

Black Masterbatch Buyer's Guide 2026

Most buying mistakes with black masterbatch are not about the colour. They come from comparing the wrong number, specifying the wrong carrier, or discovering too late that the lot you reordered is not the lot you qualified. This guide walks through the whole decision — from reading a spec to vetting a plant — in the order a buyer actually needs it.

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What's inside

- 1. How to read a black masterbatch specification
- 2. Let-down ratio and what a part really costs
- 3. Choosing by application
- 4. Defects: what they mean and how to fix them
- 5. Quality systems and compliance documents
- 6. How to tell a plant from a trading company
- 7. MOQ, lead time, packing and shipping
- 8. The buyer's checklist

1. How to read a black masterbatch specification

A black masterbatch data sheet only has four numbers that matter. If a supplier cannot give you all four, that is information in itself.

Carrier resin	The polymer the pigment is dispersed in. It must match — or at least be compatible with — your base polymer. PE carrier in a PP line is one of the most common causes of haze and poor dispersion.
Carbon black content	Percentage of carbon black in the masterbatch. Typical range is roughly 9% to 60%. This sets your let-down ratio.

Carbon black type	Pigment grade, UV-protection grade, conductive grade or food-contact grade. These are not interchangeable and they are priced very differently.
Melt flow rate (MFR)	Should be matched to your process. If the masterbatch flows very differently from your base polymer, you get separation and streaks.

Two more that are worth asking for even if they are not on the sheet: **dispersion** (usually expressed as a filter-pressure test result) and **the grade's intended application**. A supplier who says "it works for everything" has not formulated it for anything.

2. Let-down ratio and what a part really costs

Let-down is how much natural polymer you dilute one part of masterbatch into. The formula:

Let-down % = (target carbon % in the finished part) ÷ (carbon % in the masterbatch) × 100

So a part needing 2.0% carbon, made with a 40%-loaded masterbatch, runs at 5% let-down. The same part with a 20%-loaded masterbatch runs at 10% — twice as much additive per ton of product.

This is why **price per kilo is the wrong comparison**. Convert every quote to cost per 1,000 kg of finished product, including the natural resin and your scrap rate. Worked examples are in our [let-down ratio guide](#), and the cost drivers are covered in our [pricing page](#).

One caution: pushing let-down very low to save money eventually stops working. Below a certain level the masterbatch cannot distribute evenly through the melt, and the saving disappears into scrap and shade variation.

3. Choosing by application

Black is not one specification. The carbon type, loading and carrier all change with the job. Here is where each of our grades is aimed:

Application	What drives the grade
Pipe & conduit	UV-stable carbon loading for decades outdoors; MFR matched to extrusion

Blown film	Fine dispersion — gels show immediately at thin gauge
Mulch & silage film	Opacity at low gauge plus full-season UV
Garbage bags	High let-down economy; cost per bag is the buying criterion
PP woven bags & FIBC	UV loading that does not cost you tape strength on the loom
Geomembrane	Carbon content and dispersion set to what liner standards require
Drip tape & irrigation	Thin-wall cleanliness — agglomerates plug emitters
Food contact	Cleared pigment and carrier, with per-lot documentation
Automotive interiors	Low odour and low VOC; OEM audit paperwork
Injection moulding	High-gloss and matte options; MFR matched to the cycle
Cable jacket	UV-stable; clean at high sheathing speeds
Conductive & ESD	Specialty conductive carbon; resistivity measured per lot
High-load carbon	40–50% loading where UV protection or jet black is the requirement
PET fibre, sheet & strap	PET carrier — a PE carrier will not work in a PET line

4. Defects: what they mean and how to fix them

Before changing supplier, note four things: what the defect looks like, where it appears, when it started, and whether it is on one machine or all of them. Those answers usually narrow it to one or two causes.

- **Gels or fisheyes in film** — carbon agglomerates, carrier mismatch, or degraded resin. Check carrier first, then melt temperature, then screen pack.
- **Streaks or flow lines** — let-down too low, insufficient back pressure, or MFR mismatch with the base polymer.
- **Black specks** — burnt material from a dead spot, contaminated regrind, or unfiltered masterbatch.
- **Shade drift between lots** — a lot-to-lot consistency failure. This one should never happen: carbon content, dispersion, MFR and carrier should all be controlled and recorded.

The full cause-and-fix breakdown is in our [defect troubleshooting guide](#).

5. Quality systems and compliance documents

Ask for documents, not adjectives. What a serious plant should be able to provide:

- **Certificate of analysis** per shipment, tied to a lot number.
- **Lot records** kept so a reorder matches the lot you qualified.
- **Quality system certificates** — ISO 9001 at minimum; ISO 14001 and ISO 45001 are meaningful signals that the plant is not going to be shut down mid-order. Ours are on the [certifications page](#).
- **Third-party test reports** where compliance matters — we publish 22 SGS reports in full at [sgs-test-reports](#).
- **Compliance declarations** for your market. For the EU that means REACH and RoHS; for food contact, a declaration aligned to EU 10/2011 and FDA. Our [compliance checklist](#) covers what to ask for.

One honest caveat: final compliance of a finished article is always confirmed by migration testing on the real part. A supplier who promises "certified food grade" without that caveat is overselling.

6. How to tell a plant from a trading company

Factory-direct pricing only means something if you are actually talking to the factory. Questions that separate them:

- **Can you show me the production line and the plant address?** A plant can. Ask for a video call from the compounding floor.
- **What is your annual capacity and how many lines?** Specific numbers, not "large scale".
- **Can you tell me the lot number of my last order?** Traceability is a plant function.
- **Who signs the certificate of analysis?** The manufacturer's QC, not a trading desk.
- **Will you let me change the carbon loading for my polymer?** A plant formulates; a trader re-sells what is on the shelf.

7. MOQ, lead time, packing and shipping

Minimum order	1 ton per specification — trial and small batches supported
Sample	Free trial lot, 5–7 days to prepare, shipped with let-down guidance
Production lead time	Typically 10–15 days after specification confirmation
Packing	25 kg bags, palletized; jumbo bags on request
Documents	CoA per lot, commercial invoice, packing list
HS classification	Commonly classified under heading 3206 — confirm with your own broker

Ask any supplier for a **written quote validity window**. Feedstock moves, and a quote without a validity date is not a quote you can plan around.

8. The buyer's checklist

Copy this into your RFQ. It takes a supplier about ten minutes to answer and it will tell you most of what you need to know.

- Base polymer and grade (PP / PE / HDPE / LDPE / ABS / PS / PET / other)
- Application and, for outdoor products, required service life
- Carbon black content required in the finished part
- Carbon black type required (pigment / UV / conductive / food-contact)
- MFR of your base polymer and your process (film / pipe / injection / other)
- Target let-down ratio, if you already run one

- Any standard the part must meet
- Monthly volume and first-order quantity
- Destination port or country
- Required documents (CoA, REACH/RoHS declaration, food-contact declaration)

Send that list and you will get a firm quote back, not a price range. Where we are not the right fit for a specification, we say so — that is faster for both of us than a sample that fails.

This guide is free to read, quote and link to. It is general technical guidance from the E-LUCK technical desk, not a specification or a price quotation. Last updated September 2026.

Get a quote + free sample

Send the checklist above and you will get a firm factory quote — not a price range. Samples are free and your spec stays with us.

Your name *

e.g. Marco Fischer

Company name *

Your company

Work email *

you@company.com

Phone / WhatsApp

+49 ... (optional)

Polymer, application and quantity *

e.g. HDPE, water pipe PE100, UV-stable, 20 tons/month...

Application

e.g. water pipe, mulch film (optional)

Country

e.g. Turkey

Estimated quantity

e.g. 15 tons

Anything else

Timeline, target price, certification (optional)

Get a quote + free sample

You will hear back from **Zoe Lin**, our export manager, within one working day — firm factory quote, spec kept confidential.

MasterbatchSource · International sales desk of E-LUCK (Guangdong Yijuyuan Plastics Technology), Huizhou, China
| Factory-direct black masterbatch.

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