

Material, safety and testing dossier

THE EARTHLE COLLECTION

A detailed guide to the materials, independent laboratory results and traceability records behind Earthle grounding textiles, mats and connection accessories.

01

SILVER-COTTON TEXTILES

02

CONDUCTIVE MAT MATERIAL

03

TRACEABLE ORGANIC COTTON

EVIDENCE AT A GLANCE

12 extractable metals

reported not detected in artificial perspiration for the submitted silver-cotton fabric.

253 + 1 SVHC

screened in the submitted conductive mat material; the reported conclusion was PASS at $\leq 0.1\%$ w/w.

MATERIAL ARCHITECTURE

Two material systems, one quality approach

Earthle uses woven silver-cotton textiles for bedding and a carbon-loaded conductive vegan-leather surface for mats. The same passive earth connection completes both systems.

WOVEN SILVER-COTTON

Sheets, fitted sheets, pillowcases and duvet covers use a nominal specification of **95% organic cotton and 5% silver yarn**. The yarn is woven through the fabric as a conductive grid, not applied as a sprayed coating. The blanket has a soft polyester face and a contact side with organic cotton and silver yarn.

CARBON-CONDUCTIVE MAT SURFACE

The sleeping, desk and yoga mats share a conductive vegan-leather surface made conductive with carbon. The sleeping mat uses the thin surface material alone; the desk mat adds rubber and the yoga mat adds a TPE base for grip and structure.

PASSIVE EARTH CONNECTION

The 4.6 m cord connects only to protective earth. Earthle specifies an integrated **100 kΩ safety resistor**; live and neutral are not connected. The complete path can be checked with a multimeter before use.

PRODUCT COVERAGE

PRODUCT FAMILY	MATERIAL BASIS	EVIDENCE IN THIS DOSSIER
Sheets · fitted sheets · pillowcases · duvet covers	Organic cotton with woven silver yarn	SGS textile chemistry, fibre, colour and pilling tests; cotton traceability
Grounding blanket	68.5% polyester · 29.5% organic cotton · 2% silver yarn	Material-system evidence; declared blanket composition
Sleeping · desk · yoga mats	Carbon-conductive vegan leather; backing varies	SGS 2026 REACH/SVHC screening of the shared surface material
Cord and plug	Earth-only connection; nominal 100 kΩ resistor	Measurable product specification plus WEEE end-of-life record

SGS · SEPTEMBER 2025

Silver-cotton fabric: chemical safety profile

SGS tested a submitted natural-colour woven silver-organic-cotton earthing fabric (report SL22502333495502TX). Every requested chemical and consumer-contact check in the report received a PASS conclusion.

24

RESTRICTED AZO AMINES · ALL
N.D.

12

EXTRACTABLE METALS · ALL
N.D.

7.4

MEASURED PH · WITHIN 4.0–7.5

N.D.

FORMALDEHYDE · RL 20 MG/KG

EXTRACTABLE METALS IN ARTIFICIAL PERSPIRATION

ND

Arsenic

REPORTING LIMIT: 0.2 mg/kg

ND

Cadmium

REPORTING LIMIT: 0.1 mg/kg

ND

Cobalt

REPORTING LIMIT: 1.0 mg/kg

ND

Chromium

REPORTING LIMIT: 1.0 mg/kg

ND

Nickel

REPORTING LIMIT: 0.5 mg/kg

ND

Lead

REPORTING LIMIT: 0.2 mg/kg

ND

Copper

REPORTING LIMIT: 5.0 mg/kg

ND

Mercury

REPORTING LIMIT: 0.02 mg/kg

ND

Antimony

REPORTING LIMIT: 1.0 mg/kg

ND

Chromium VI

REPORTING LIMIT: 0.5 mg/kg

ND

Barium

REPORTING LIMIT: 10 mg/kg

ND

Selenium

REPORTING LIMIT: 10 mg/kg

All twelve results were reported N.D. using acid-perspiration extraction according to ISO 105/E04, followed by ICP-OES/ICP-MS and UV-Vis as applicable. The submitted fabric was also reported odourless.

N.D. means not detected below the laboratory's stated reporting limit; it does not mean absolute zero.

TEXTILE PERFORMANCE

Comfort, colour and durability checks

The textile programme also examined how the submitted fabric behaves in daily-use conditions. Results are reported on the laboratory's five-grade scales, where grade 5 is best.

COLOUR FASTNESS · REPORTED GRADE

4-5

DRY RUBBING

4-5

PERSPIRATION

4-5

WATER

4-5

SALIVA

PILLING RESISTANCE

Grade 4-5 after 125, 500 and 1,000 revolutions; grade 4 after 2,000; grade 3 after 5,000 revolutions (ISO 12945-2:2000).

HISTORICAL ABRASION RESULT

A 2020 SGS test on a submitted silver-organic-cotton fabric sample reached **11,000 Martindale rubs** at 12 kPa (ISO 12947-2:2016).

WHY 95/5 AND 98.2/1.8 BOTH APPEAR

Earthle's nominal production specification is **95% organic cotton / 5% silver yarn**. SGS measured the submitted 2025 sample as **98.2% cotton / 1.8% metallized fibre by mass**, using the stated fibre-identification methods and moisture-regain corrections. The material supplier explains that different test methods and fibre classifications can yield different percentages. Both figures refer to the same woven silver-cotton material system; the SGS value is the independent measurement for that submitted sample.

CARE THAT PROTECTS CONDUCTIVITY

Machine wash at 40°C, without bleach or fabric softener. Line dry or tumble dry on the lowest setting. The conductive grid can be checked after washing with a multimeter.

SGS · MAY 2026

Conductive mat material: broad REACH screening

SGS screened a submitted black conductive-leather material used as the common conductive surface of Earthle mats. The programme covered the ECHA Candidate List published through 4 February 2026.

253

CANDIDATE LIST SVHC

1

POTENTIAL SVHC

PASS

ALL WITHIN $\leq 0.1\%$ W/W

REPORTED OUTCOME

All Candidate List SVHC and the potential SVHC were reported **not detected below their applicable reporting limits**. SGS concluded PASS for the specified $\leq 0.1\%$ w/w evaluation scope.

ANALYTICAL TOOLKIT

SGS used ICP-OES, UV-Vis, GC-MS, HPLC-DAD/MS and colorimetric methods. Reporting limits varied by analyte; the report lists values from 0.0005% to 0.050%.

THE SCREEN COVERED, AMONG OTHERS



Phthalates and plasticisers



Lead, cadmium and chromium compounds



PAHs including benzo[a]pyrene



Selected PFAS-related candidate substances



Flame retardants and chlorinated paraffins



Bisphenols, solvents and process chemicals

ONE SURFACE MATERIAL, THREE FORMATS

The same conductive vegan-leather surface is used for the sleeping mat, desk mat and yoga mat. Their backing or thickness changes with the intended use; the tested surface-material family remains the same.

ADDITIONAL ARCHIVE

Earthle also retains an older 173-item screening schedule in which every listed result is marked N.D. The newer 2026 SGS programme is the primary customer reference because it is independently identified, dated and broader in scope.

ORGANIC-COTTON TRACEABILITY

From documented shipment to audited processing scope

The cotton evidence combines a transaction certificate for one identified shipment with a current GOTS scope certificate for the processing organisation. Together they document origin, quantity and audited processing capability.

1,284.80 kg

GOTS-CERTIFIED WEIGHT

14 bales

WOVEN GREIGE FABRIC

100%

ORGANIC COTTON INPUT

DOCUMENTED ORIGIN

The Control Union transaction certificate records organic cotton from **Rajasthan, Gujarat, Madhya Pradesh and Maharashtra, India**. The shipment was produced and dispatched on 17 February 2025. USDA NOP and APEDA NPOP are both marked Yes.

TRANSACTION CERTIFICATE

GOTS-CUC-03-03995076 · issued 25 February 2025 · product category greige fabrics · product detail woven fabrics · label grade Organic.

CURRENT PROCESSING SCOPE

Bureau Veritas scope certificate BVC-GOTS-BVCN7069-GOTS-2607-50000802-V1.0 is active from **15 July 2026 to 7 July 2027** under GOTS Version 7.0. It covers manufacturing and trading, including bed linen/sheets, blankets and pillowcases in 100% organic cotton.

HOW EARTHLE PRESENTS THIS

The GOTS documents support the organic-cotton input and audited processing scope. Silver yarn is added to create conductivity, so Earthle does not present the finished silver-thread products as GOTS-certified goods. This keeps the claim aligned with the documents.

CONNECTION AND QUALITY CONTROL

A passive connection you can verify yourself

Earthle products do not use mains power. The cord provides a passive route from the conductive surface to protective earth, with a nominal 100 kΩ resistor in the plug as an additional safety feature.

01

Check protective earth

Use a suitable socket tester or a qualified electrician. Never insert loose probes or wires into a wall socket.

02

Check cord and resistor

With the plug removed from the socket, measure from the product connector to the earth pin. An Earthle cord should read around 100 kΩ.

03

Check the surface

Measure continuity from the press stud to several points on the silver grid or mat. A finite, low reading confirms a continuous path.

EARTHLE QUALITY ROUTINE

Earthle states that each product is measured before dispatch. Customers can repeat the same two product-side checks with an ordinary multimeter and the step-by-step manual.

CABLE-WITH-PLUG RECORD

Certificate NB202503163, issued 14 March 2025, records conformity of a submitted cable-with-plug sample with the reuse/recycle/recovery requirements of Article 11 and Annex V of WEEE Directive 2012/19/EU. It is linked to report NB2025032495 EN.

TWO COMPLEMENTARY FORMS OF EVIDENCE

The WEEE record addresses end-of-life criteria. The earth-only connection and nominal 100 kΩ resistor are Earthle product specifications that are directly measurable with a multimeter; the WEEE document is not used as a resistor-value test.

SOURCE REGISTER

Traceable records, confidential chain protected

Earthle keeps the complete original files. This customer edition records the issuer, reference, date, scope and SHA-256 fingerprint of each source without publishing supplier identities or restricted report pages.

01

SGS · 2025

SL22502333495502TX · 2025-09-08
Silver-cotton chemistry, fibre and performance · 8 pages

ORIGINAL FILE FINGERPRINT · SHA-256
298FCF774F6B97CC249CE818F95B49B3
D4C24A2853D6D897BF743C64C5FA9569

02

SGS · 2026

SVHC report · 2026-05-11
Conductive leather SVHC screening · 15 pages

ORIGINAL FILE FINGERPRINT · SHA-256
8D2515C58C2A21881FB4E52A69F9B456
6241C13888DAB89B4D8D8B8BF8C785D0

03

SGS · 2020

SL22002273791701TX · 2020-07-16
Historical silver-cotton durability and chemistry · 6 pages

ORIGINAL FILE FINGERPRINT · SHA-256
8AB683998F657F8B6D58667477B48E3D
F5A82E6D6C8F63982C8388C2A1508E67

04

Control Union · GOTS

GOTS-CUC-03-03995076 · 2025-02-25
Organic-cotton shipment · 2 pages

ORIGINAL FILE FINGERPRINT · SHA-256
9983E85B14B7B4657C180E846B82BDDC
835F5E8282DEF99137AC95A301E0E852

05

Bureau Veritas · GOTS

BVC-GOTS-...50000802-V1.0 · 2026-07-15
Current GOTS processing scope · 3 pages

ORIGINAL FILE FINGERPRINT · SHA-256
F84A35EDA170AADA2F63D8EDC98C8983
5890191CC21FE42AC6F9B209D9AFAE36

06

Bureau Veritas · GOTS

BVC-GOTS-...50000277-V1.0 · 2025-07-08
Predecessor GOTS scope · 3 pages

ORIGINAL FILE FINGERPRINT · SHA-256
1098A3F265093C365DFB286D1D975B65
43BC87EB668CFE5AA24F87076EBEDBC

07

Guangdong Newbest

NB202503163 / NB2025032495 EN · 2025-03-14
Cable-with-plug WEEE record · 1 page

ORIGINAL FILE FINGERPRINT · SHA-256
C2DFA2F0759E7154DE3479303646E235
89C6AC1C70DB1E2C8F0A56CE54D08E10

08

Earthle

173 items · PDF
Supplementary 173-item results schedule · 13 pages

ORIGINAL FILE FINGERPRINT · SHA-256
AC74322C59ACB5E35A5ED26F6D2600B6
5DE9680E57C0D3838813B399097967D8

HOW TO VERIFY

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