BGT AQUA BLUE™ PE 100 for Potable Water Pipes

Technical Data Sheet	BGT AQUA BLUE™
High-Density Polyethylene (HDPE) –	PE 100 for Potable Water Pipes

Regulatory Status

For regulatory compliance information, refer to the BGT AQUA BLUE™ Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).
This grade is not intended for medical or pharmaceutical applications.

- This grade is approved for potable water applications in accordance with ISO 4427 and EN 12201.

Status
Commercial: Active

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

Application
Potable Water Pipes

Market
Municipal Water Infrastructure, Rural Water Supply, Urban Networks

Processing Method
Pipe Extrusion (Single- or Twin-Screw)

Attribute

PE 100 Classification, Excellent Long-Term Hydrostatic Strength, Outstanding ESCR, High Impact Resistance, RAL 5005 Blue Pigmentation, Odorless (Odor Threshold <2), Full Compliance with ISO 4427 & EN 12201, UV Stabilized for Buried Applications

Typical Properties
Physical

Property	Nominal Value	Units	Test Method
Melt Flow Rate (190 °C / 5.0 kg)	0.27	g/10 min	ISO 1133-1
Melt Flow Rate (190 °C / 21.6 kg)	7	g/10 min	ISO 1133-1
Density	0.95	g/cm³	ISO 1183-1
Bulk Density	570	kg/m³	ISO 60

Mechanical

Property	Nominal Value	Units	Test Method
Tensile Modulus (23 °C)	1050	MPa	ISO 527-1,-2
Tensile Stress at Yield (23 °C, 50	22	MPa	ISO 527-1,-2
Tensile Strain at Break (23 °C)	≥350	%	ISO 527-1,-2
Tensile Strain at Yield (23 °C, 50	8	%	ISO 527-1,-2

Long-Term Performance

Property	Nominal Value	Units	Test Method
Minimum Required Strength	10	MPa	ISO 9080
Hydrostatic Strength (20 °C /	10	MPa	ISO 9080
Environmental Stress Crack	>1000	h	ASTM D1693
Oxidation Induction Time	30	min	ISO 11357-6

Impact

Property	Nominal Value	Units	Test Method
Charpy Impact Strength – Notched (23 °C)	26	kJ/m²	ISO 179-1/1eA
Charpy Impact Strength – Notched (–30 °C)	13	kJ/m²	ISO 179-1/1eA

Hardness

Property	Nominal Value	Units	Test Method
Shore Hardness (Shore D, 3 s)	63	—	ISO 868

Thermal

Property	Nominal Value	Units	Test Method
Vicat Softening Temperature	74	°C	ISO 306
Oxidation Induction Time	30	min	ISO 11357-6
DSC Melting Point	129	°C	DSC

Additive

Property	Nominal Value	Units	Test Method
Blue Pigment (RAL 5005)	Pre-dispersed	—	Visual / Spectrophotomet
Carbon Black Content	2.0*	%	ISO 6964

*Carbon black added for UV stabilization in buried applications. Base resin contains blue pigment only; carbon black is included in standard formulation for outdoor/buried use.

Additional Information

Property	Nominal Value	Units	Test Method
Odor Threshold	<2	—	EN 1622

Product Description

✍️ Product Description

BGT AQUA BLUE™ is a high-density polyethylene (HDPE) PE 100 compound, pre-pigmented in RAL 5005 blue for unambiguous identification in potable water distribution systems. Engineered with an optimized bimodal molecular structure and integrated UV stabilizers, it delivers excellent long-term hydrostatic strength (MRS = 10 MPa), robust environmental stress crack resistance (ESCR >1000 h), and full compliance with ISO 4427 and EN 12201 for drinking water applications. Designed to support municipal and rural water infrastructure with engineered service lives exceeding 100 years, BGT AQUA BLUE™ combines global performance standards with regional technical support from Britannia GulfGate Trade.

Availability & Technical Support

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

REGULATORY & COMPLIANCE INFORMATION

Processing Techniques

Recommended melt temperature range: 200 °C to 225 °C.
For drinking water pipe extrusion:

- Screw type: Barrier screw with mixing section
- Die design: Spiral mandrel for uniform wall distribution
- Cooling: Gradual water bath with temperature control (avoid rapid quenching)
- Drying: Required if stored in humid conditions (80 °C for 2 hours, max. moisture: 300 ppm)

Optimize line speed and vacuum calibration to ensure dimensional stability and smooth inner surface — critical for potable water flow and hygiene.

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. Always consult the Safety Data Sheet (SDS) before handling or processing BGT AQUA BLUE™.

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 Water Assurance Framework™
(A Technical Partnership – Not a Warranty)

BGT AQUA BLUE™ is supplied as a high-integrity, pre-pigmented PE 100 compound — engineered specifically for potable water infrastructure with service lives exceeding 100 years.

What Sets Us Apart

1. Application-Tailored Guidance
We provide practical extrusion recommendations — for drying, temperature profile, and cooling — adapted to real-world conditions in the Middle East, India, and Africa, not generic global templates.

2. Direct Technical Access
No call centers. No time-zone delays. Our polymer specialists respond within your working day — because water infrastructure can't wait.

3. Transparent Batch Documentation
Every shipment includes a batch-specific Certificate of Analysis (CoA) with verified data for:
- MFR (0.27 g/10 min @ 5.0 kg)
- Density (0.950 g/cm³)
- MRS (10 MPa)
- OIT (30 min @ 210 °C)
- ESCR (>1000 h)
- Blue Pigment (RAL 5005)
- Carbon Black (2.0%) for UV protection in buried pipes

This data supports smooth certification under **ISO 4427** and **EN 12201**.

4. Ready-to-Extrude Consistency
Pre-pigmented with RAL 5005 blue and UV stabilizers — no masterbatch needed. Ensures color consistency, odor control (<2 EN 1622), and reliable processing.

- > *The Britannia GulfGate Trade Water Assurance Framework™ is a service commitment only. It does not constitute a warranty. Final pipe design, hygiene compliance, and regulatory approval remain the sole responsibility of the pipe manufacturer.*

⚠️ Disclaimer

The data presented in this document are based on standard laboratory testing and represent typical values for BGT AQUA BLUE™. 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 depends on processing conditions, design, installation, and service environment. Users are responsible for verifying suitability for their specific application and obtaining necessary local regulatory approvals.

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