PRINTING TLDR

FIELD REPORT·2026

Black DTF Powder: The Barrier That Isn't

A vendor-neutral analysis of anti-migration claims, certification scope, and what the only public side-by-side test actually found.

1 public side-by-side test exists, and black powder did not win

2 of the badges commonly claimed are not certifications at all

0 credible market figures for this product category

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What Is In This Report

How to read this report

This report answers three questions in order: what the product does, whether the certifications attached to it mean anything, and whether buying it makes sense at all.

The short answer to the third question is that it depends entirely on which of two jobs you are buying it for. As an edge mask on dark garments it works, immediately and visibly. As a dye-migration barrier — the job its name describes — the evidence is thin, the manufacturers themselves hedge, and the one published comparison found no advantage.

Temperatures are given in Celsius with the original Fahrenheit in brackets. Supplier documentation in this category is overwhelmingly US-sourced and stated in Fahrenheit; conversions are rounded to the nearest degree.

Where a claim is a manufacturer's own statement rather than an independent result, it says so in the sentence. Where a widely-circulated figure has been mis-scoped, it says that too.

A note on the research this was built from

Two AI research passes on the same question produced materially different answers. One led with market sizing and technical specification; the other led with certification scope and marketing scrutiny. The second was substantially more accurate.

Four claims from the first did not survive checking, including a market valuation drawn from an entirely different chemical category and a certification recommendation that names the wrong standard. All four are corrected in the body and logged on page 16.

EXECUTIVE SUMMARY

Six Findings That Matter

Anti-migration black powder is a real product solving a real problem. It is not, on current evidence, solving the problem in its name.

1 It is an edge mask, and that is a genuine job

On dark garments, white adhesive that squeezes past the ink edge or clings to unprinted film shows as a pale halo around fine text and knockout areas. Black powder eliminates that because the squeeze-out matches the garment. **This benefit is immediate, visible, and not in dispute.** It is also the secondary function in the product name.

2 The manufacturers hedge on the migration claim themselves

STS states its black powder "significantly reduces (but does not completely eliminate)" dye migration. Retail technical guidance is blunter: on high-polyester garments, **low-temperature pressing remains the primary control, and black powder reduces but does not fully prevent migration.** When the sell side describes your product as secondary to a free process change, believe them.

3 Nobody has separated the powder from the protocol

Every anti-migration recommendation pairs black powder with a lower press temperature, typically 135–143°C (275–290°F) against a conventional 149–163°C (300–325°F). Lower temperature suppresses disperse dye vaporisation on its own, with any powder. **No published test isolates the carbon from the temperature change**, which means the central efficacy claim in this category has never been tested against the obvious confound.

4 Anti-migration and black are separable, which undercuts the premise

White anti-sublimation powders exist and are sold specifically as migration blockers. One supplier markets built-in dye-migration resistance on the explicit basis that it "eliminates the need to switch between white and black powder." Lawson's blocker powder is sold for light and dark garments alike. **If migration blocking is available in white, the black is doing cosmetic work**, and should be priced and specified as such.

5 The one public side-by-side found no advantage

A Houston decorator ran black against white powder on matched artwork, black polyester long sleeve and 65/35 camo, at 149°C (300°F) for 10 seconds. **White powder looked brighter on several colours; black powder muted them and added residue and handling problems.** The test garments were not pre-confirmed as bad bleeders, so it does not disprove the mechanism — but it is the only public comparison that exists, and it did not go the way the marketing says.

6 The certification conversation is aimed at the wrong risk

Buyers and sellers argue about whether the cured powder is safe to wear. Once heat-pressed, the carbon is bound into the adhesive matrix. The documented uncertainty on carbon black — IARC Group 2B, based on animal inhalation studies — applies to breathing loose airborne dust. **That is an occupational exposure during application, and black powder is the dustiest, most static-prone variant in the category.** No seller markets around this, which is the most telling gap in the whole product page.

What this adds up to

Buy it for edge masking on a dedicated dark-garment line, where it does something white powder cannot and where a dedicated shaker means the contamination cost is zero.

Do not buy it as a migration fix. On heavily sublimated polyester it will not hold, and the two controls that actually work — a lower press temperature and a better blank — cost less than the powder does.

And if you do run it, treat the dust as the safety issue rather than the garment. That is where the evidence points and it is the one thing the certificates on the box do not cover.

SECTION 01

What the Product Actually Is

Anti-migration black powder is standard DTF hot-melt adhesive with carbon loaded into it. The base is the same thermoplastic polyurethane used in white powder. What changes is the pigment package and, according to suppliers, what that package does beyond colour.

Two claimed mechanisms, with very different evidence behind them

Optical masking is straightforward and verifiable in one press. Adhesive that overshoots the ink edge, or stray powder that survives on unprinted film, fuses onto the garment. On black fabric, white adhesive reads as a halo. Black adhesive does not. You can confirm this yourself in ten minutes and it is the reason most shops who like the product like it.

Adsorptive trapping is the anti-migration claim. Carbon black and activated carbon are described as a porous physical trap that captures gaseous disperse dye before it reaches the white ink layer. The mechanism is plausible — activated carbon does adsorb gases — but no supplier publishes an adsorption capacity, a breakthrough threshold, or a comparative test. Section 02 covers what evidence does exist.

	WHITE TPU POWDER	BLACK ANTI-MIGRATION POWDER	BLOCKOUT INK
Composition	TPU with titanium dioxide	TPU with carbon black and activated carbon	Pigmented liquid ink layer
Edge masking on dark	White halo risk on knockout and fine detail	Squeeze-out matches the garment	Depends on registration accuracy
Migration control	Minimal	Supplier-stated reduction, not elimination	Continuous physical barrier
Contamination risk	Low; purges easily	High; stains hoppers, ovens, belts and ductwork	None beyond normal ink handling
Static behaviour	Cleans off PET film readily	Clinging specks permanently mark light garments	Not applicable
Brightness effect	Neutral	Can mute light and pastel colours	Designed to preserve brightness

Specifications, and a conflict worth noting

Sources disagree on whether black powder needs different press settings. One widely-cited guide states black powder demands a strict, narrow 140–145°C (284–293°F) window against a flexible 141–166°C (285–330°F) for white. STS, selling the product, states the opposite: the same 107°C (225°F) melt point, the same 149–163°C (300–325°F) transfer temperature, and cure oven, shaker and press settings unchanged when switching from white.

That conflict matters more than it looks. If black powder genuinely required a lower press temperature to function, that would be a cost. If, as its own manufacturer says, settings are unchanged and the low

temperature is simply the anti-migration protocol, then the protocol and the product are two separate things that have been bundled in the marketing.

Ask a supplier which of those two descriptions applies to their product, in writing. It is the fastest way to find out whether you are being sold an adhesive or a protocol.

SECTION 02

Does It Stop Dye Migration?

Dye migration happens when disperse dyes in polyester reactivate under heat, turn gaseous, and diffuse up through the adhesive into the white ink. Above roughly 130–149°C (266–300°F) the dye gasifies. The question is whether carbon in the adhesive meaningfully intercepts it.

What the sell side actually says

This is the unusual part. In a category where marketing normally overstates, the manufacturers are noticeably careful here, and their hedges are more informative than their claims.

- **STS**, selling black powder: it "significantly reduces (but does not completely eliminate)" dye migration, and "for best results, also use lower press temperatures (135–143°C (275–290°F)) on high-risk polyester."
- **Retail technical guidance** in the category: on high-polyester garments, low-temperature pressing remains the primary control; black powder reduces but does not fully prevent migration.
- **Lawson**, whose blocker powder holds genuine certification, recommends lowering the press to around 138°C (280°F) for problem bleeder fabrics and dark polyesters — a process instruction, not a product claim.
- **The most widely-cited technical guide** concedes that on heavily sublimated 100% polyester the volume of dye gas simply exceeds the adsorptive capacity of the carbon.

Read those together and a consistent picture emerges: black powder is positioned by its own suppliers as a secondary control that helps at the margin, alongside a temperature change that does the primary work. **That is a reasonable product. It is not the product the name sells.**

The confound nobody has tested

Every anti-migration recommendation in this category bundles two interventions: switch to black powder, and drop the press temperature by roughly 14–22°C (25–40°F). Lower press temperature suppresses disperse dye vaporisation on its own, with any adhesive, and that is not controversial — it is the standard advice for pressing polyester regardless of powder.

So when a shop switches to black powder, lowers the press, and sees less bleed, the result is real and the attribution is unknown. No published test runs black powder against white powder *at the same reduced temperature*, which is the only comparison that would isolate what the carbon contributes.

The only public comparison, and what it found

In June 2026 a Houston decorator published a shop-floor side-by-side: black adhesive powder against regular white powder, same colour-bar artwork, on a black polyester long sleeve and a 65/35 cotton-poly camo shirt, pressed at 149°C (300°F) for 10 seconds with medium-to-heavy pressure and instant-peel film.

Black powder did not win. White powder looked brighter on several colours. Black powder made some colours read darker and more muted, appeared finer and messier in handling, and left visible dots and residue requiring inspection — cleaned by a second press, but that cleans appearance rather than proving migration was controlled. The published conclusion was that black powder is a test variable, not a production promise.

The limits of that test, stated plainly

It is one shop, two garments, one artwork, one set of press conditions. The garments were not pre-confirmed as known-bad dye migrators, which means the test may never have generated the failure mode black powder is sold to prevent. A product cannot fail to fix a problem that did not occur.

So this does not disprove the mechanism, and it should not be quoted as though it does. What it does establish is narrower and still useful: **on ordinary dark polyester under ordinary press conditions, switching to black powder cost brightness and added residue without a visible offsetting gain.** For a shop whose work is mostly ordinary dark polyester, that is the relevant finding.

The brightness trade-off is underrated

A darker adhesive sitting under the ink changes how light colours read on the finished shirt. If your artwork is white, pastel, neon, or has large light solid areas — exactly the artwork most exposed to dye migration in the first place — you may be trading a visible brightness loss for an invisible and unquantified migration benefit.

That is a bad trade to make silently. Test it on the artwork you actually sell before it becomes your default powder.

What a real test would look like

Four cells, one known-bad bleeder blank, matched artwork with large light solid areas. Two press temperatures — 149°C (300°F) and 138°C (280°F) — each run once with white powder and once with black. Same dwell, same pressure, same peel, judged after cooling.

If black at 138°C beats white at 138°C, the carbon is doing something and the category has its evidence. If they match, the temperature was doing the work all along and black powder is an edge mask with a misleading name.

This costs a morning and four shirts. That nobody has published it, in a category this old, is itself a finding.

SECTION 03

The Market That Does Not Exist

There is no credible published market size for DTF anti-migration black powder. Anyone who hands you one has substituted a different market, and the substitution is easy to make and hard to notice.

The figure that gets borrowed

The commonly cited number — around $158 million in 2024, growing at roughly 7% — is the global **anti-migrating agent** market. That category covers chemical additives used to control dye, pigment and plasticiser movement in textile dyeing, plastics, coatings and packaging. Non-ionic, anionic, cationic and amphoteric auxiliaries. Technical grade and pharma grade.

It is not DTF hot-melt adhesive powder. The words overlap; the products do not. Quoting it as the market for black DTF powder is the same error as quoting the global printing ink market as the market for large format ink.

And the borrowed figure does not agree with itself

Even taken on its own terms, the anti-migrating agent market has no settled size. Across research firms covering overlapping periods:

SOURCE	STATED SIZE	GROWTH
SNS Insider	$158.46M (2024) to $271.74M (2032)	6.98% CAGR
MarketsandMarkets	$159M (2024) to $224M (2029)	7.0% CAGR
GII / Prescient	$163.2M (2024) to $252.5M (2030)	7.5% CAGR
Research and Markets	$640M (2026) to $1.34B (2035)	7.00% CAGR

A four-fold spread on the same named market. The growth rates converge because they are modelled; the valuations diverge because the boundaries are drawn differently.

What is observable instead

You cannot size this category, but you can describe its structure, and the structure is the commercially useful part.

Supply splits into two tiers. A small number of established industrial suppliers — Lawson, Brildor, Uninet, Kodacolor, Hanrun, B-FLEX, MaxDTF, Dae Ha with Indie Inks — publish certificates, safety data sheets and named substance exclusions. Behind them sits a long tail of marketplace and regional brands selling 250g to 2.2lb retail packs with performance claims but little documentation.

The underlying chemistry across both tiers is broadly the same: TPU loaded with carbon black. **Which means certification and documentation are not a side issue in this category — they are close to the only differentiator a buyer can actually verify.** That is precisely why the certification claims deserve the scrutiny in Section 04.

SECTION 04

Certifications: What Applies and What Is Theatre

Because the chemistry is largely interchangeable, certification is what suppliers compete on. Some of the badges are exactly right for this product. Two are not certifications at all, and one names a regulator with no jurisdiction over it.

CLAIM	WHAT IT ACTUALLY COVERS	DOES IT APPLY HERE?
OEKO-TEX ECO PASSPORT	Certifies the chemical, colourant or auxiliary itself against RSL and MRSL thresholds	**Yes — this is the correct one.** Adhesive powder is a chemical input, not a finished article.
OEKO-TEX Standard 100	Certifies a finished textile or component at article level, in a product class I–IV	Correct for the printed garment or the film. **Wrong scope for raw powder**, though widely cited that way.
ZDHC MRSL conformance	Bans intentional use of listed hazardous chemicals in manufacturing inputs	Yes, when tied to actual conformance testing rather than a generic mention.
CPSIA / CPSC Children's Product Certificate	US federal limits on lead and phthalates in children's products, via accredited third-party testing	Yes, and meaningful if you decorate children's apparel. Verifiable — a CPC is a real document.
Azo-dye free / no carcinogenic amines	A specific banned colourant class, documented in the safety data sheet	Yes. Specific, checkable, and directly relevant to a pigment-loaded product.
REACH compliance	EU chemical registration and restriction framework	**Not a certification.** REACH issues no seal. Carbon black is registered and not an SVHC; that is a baseline legal condition for EU sale, not an achievement.
ISO 9001	Quality management system of the company	**Not product safety.** Legitimate on its own terms, misleading when listed beside chemical safety certificates.
FDA approved	US premarket approval for drugs, certain devices, food and colour additives	**No such pathway exists** for textile printing adhesives. Treat any such claim as disqualifying.
Non-toxic, eco-friendly	No defined standard or testing behind either term	No. Marketing language, not a certification, and should not be weighed as one.

The scope error that runs through the whole category

ECO PASSPORT and Standard 100 are both OEKO-TEX programmes, both involve restricted substance testing, and they are routinely used interchangeably in DTF powder marketing. They are not interchangeable. ECO PASSPORT certifies a chemical input against RSL and MRSL criteria. Standard 100 certifies a finished textile article in a defined product class, from Class I for infants through Class IV for decorative textiles.

A raw adhesive powder is a chemical input. **The technically correct certification is ECO PASSPORT**, which is exactly why the suppliers who have done this properly hold it. A powder marketed as "OEKO-TEX Standard 100 Class II certified" is either describing a certificate that belongs to a different product in the workflow, usually the film, or has been issued against a scope that does not match what is in the bag.

This is worth knowing because one of the two research passes behind this report recommended exactly that error — asserting that leading black powder manufacturers prioritise Standard 100 Class I or II. They prioritise ECO PASSPORT, and the reason is scope.

Who is doing it correctly

- **Lawson Screen & Digital** holds ECO PASSPORT by OEKO-TEX across its DTF powder line, states REACH and ZDHC conformance, and separately obtained a genuine CPSC Children's Product Certificate for its ColorPrime hot-melt powder. Three claims, three distinct accredited processes, each named correctly.
- **Brildor** cites Standard 100 at product level and states explicitly that its powder does not contain epsilon-caprolactam — a specific, checkable exclusion rather than a vague safety adjective.
- **Uninet** publishes safety data sheets for its black powder stating no azo dyes or pigments releasing carcinogenic amines and no PBT or vPvB substances under REACH Annex XIII. That is substantiation, not a badge.
- **MaxDTF** keeps its film certification (Standard 100) separate from its powder documentation (a dedicated azo-dye test report) rather than letting one cover the other.
- **Dae Ha with Indie Inks** is the textbook pairing: Standard 100 on the film, which is an article, and ECO PASSPORT on the powder and ink, which are chemicals.

Certification-washing is documented, not hypothetical

A US supplier has publicly stated that overseas competitors claim OEKO-TEX certification while holding only an informal restricted-chemical letter rather than an actual certificate. That is a competitor's assertion rather than a regulator's finding, and it should be weighed as such — but the mechanism it describes is real and easy to execute.

The defence costs nothing. Ask for the certificate number and check it against the OEKO-TEX database yourself. A badge graphic on a product page is not a certificate, and a supplier who cannot produce a number when asked has answered the question.

SECTION 05

The Exposure Nobody Markets

Every certification on a bag of black DTF powder addresses one question: is the finished, cured garment safe to wear against skin? That is a reasonable question and the answer, for certified product, is yes. It is also not the question the evidence is most uncertain about.

What carbon black's hazard classification actually says

Carbon black is classified by IARC as Group 2B, possibly carcinogenic to humans. That classification rests on animal inhalation studies; human epidemiological data are regarded as inadequate. It is not classified as hazardous under EU CLP or REACH, nor by NTP, ACGIH or OSHA.

The route of exposure is the whole story. **Once the transfer is pressed, the carbon is bound into a cured polymer matrix against the fabric.** The wear-side risk is low and the certificates cover it. The uncertainty in carbon black's profile applies to inhaling loose airborne particulate — which, in a print shop, happens at the shaker, at the hopper, and every time somebody opens a bag.

Black powder is the worst case for exactly this

The operational complaints about black powder and the exposure question are the same phenomenon described twice. It is finer and messier in handling. It carries static and clings to film and surfaces. It coats hopper interiors, oven walls, ductwork and conveyor belts. Handling releases dark dust that lands on blanks, presses and finished stock.

Every one of those is a visible symptom of airborne particulate. With white powder the same dust exists and you simply cannot see it. **Black powder does not create the exposure — it makes it visible.** Which is arguably an argument for taking it seriously rather than against using the product.

The second substance to ask about

TPU powders can contain residual MDI, and content varies by manufacturer. Retail technical guidance in this category recommends safety glasses during manual powdering, activated carbon filtration in addition to HEPA where a shaker has an integrated curing tunnel, and checking the specific product's safety data sheet because recommended PPE differs between suppliers.

That guidance exists on a retailer's technical page. It does not, in general, appear on the product listings.

The gap in one sentence

Sellers certify the powder for skin contact on the finished garment, where the evidence is reassuring, and say nothing about inhalation during application, where the evidence is genuinely uncertain.

If you run black powder at volume, the useful controls are extraction at the shaker, HEPA with activated carbon on any integrated tunnel, safety glasses during manual powdering, and the current SDS for the specific product code. None of that is expensive. All of it is more relevant to your operators than the badge on the bag.

SECTION 06

Where It Does Make Sense

The question was whether this product makes sense at all. It does, for a narrower job than it is sold for, in a narrower set of shops than buy it.

It makes sense when

- **You run a dedicated dark-garment line with its own shaker.** This is the condition that changes the economics. Contamination cost is the dominant objection to black powder, and a dedicated machine removes it entirely.
- **Your artwork has knockout areas and fine detail on dark fabric.** Text with counters, thin vector paths, open shapes where the garment shows through. This is where white halo actually shows and where black powder does something nothing else does as cheaply.
- **Your artwork is mostly dark or mid-tone.** The brightness penalty lands on light, pastel and neon work. If your designs are not that, you are not paying the cost.
- **You already press cool on polyester.** If your protocol is already 135–143°C (275–290°F), black powder is a marginal addition on top of a control that works, which is the honest way to use it.

It does not make sense when

- **You run a single shaker.** The labour to purge carbon residue between black and white runs exceeds any benefit. This is the most common situation and the most common mistake.
- **You are buying it to fix heavy sublimation bleed.** On saturated 100% polyester the dye gas volume exceeds the carbon's adsorptive capacity, which the technical guidance concedes. Blockout ink or a better blank is the actual answer.
- **Your work is brightness-sensitive.** White, pastel and neon artwork is both the most migration-exposed and the most damaged by a dark adhesive. Test before defaulting.
- **You have not tested the specific blank.** Fabric percentage, dye process and garment colour move the result more than powder choice does.

The cheaper things to try first

Drop the press to 135–143°C (275–290°F) and extend dwell to compensate. Free, and it is the primary control by the suppliers' own account.

Pre-press the blank briefly to drive off moisture before applying the transfer.

Change the blank. Higher-quality dyed polyester bleeds less, and the price difference on a 48-piece order is usually smaller than a ruined run.

Only after those three has black powder earned a place in the conversation. Reaching for a consumable before a process change is how shops end up with an expensive powder and the same problem.

SECTION 07

Strategic Implications

What to do with this in the next quarter, by who you are.

For print shops

- **Reclassify it in your own head.** This is an edge-masking adhesive with a possible secondary migration benefit. Buying it under the name on the bag leads to the wrong expectation and the wrong jobs.
- **Run the four-cell test in Section 02** before you make it a default. One morning, four shirts, and you will know whether the carbon or the temperature is doing the work in your shop.
- **Do not promise migration control to a customer on the strength of a powder.** The pressed, cooled garment is the only proof, and the blank moves the result more than the powder does.
- **If you run one shaker, do not buy it.** Price the cleanout labour honestly and the decision makes itself.
- **Treat the dust as an occupational control, not a housekeeping annoyance.** Extraction and eye protection at the shaker, and the current SDS on file.

For buyers evaluating suppliers

- **Ask which OEKO-TEX programme, and get the certificate number.** ECO PASSPORT for the powder. If they answer “Standard 100” for a raw powder, ask what article the certificate was issued against.
- **Verify the number in the OEKO-TEX database** rather than trusting the badge on the page. This takes two minutes and it is the entire defence against certification-washing.
- **Discount ISO 9001 and REACH from the safety column.** One is process, the other is a legal baseline. Neither tells you what is in the bag.
- **Treat “FDA approved” as disqualifying.** There is no such pathway for textile adhesives, and a supplier claiming one is telling you how they handle claims generally.
- **Ask for the SDS with named exclusions** — azo dyes, phthalates, PBT and vPvB — and the MDI content. A supplier who publishes that is more useful than one with an extra badge.

For suppliers and manufacturers

- **Publish the four-cell test.** Whoever first shows black powder beating white at the same reduced press temperature owns this category's evidence base, and nobody currently holds it.
- **Separate the two claims in your marketing.** Edge masking is real, demonstrable and defensible. Bundling it with an unquantified migration claim puts the credible benefit at risk of the incredible one.
- **Address handling exposure directly.** Publishing dust-control guidance alongside the wear-safety certificate would be a genuine differentiator, and the absence of it across the category is conspicuous.

Ten questions to put to a black powder supplier

- Which OEKO-TEX programme do you hold for the powder itself — ECO PASSPORT or Standard 100 — and what is the certificate number?
- If Standard 100, which article and which product class was it issued against?
- Do you hold ZDHC MRSL conformance, and can you supply the conformance documentation?
- Do you have a CPSC Children's Product Certificate, if I decorate children's apparel?
- Will you send the current safety data sheet for this specific product code?
- Does the SDS name azo dyes, phthalates, PBT and vPvB substances as excluded?
- What is the residual MDI content, and what PPE do you recommend during manual powdering?
- What press temperature and dwell do you specify, and is it different from your white powder?
- Do you have any comparative test showing this powder outperforming white powder at the same press temperature?
- What is the particle size distribution, and what static-control guidance do you give for shaker use?

The one thing to take from this report

Black DTF powder is an edge-masking adhesive that has been named and marketed after its secondary, weaker, untested function. The masking works and is worth buying for. The barrier claim rests on a plausible mechanism, supplier hedges, and one public comparison that went the other way.

Buy it for what it demonstrably does, on a dedicated line, for dark artwork. Control migration with press temperature and blank selection, which are cheaper, better evidenced, and already in your hands.

METHODOLOGY

Sources, Method, and What We Corrected

Method

This analysis synthesises manufacturer technical documentation, published safety data sheets, certification programme documentation, trade reporting and one published shop test, current to September 2026. It is editorial analysis, not primary research. No powder was tested, no laboratory work was commissioned, and no supplier reviewed, sponsored or was given advance sight of any part of it.

Efficacy claims are attributed to whoever made them, with the commercial interest of the source named. Where a conclusion is reasoned from mechanism rather than measured, it is labelled in the sentence that makes it.

What we corrected

This report was built from two independent AI research passes on the same question. They diverged materially. Four claims from the weaker pass did not survive checking against primary sources.

CLAIM AS RECEIVED	CORRECTION
The market is valued at $158.46M in 2024, growing at 6.98% CAGR	That is the **anti-migrating agent** market — chemical auxiliaries for textile dyeing, plastics, coatings and packaging. A different product category. Its own published figures also range from $158M to $640M for overlapping years.
Leading black powder manufacturers prioritise OEKO-TEX Standard 100 Class I or II	**Scope error.** Standard 100 certifies finished textile articles. The correct certification for a raw chemical input is **ECO PASSPORT**, which is what Lawson, Motif and Indie Inks actually hold.
Black powder requires a strict, narrow 140–145°C (284–293°F) press window	STS states its black powder uses the same 107°C (225°F) melt and 149–163°C (300–325°F) transfer as white, with oven, shaker and press settings **unchanged**. The lower temperature is the anti-migration protocol, not a black-powder requirement.
Technical specification sourced across multiple references	Roughly half the technical assertions traced to a **single retailer blog post**. Not disqualifying, but not independent corroboration either, and it was presented as though it were.

What we left out, and why

Any market size for this category. None exists that is not borrowed from an adjacent market. Publishing a figure would have meant either mis-scoping one, as the source research did, or inventing one.

A performance ranking across brands. One public comparison exists, covering two products on two garments. Ranking a category on that would produce a table that looks authoritative and means nothing.

Particle size recommendations by brand. Published ranges are inconsistent between suppliers and between sources for the same supplier, and no independent measurement was available to resolve them.

Principal sources

Manufacturer and supplier documentation: STS Inks TPU Black DTF Powder product documentation; Lawson Screen & Digital DTF powder and ColorPrime pages; Brildor ECO Certified DTF Powder; Uninet published safety data sheets for black DTF adhesive powder; MaxDTF certification pages; Hanrun Paper dye migration guidance; Gallery DTF low-migration transfer powder.

Certification programmes: OEKO-TEX ECO PASSPORT and STANDARD 100 programme documentation; Hohenstein and TESTEX programme explanations; ZDHC Manufacturing Restricted Substances List and conformance guidance; US CPSC Children's Product Certificate requirements; FTC Health Products Compliance Guidance on approval claims.

Certification reporting: PRINTING United Alliance and Apparelist coverage of Lawson's ECO PASSPORT certification (2023); ASI and Apparelist coverage of Lawson's CPSC Children's Product Certificate (2024); Images Magazine on Dae Ha film certification; Graphics Pro, How Safe Is DTF (2026).

Shop testing: AMS Transfers, Black DTF Powder vs White DTF Powder on Polyester Shirts, June 2026, including the published source video.

Technical and handling guidance: DTFTransfers.com DTF adhesive powder guide including PPE and filtration recommendations; Transfer Kingdom press troubleshooting; Insta Graphic Systems film and powder selection; Redback Premium Ink dye migration guidance.

Carbon black hazard classification: IARC Monograph Volume 65; International Carbon Black Association safety documentation; CAREX Canada substance profile; carbon black REACH consortium documentation.

Market figures (cited to demonstrate divergence, not to establish a size): SNS Insider, MarketsandMarkets, GII/Prescient and Research and Markets anti-migrating agent market reports.

About the author

Kjell Karlsson has spent 30+ years in large format printing and 10+ years specialising in DTF, including early DTF ink experimentation at Marabu in 2012 — predating commercial DTF printers. His background is ink chemistry and manufacturing rather than the production floor, which shapes what this report is good at and what it is not: it is stronger on formulation, certification scope and supplier behaviour than on the lived ergonomics of running a shaker all day. Where a claim depends on floor experience he does not have, it is attributed to the source rather than asserted.

He writes Printing TLDR, a vendor-neutral intelligence brand for large format and DTF printing professionals.

A standing offer

If you find an error in this report, tell me and I will correct it and say so. If you run the four-cell test in Section 02, I will publish your numbers — credited or anonymous, your choice — because this category needs one honest comparison more than it needs another product page. hello@printingtldr.com

Run the numbers on your own floor

Reports tell you what a consumable claims. They do not tell you what it costs you per transfer, or whether a process change would have been cheaper.

Free calculators for DTF ink and consumable cost, cost per square foot, DTF printer payback, and margin simulation: **printingtldr.tools**

The DTF Printing Profit Blueprint — 122 pages and 8 Excel templates covering costing, pricing and capacity planning: **printingtldr.com/dtf-printing-profit-blueprint/**

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