AdCol PolyPlast • Fortune 5, Sardarnagar West 1, Rajkot 360001, India
Phone: +91 72849 98230 | +91 90544 82828 • Email: adcolindia@gmail.com
Web: **www.AdCol.in** • Division: Masterbatches & Compounds

MB-BLK40-AG • 40% Carbon Black Masterbatch

Agricultural Mulch Films & Drip Irrigation Lateral Pipe Grade

GRADE: PIPE & AGRI EXTRUSION

1. PRODUCT DESCRIPTION & CHARACTERISTICS

AdCol MB-BLK40-AG is an extrusion-grade polyethylene masterbatch carrying 40% fine-particle, high-surface-area furnace carbon black (P-type). Specifically engineered for micro-irrigation drip tubes, HDPE conduits, and UV-stabilized agricultural mulch films. Delivers exceptional macro-dispersion (ISO 18553), high thermal resistance, and uniform surface smoothness without screen-pack choking.

2. TYPICAL PHYSICAL & RHEOLOGICAL PROPERTIES

Property / Parameter	Test Method	Unit	Typical Value	Tolerance
Carbon Black Content	ASTM D1603 / ISO 6964	%	**40.0**	± 1.5%
Primary Carbon Particle Size	ASTM D3849 / TEM	nm	**20**	± 2.0
Carrier Polymer System	FTIR Identification	—	**Polyethylene (LLDPE / HDPE)**	—
Specific Gravity (Density @ 23°C)	ASTM D792 / ISO 1183	g/cm³	**1.18**	± 0.03
Melt Flow Index (190°C / 21.6 kg)	ASTM D1238 / ISO 1133	g/10 min	**22.0**	± 4.0
Melt Flow Index (190°C / 2.16 kg)	ASTM D1238 / ISO 1133	g/10 min	**0.80**	± 0.30
Moisture Content / Volatiles	ASTM D6980 (Moisture Analyzer)	%	**≤ 0.10**	Max
Filter Pressure Value (FPV @ 14 µm)	EN 13900-5	bar/g	**< 1.0**	Max
Dispersion Rating (Microtome)	ISO 18553	Grade	**≤ 2.0 (Grade A2 / B1)**	Max
Ash Content (Inorganics)	ASTM D5630	%	**≤ 0.10**	Max
Thermal Heat Stability	DIN 53772	°C	**280**	5 min dwell

Recommended Let-Down & Standards Compliance

- **Drip Lateral Pipes (IS 12786 / ISO 4427):** 5.0% to 6.25% LDR (delivers ≥ 2.0% – 2.5% active carbon black).
- **Agricultural Mulch Films (15–30 µm):** 4.0% to 6.0% LDR (>99.5% optical opacity for weed suppression).
- **HDPE Conduits & Utility Extrusion:** 2.0% to 4.0% LDR.

Handling, Storage & Packaging

- **Environmental:** RoHS (2011/65/EU) & REACH compliant; non-toxic.
- **Packaging:** 25 kg UV-stabilized heavy-duty laminated PP woven bags.
- **Hygroscopic Care:** Reseal bags immediately after opening to prevent moisture absorption; pre-drying recommended if stored long-term.

> **Notice:** Carbon black is inherently hygroscopic. Ensure proper dry storage and controlled extruder temperatures to prevent surface moisture voids in thin-gauge films.