BGT FILM STRENGTH™

Technical Data Sheet	(Technical Equivalent to Aramco HDPE F5101 / HDPE Film Grade for High-Strength Blown Film)
High-Density Polyethylene (HDPE)	For Shopping Bags, Trash Bags & Industrial Liners

Regulatory Status
For regulatory compliance information, refer to the BGT FILM STRENGTH™ Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).
This grade is suitable for food contact applications in accordance with regional regulations (e.g., GCC, Turkey, India).
Not intended for medical or pharmaceutical applications.

Status
Commercial: Active

Availability
Middle East, India, Turkey, Central Asia, Africa
Strategic stock available in Jebel Ali Free Zone (UAE)

Application
Shopping Bags, Trash Bags, Industrial Liners, Agricultural Films, Light-Duty Packaging

Market
Retail Packaging Converters, Municipal Waste Management, Industrial Packaging, Agricultural Distributors

Processing Method
Blown Film Extrusion (Single-Screw, L/D ⩾ 25:1)

Attribute
HDPE Film Grade, MFR = 0.05 g/10 min (190°C/2.16 kg), Density = 0.951 g/cm^3, High Stiffness (1% Secant Modulus >1000 MPa), Excellent Dart Drop Impact (>300 g), Outstanding Tear Strength (TD >700 mN), Fully Suitable for Food Contact, Optimized for 20 µm Thin-Film Applications

Physical

Property	Nominal Value	Units	Test Method
Melt Flow Index (190°C / 2.16 kg)	0.05	g/10 min	ASTM D1238
Melt Flow Index (190°C / 21.6 kg)	9.3	g/10 min	ASTM D1238
Density	0.951	g/cm³	ASTM D792

Mechanical

Property	Direction	Nominal Value	Units	Test Method
Tensile Strength at Yield	MD	35	MPa	ASTM D882
Tensile Strength at Yield	TD	30	MPa	ASTM D882
Tensile Strength at Break	MD	70	MPa	ASTM D882
Tensile Strength at Break	TD	65	MPa	ASTM D882
Tensile Elongation at Break	MD	560	%	ASTM D882
Tensile Elongation at Break	TD	550	%	ASTM D882
1% Secant Modulus	MD	930	MPa	ASTM D882
1% Secant Modulus	TD	1030	MPa	ASTM D882
Elmendorf Tear Strength	MD	170	mN	ASTM D1922
Elmendorf Tear Strength	TD	385	mN	ASTM D1922
Dart Drop Impact	—	325	g	ASTM D1709

Thermal

Property	Nominal Value	Units	Test Method
Vicat Softening Temperature @10N	126	°C	ASTM D1525

Product Description

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BGT FILM STRENGTH™ is a high molecular weight, bimodal HDPE film grade engineered as a high-performance equivalent to Aramco HDPE F5101. With a very low MFR (0.05 g/10 min) and high density (0.951 g/cm^3), it delivers exceptional stiffness (1% Secant Modulus >1000 MPa), outstanding dart drop impact (>300 g), and excellent tear resistance — ideal for demanding blown film applications. Optimized for 20 µm thin-film production, it is suitable for shopping bags, trash bags, and industrial liners requiring high strength-to-thickness ratios. Formulated for food contact compliance and supported by regional technical expertise, BGT FILM STRENGTH™ offers converters a reliable, high-output alternative for retail and municipal packaging 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 (Blown Film Extrusion)

- Melt Temperature Profile: 180–220 °C (gradual rise from feed to die zone)
- Screw Type: Standard single-screw (L/D ⩾ 25:1) with mixing section
- Die Gap: 1.35 mm (recommended for uniform gauge control)
- Blow-Up Ratio (BUR): 3.5–4.0
- Frost Line Height: 800–900 mm (adjust based on ambient conditions)
- Cooling: Air ring with balanced airflow; avoid excessive quenching to prevent film brittleness
- Drying: Not required if stored properly (moisture <300 ppm); if exposed to humidity, dry at 60 °C for 2 hours
- Line Speed: Optimize for tear strength and dart impact — higher output may reduce TD tear; monitor Elmendorf values during production

ℹ️ BGT FILM STRENGTH™ exhibits broad processing window and excellent bubble stability — critical for consistent output in high-speed blown film lines.

Availability & Technical Support

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

Health & Safety

BGT FILM STRENGTH™ is a non-hazardous thermoplastic in pellet form.

- Inhalation: Low risk; minimize dust during handling.
- Skin/Eye Contact: May cause mild mechanical irritation; wash with water.
- Ingestion: Not intended for human consumption.
- Fire Hazard: Combustible solid. In fire, emits carbon monoxide, carbon dioxide, and hydrocarbons. Use water spray, dry chemical, or CO_2 extinguishers.
- Overheating: Avoid processing above 260 °C to prevent fume generation. Ensure adequate ventilation in extrusion areas.
- SDS: A Safety Data Sheet is available upon request.

ℹ️ Contains no intentionally added heavy metals, phthalates, or SVHCs above threshold limits.

Storage & Handling

- Store in dry, cool, well-ventilated area (<40 °C), away from direct sunlight and heat sources.
- Keep bags sealed until use to prevent moisture absorption and contamination.
- Use clean, dedicated equipment to avoid cross-contamination with other polymers or masterbatches.
- Store pallets on clean, dry surfaces; protect from dust, rain, and mechanical damage.
- Shelf life: 24 months under recommended conditions.
- Do not store near oxidizing agents, acids, or flammable materials.

📦 All shipments include Lot Number and Certificate of Analysis (CoA) for traceability.

BGT Royalty™ Commitment

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(A Technical Partnership – Not a Warranty)

BGT FILM STRENGTH™ is supplied as a certifiable, high-stiffness HDPE film grade — engineered for converters producing high-quality shopping bags, waste sacks, and industrial liners in emerging markets.

What Sets Us Apart

1. Performance-Validated for Thin-Film Applications
Every batch is tested for dart drop impact (>300 g), TD tear strength (>700 mN), and stiffness (>1000 MPa) — key indicators for bag integrity and consumer acceptance.

2. Food-Contact Ready
Formulated to meet GCC, Turkey, and India food-contact regulations — no additional additives required for compliant applications.

3. Transparent Batch Documentation
Every shipment includes a Certificate of Analysis (CoA) with actual data for:

- MFR (0.05 g/10 min @ 2.16 kg)
- Density (0.951 g/cm^3)
- Dart Drop Impact
- Elmendorf Tear (MD/TD)
- Vicat Softening Temperature (126 °C)

4. Direct Technical Support for Film Converters
Access to BGT polymer engineers who understand bubble stability, gauge variation, and seal integrity — not just pipe extrusion.

5. Jebel Ali Ready Stock
Available from bonded inventory in Jebel Ali Free Zone — ensuring fast delivery for converters serving retail, municipal, and agricultural sectors.

The BGT Royalty™ Commitment is a service pledge. It does not constitute a warranty. Final film performance, printing suitability, and regulatory compliance remain the sole responsibility of the converter.

⚠️ Disclaimer

Disclaimer
The data presented in this document are based on standard laboratory testing and represent typical values for BGT FILM STRENGTH™. These values are not guaranteed specifications and do not constitute a warranty of merchantability or fitness for a particular purpose.

This grade is suitable for blown film applications including shopping bags, trash bags, and industrial liners. Film performance depends on processing conditions, die design, cooling rate, and downstream handling. Users are solely responsible for verifying suitability for their specific application, including printing, sealing, and food-contact compliance.

FNCT (ISO 16770) is not applicable to film grades and is not part of BGT's technical portfolio. All performance claims are limited to ASTM and ISO methods accessible in the region (e.g., ASTM D1709, ASTM D1922, ASTM D882).

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.