

Fabric Printing – Bioglitter® Application Guide

EU Regulation 2023/2055 (EU Microplastic Legislation)

Following the amendments to EU Regulation 2023/2055 published on 1 June 2026 (Regulation (EU) 2026/1168), disposable fashion, dress-up items and other glitter-printed textile products with an intended period of use of less than 12 months are now within the scope of the amended fixed-matrix provisions.

From 22 June 2028, synthetic polymer particles added to these products must meet the requirements of the Regulation. Finished products containing non-compliant glitter cannot be placed on the EU market for these applications after the applicable transition period.

Bioglitter® is compliant with EU Regulation 2023/2055 and provides manufacturers with a plant-based alternative to non-compliant glitter, delivering strong sparkle and distinctive effects without relying on the fixed-matrix derogation.

Why Choose Bioglitter®?

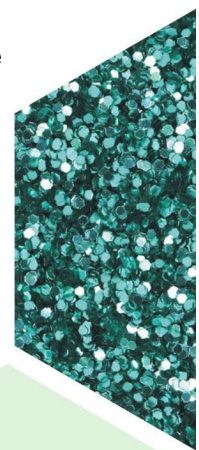
- **Fully compliant with EU Regulation 2023/2055** governing synthetic microplastic particles.
- **Made from plants** and designed to biodegrade quickly and safely in natural environments.
- **Patented Bioglitter® technology**, manufactured in Germany exclusively by Sigmund Lindner GmbH.
- **Exceptional sparkle, colour and effect intensity**, providing a premium alternative to non-compliant glitter.
- **Wide choice of effects**, including metallic, holographic, opaque, opalescent and neon finishes.
- **Suitable for flat-screen, rotary, placement, spray and drop-glitter textile printing** and many other decorative applications.

Using Bioglitter® in Fabric Printing

Deco Bioglitter® can create high-impact sparkling effects in textile printing. Although the appearance can resemble conventional plastic glitter, Bioglitter® is made primarily from natural, freshwater-biodegradable materials. Best results therefore require attention to binder selection, heat exposure, ink rheology, application method and the required wash resistance.

Suitable Printing Methods

- Flat-bed, carousel and placement screen printing, including T-shirts and dress-up products.
- Continuous rotary printing for dress-wear and decorative fabrics.
- Drop-glitter application onto a printed binder or adhesive.
- Spray application, subject to nozzle size, pump and filtration compatibility.



Bioglitter® Particle Size and Application Recommendations

Bioglitter® Particle Size	Approx. Bioglitter® Particle Size	Applications	Screen Mesh (T/cm)
004	100 µm	Screen - Flat screen & Rotary screen Spray Drop glitter	28T–34T
006	150 µm	Screen - Flat screen & Rotary screen Spray Drop glitter	28T–34T
008	200 µm	Screen - Flat screen & Rotary/Stencil screen Drop glitter	20T–24T
015	400 µm	Screen – Specialist open-screen trials only Drop glitter	10T–15T

Mesh count is only a starting point. Confirm the actual mesh opening, thread diameter, stencil thickness and the maximum particle dimension. The opening must comfortably exceed the particle size to prevent bridging and poor transfer.

Bioglitter® Product and Colour Selection and Application Recommendations

Range	Primary Benefit	Applications	Guidance
Deco Bioglitter® SPARKLE PF Deco Bioglitter® SPARKLE 60 (Deco60)	Brightest Metallic effects. Deco60 offers lowest cost however its limited only to larger particle sizes.	Drop Glitter Only	Recommended starting range for mixed-in print systems.
Deco Bioglitter® SPARKLE V3	Metallic effect with improved formulation and process robustness over SPARKLE PF and Deco60.	All Screen Spray Drop Glitter	Recommended starting range for mixed-in print systems.
Deco Bioglitter® PURE V2	Non-metallic Color, Opal and Opaque effects. Formulation and process robustness	All Screen Spray Drop Glitter	Useful where a distinctive pearlescent, opalescent or matte effect is required.

Note: Deco Bioglitter® SPARKLE PF and SPARKLE 60 are NOT suitable for Screen and Spray on fabrics

Bioglitter® Loading

- For full-cover screen effects, 10–20% by weight in the ink is common with conventional glitter systems.
- Rotary printing commonly uses 7–10%; however, where possible, design Bioglitter® effects around a lower loading of approximately 2–5%.
- A coloured print paste can provide the mass tone while a lower loading of a complementary Bioglitter® supplies the sparkle - for example, pink Bioglitter® in a red print paste.

Benefits of Lower Loading

- **Technical:** easier transfer through the screen, fewer viscosity issues and potentially improved wash fastness.
- **Environmental:** less material transported and less glitter lost during wash-up.
- **Commercial:** reduced glitter cost while retaining a strong visual effect.

Reduce the loading further for lower-cover or accent effects. Optimise visually against the selected base colour rather than specifying glitter percentage in isolation.

Ink Types and Binders

Bioglitter® can be evaluated in water-based, silicone, acrylic, polyurethane and plastisol textile-printing systems. Silicone systems are often attractive because fixation times can be short and some systems require little or no heat, which is a significant benefit when using Bioglitter® in fabric printing.

- Select a binder that provides the required adhesion, flexibility and wash resistance at the lowest practical glitter loading.
- Use a make-and-use approach wherever possible: add Bioglitter® shortly before printing and avoid unnecessary storage in the mixed ink.
- Confirm compliance of the complete ink and binder system for the intended textile, wearer group and end use.

Viscosity and Rheology

Cellulose, which represents a significant % of Bioglitter®'s makeup, can absorb water and may increase the viscosity of water-based print pastes. Small water additions may be required to compensate. As an indicative starting point, approximately 6% additional water relative to the ink may be needed at a 10% glitter loading, but the correct adjustment must be established for the specific system.

- Keep the Bioglitter® loading as low as practical to minimise viscosity adjustment.
- Add water gradually and only within the ink supplier's permitted formulation window.
- Recheck print definition, screen release, cure and fastness after any rheology adjustment.

Printing Recommendations

- Mechanical action between the squeegee and screen can cause coating loss from darker metallic colours in some water-based systems. Add Bioglitter® immediately before printing and minimise unnecessary recirculation or shear.
- Keep print-paste levels relatively low in the screen and top up regularly to promote rapid turnover.
- For dark effects, consider a dark-coloured base with a lighter complementary glitter - for example, dark blue paste with light blue glitter. This can provide stronger apparent sparkle at a lower loading.
- Drop-glitter and spray methods are gentler than repeated squeegee action and can help protect the glitter coating.

Heat and Curing

Excessive heat can dull reflective coatings and reduce sparkle. The effect is governed by both time and temperature and by the heat energy transferred to the printed layer.

While the ink is wet, much of the energy is consumed by drying. Once dry, further energy heats the binder and Bioglitter® directly. The drying and curing process should therefore be optimised to avoid unnecessary heat exposure after the water or solvent has been removed.

- Use the lowest effective heat input and shortest practical residence time compatible with full binder cure.
- Where possible, separate drying and curing stages and reduce the intensity of heat exposure at any one time.
- Catalysed, low-temperature cure systems and suitable silicone systems can be advantageous.

- Prepare a low-temperature trial print as the appearance standard, then compare production-cured samples for any loss of sparkle.
- Remember that hot-air dryers can transfer heat more rapidly than static laboratory ovens; settings cannot be transferred directly between equipment.

Performance Validation

- Confirm adhesion, stretch, flex and abrasion performance on the intended fabric.
- Establish the required wash-fastness method and number of cycles for the finished product.
- Assess glitter shedding during manufacture, use and laundering.
- Validate the complete article, including any topcoat, print sequence, cure and after-treatment.
- For limited-life articles, document the intended use period and confirm the applicable regulatory obligations.

Packaging Options

SiLi offers all Bioglitter® products in bulk packaging from 1 kg to 25 kg. Please discuss the required product range, colour, particle size, pack format and production quantity with your SiLi representative.

Use of the Bioglitter® Logo



The Bioglitter® name and logo are registered trademarks of Sigmund Lindner GmbH and are recognised throughout the industry as a mark of authentic Bioglitter® technology.

Customers using genuine Bioglitter® products are encouraged to use the official Bioglitter® logo on packaging, websites and marketing materials, subject to approval from Sigmund Lindner GmbH and in accordance with the current Brand Guidelines.

The logo helps distinguish products made with authentic, patented Bioglitter® technology from products described generically as biodegradable glitter. It also supports communication that the glitter used is compliant with EU Regulation 2023/2055.

Please contact your Sigmund Lindner representative to obtain approval, the correct logo files and the latest Brand Guidelines before using the Bioglitter® logo.

Disclaimer

The information contained in this document is based on our current knowledge of Bioglitter® products together with practical experience in textile and fabric-printing processes and is provided for guidance only.

Materials, formulations, equipment and processing conditions vary considerably. Customers are responsible for carrying out their own trials to determine the suitability, performance, safety and regulatory compliance of Bioglitter® in the intended finished product before commercial production.