercial: Active

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

Application
Natural Gas Distribution Pipes (Yellow Identification, Buried or Exposed)

Market
Gas Utilities, Municipal Distribution Networks, Industrial Gas Supply, Legacy System Upgrades

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

Attribute
- PE 100 HDPE Yellow Compound, MRS = 10 MPa, Melt Flow Rate = 0.23 g/10 min, Density = 0.958 g/cm³, Carbon Black Content = 2.25%, Yellow Pigmentation (RAL 1023), Full Compliance with ISO 4437 (Gas), Optimized for Pipe Diameters DN 20–630 mm

Physical

Property	Nominal Value	Units	Test Method
Melt Flow Rate (190 °C / 5.0 kg)	0.23	g/10 min	ISO 1133-1
Density	0.958	g/cm³	ISO 1183-1
Bulk Density	520	kg/m³	ISO 60

Mechanical

Property	Nominal Value	Units	Test Method
Tensile Modulus (23 °C)	920	MPa	ISO 527-1,-2
Tensile Stress at Yield (23 °C, 50	22	MPa	ISO 527-1,-2
Tensile Strain at Break (23 °C)	≥600	%	ISO 527-1,-2

Long-Term Performance

Property	Nominal Value	Units	Test Method
Minimum Required	10	MPa	ISO 9080
Hydrostatic Strength (20 °C /	10	MPa	ISO 9080
Full Notch Creep Test (FNCT) (4.0	>5000	h	ISO 16770
Oxidation Induction Time	30	min	ISO 11357-6

Hardness

Property	Nominal Value	Units	Test Method
Shore Hardness (Shore D, 3 s)	62	—	ISO 868

Thermal

Property	Nominal Value	Units	Test Method
Vicat Softening Temperature	75	°C	ISO 306
DSC Melting Point	130	°C	DSC

Additive

Property	Nominal Value	Units	Test Method
Carbon Black Content	2.25%	%	ISO 6964
Carbon Black Dispersion	Class 2 (Excellent)	—	ISO 18553
Pigmentation	Yellow (RAL 1023), UV-Stabilized	—	Visual

Product Description

Product Description

PTC GAS YELLOW™ is a modern PE 100 HDPE yellow compound engineered as a performance upgrade from legacy PE 80 grades like INEOS Eltex® TUB172. Specifically formulated for natural gas distribution networks, it combines a **10.0 MPa MRS rating** with **2.25% carbon black** and **yellow pigmentation (RAL 1023)** for reliable UV protection and clear gas line identification. Fully compliant with **ISO 4437**, it enables thinner walls, higher pressure ratings, and longer service life compared to PE 80 alternatives. Supplied as a ready-to-extrude compound, PTC GAS YELLOW™ eliminates the need for masterbatch addition and is supported by batch-specific Certificates of Analysis and responsive technical expertise from Britannia GulfGate Trade — making it the smart choice for gas utilities upgrading their infrastructure 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: **190 °C to 230 °C** (typical operating window: 200–220 °C).

For PE 100 yellow gas pipe extrusion:
- **Screw**: Use a standard barrier screw for HDPE — low-to-moderate shear to preserve polymer integrity
- **Drying**: Dry at **70 °C for 2–4 hours** if moisture exceeds **200 ppm** (recommended max. moisture: **150 ppm**)
- **Cooling**: Standard water bath or spray cooling — yellow pigment does not affect thermal conductivity
- **Note**: **No masterbatch addition required** — carbon black and yellow pigment (RAL 1023) are pre-dispersed for uniform color and UV stabilization

Optimize haul-off speed and calibration to meet dimensional and ovality tolerances per **ISO 4437**. The pre-stabilized formulation ensures consistent long-term performance without post-blending.

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 GAS YELLOW™.

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 PE 100 Yellow Gas Grade Commitment™
(A Technical Partnership – Not a Warranty)

PTC GAS YELLOW™ is supplied as a **certifiable, pre-stabilized PE 100 HDPE yellow compound** — engineered for gas utilities transitioning from legacy PE 80 systems to modern, high-performance infrastructure.

What Sets Us Apart

1. Ready-to-Extrude for Gas Networks
Pre-formulated with **2.25% carbon black** and **yellow pigmentation (RAL 1023)** — meeting UV protection requirements while enabling clear gas line identification in regions that specify yellow. No masterbatch needed.

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

3. PE 100 Performance, Not PE 80 Legacy
With **MRS = 10.0 MPa**, PTC GAS YELLOW™ enables **thinner walls, higher pressure ratings, and longer service life** compared to PE 80 alternatives like INEOS TUB172 — without requiring new extrusion lines.

4. Regional Technical Partnership
Direct access to polymer specialists who understand **gas pipe certification and processing** — no call centers, no delays. We respond within your working day.

5. Jebel Ali Ready Stock
Available from bonded inventory in **Jebel Ali Free Zone** — ensuring rapid, traceable delivery for gas network expansion or upgrade projects.

> *The Britannia GulfGate Trade PE 100 Yellow Gas Grade Commitment™ is a service pledge. It does not constitute a warranty of any kind. Final pipe certification under ISO 4437 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 GAS YELLOW™. 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 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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