



**High technology
Manufacturing
Cleanroom**

ESD solutions for industry

Rolls and technical tiles

Gerflor[®]

EPA area



Compliant with IEC 61340 & ANSI ESD S20.20



Compliant with ATEX area



High mechanical traffic resistance



Easy maintenance



Easy zoning



Resistant to chemical spills



Recyclable



Tiles



Connect



Cleantech



Fast installation
Fast renovation:
no shutdown



GTI EL5 Cleantech :
Watertight system
(hot welding)



Cleanroom



Compliant with IEC 61340 & ANSI ESD S20.20



Compliant with ATEX area



Good micro-biological performance



Resistance to decontamination process



Compliant with ISO 14644-1 (FRAUNHOFFER method)



Resistant to chemical spills



Withstands heavy loads



Low molecular emission



Patented Clean Corner System

Sheet goods



Ideal for new projects



Permanent installation on prepared subfloor

Tiles for EPA & Cleanroom Areas

GTI EL5 CONNECT



Sold in tiles of 635 x 635 mm



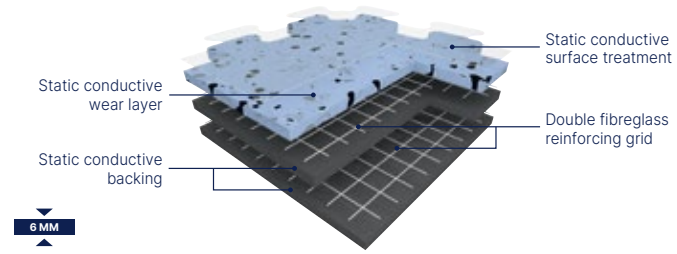
High mechanical traffic resistance



Fast & Easy installation and repairs. No shut down



A little to no adhesive



0351 Black 0354 Blue 0352 Grey 0350 Light Grey 0353 Beige



0350 Light Grey

GTI EL5 CLEANTECH



Sold in tiles of 650 x 650 mm



High mechanical traffic resistance

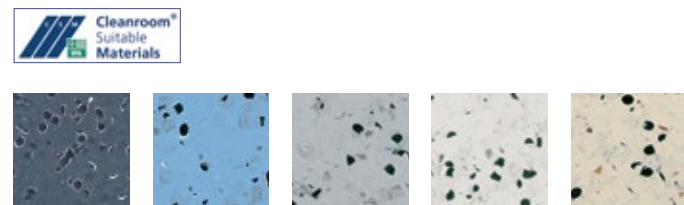
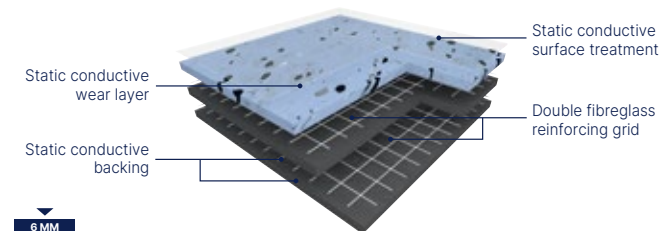


Watertight system

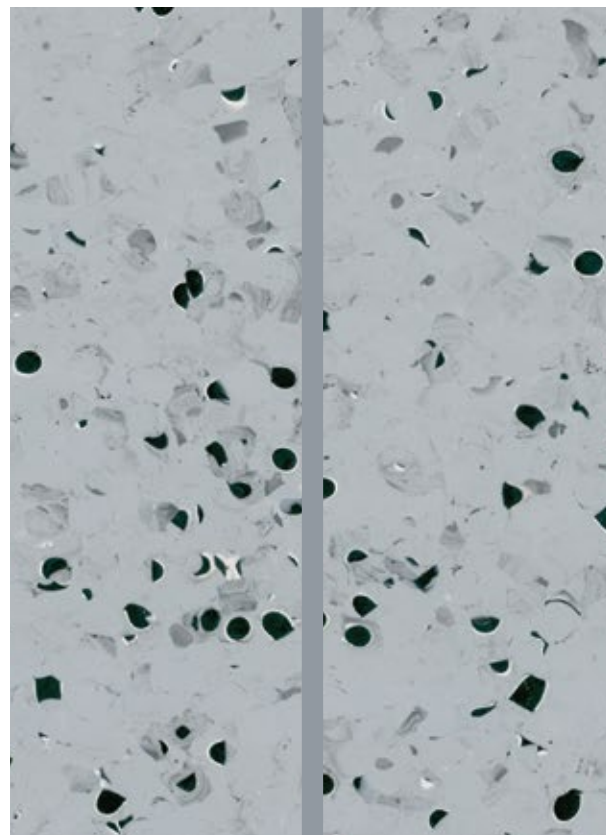


A little to no adhesive

ISO 5 Compliant with ISO 14644-1 (FRAUNHOFER method)



0351 Black 0354 Blue 0352 Grey 0350 Light Grey 0353 Beige



0352 Grey

Tiles for EPA - Low body voltage generation

GTI ESD+ CONNECT



Sold in tiles of 635 x 635 mm



A little to no adhesive



Fast installation



High mechanical traffic resistance



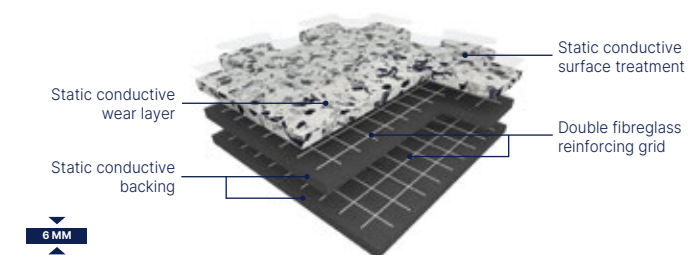
Easy repairs



Body Voltage <35V



Tested for ESD caster chair



1007 Light Graphite Grey

GTI ESD+ CLEANTECH



Sold in tiles of 650 x 650 mm



High mechanical traffic resistance



Watertight system



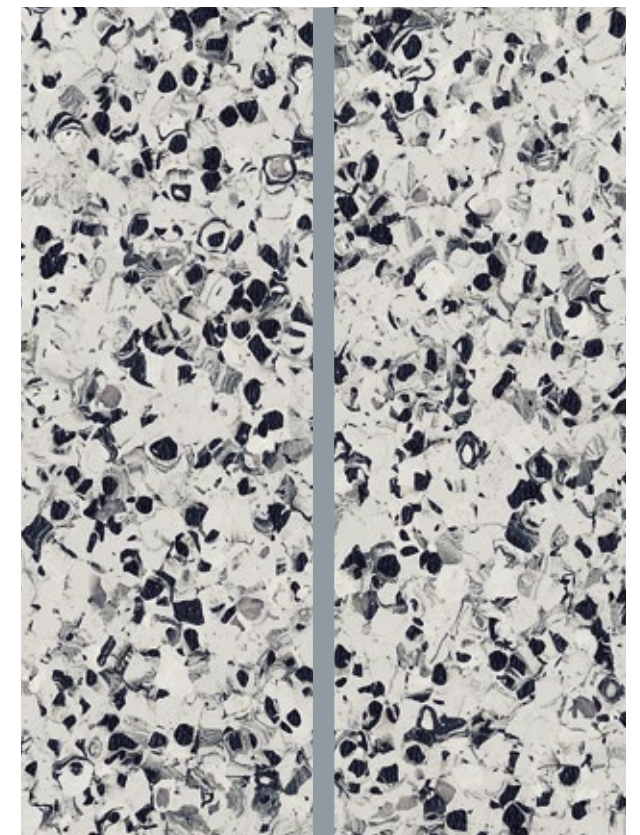
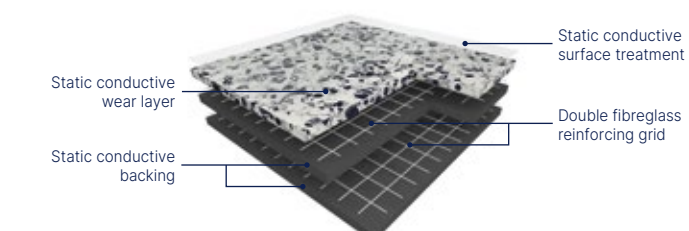
A little to no adhesive



Body Voltage <35V



Tested for ESD caster chair

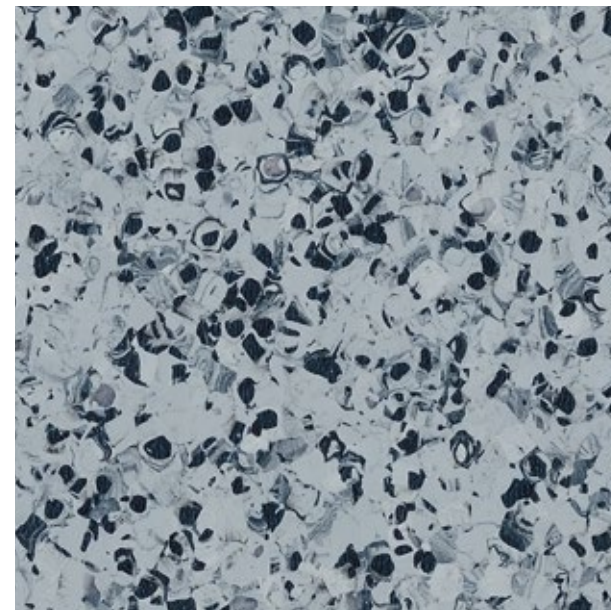
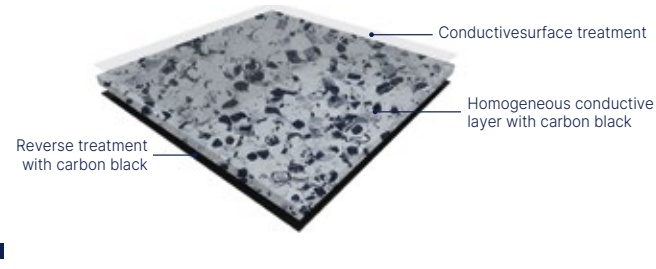


1007 Light Graphite Grey

Sheet goods & tiles for EPA & Cleanroom areas

MIPOLAM BIOCONTROL ESD+

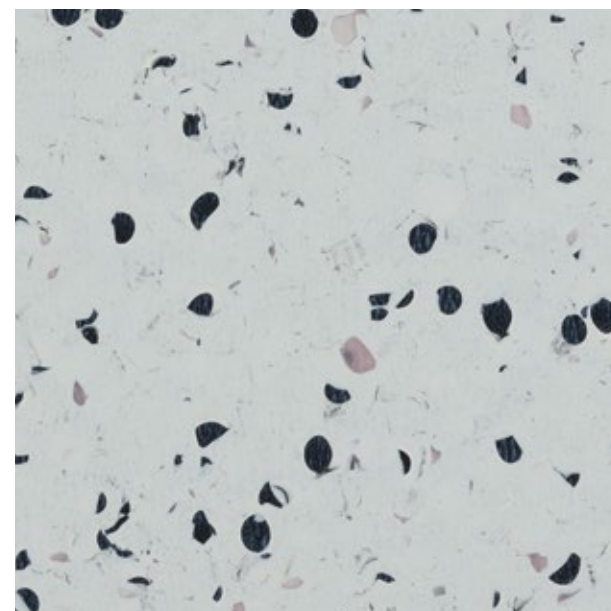
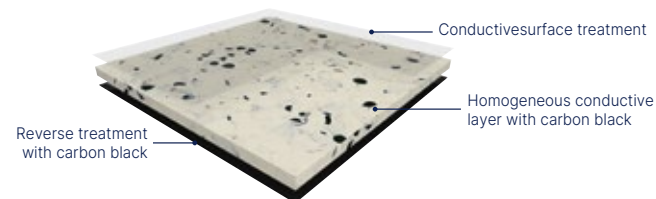
- Sold in rolls of 20 x 2m
- High traffic resistance
- Watertight system
- Body Voltage <35V
- Tested for ESD caster chair



1000 Graphite Grey

MIPOLAM BIOCONTROL EL5

- Sold in rolls of 20 x 2m
- High traffic resistance
- Compliant with ISO 14644-1 (FRAUNHOFER method)

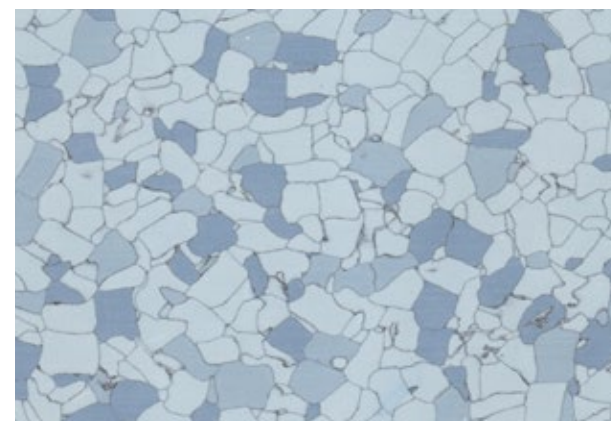
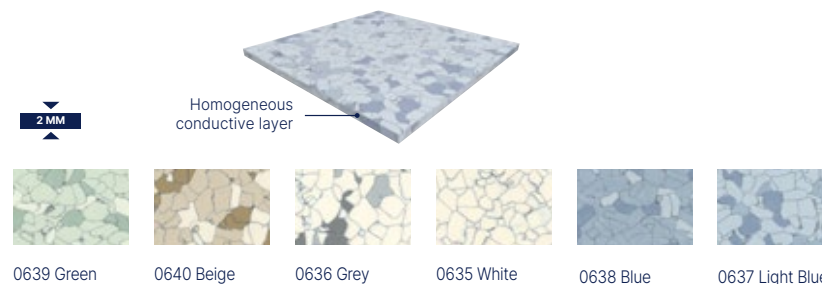


2001 Light Fog



MIPOLAM TECHNIC EL5

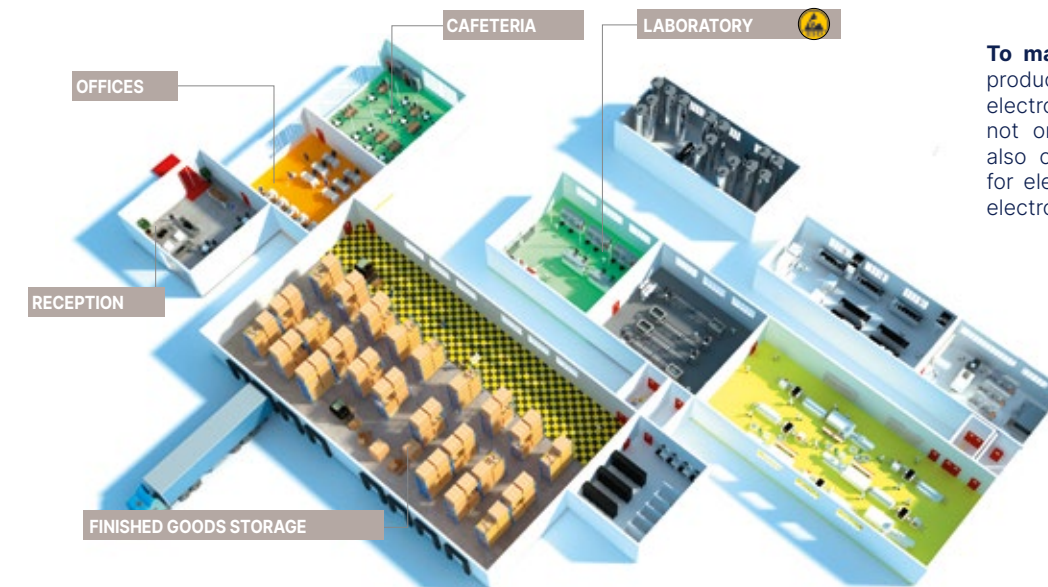
- Sold in tiles of 608 x 608 mm
- Adapted to raised floor



0637 Light Blue

* If order > 500 m²

Specific solutions for each area



To maximize the quality of manufactured products and to ensure **personal safety**, the electronics, optical and nuclear industries not only follow cleanroom procedures but also comply with the protection standards for electronic and electrical devices against electrostatic discharges (ESD).

Assets of ESD floor

High-Performance Flooring for ESD Areas

- CONTROL OVER ESD PHENOMENA**
 - Compliant with IEC 61340-5-1 & ESD S20.20
 - Low charge potential
 - Low electrical resistance

- DURABILITY**
 - Resistance to chemical spills
 - Resistance to traffic
 - Patented clean corner system



No downtime during installation

- QUICK & EASY TO INSTALL**
 - Loose-Lay design: Little to no adhesives
 - Easy to replace / repair
 - Installation while areas in use: no production downtime
 - Easy plug & play assembly with dovetails



ISO standards and GMP Requirements

MIPOLAM BIOCONTROL EL5 and GTI EL5 Cleantech have been tested and certified by the **FRAUNHOFER** institute for their contribution to cleanroom contamination control.

The Fraunhofer-Gesellschaft Institute is a German organization dedicated to applied science research.



ESD solutions for industry

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Z0013759

			GTI EL5 Connect	GTI EL5 Cleantech	GTI ESD+ Connect	GTI ESD+ Cleantech	Mipolam Biocontrol ESD+	Mipolam Biocontrol EL5	Mipolam Technic EL5
EPA aera			✓	✓	✓	✓	✓	✓	✓
Cleanroom				✓				✓	
Description	According to EN 1081	Conductive	Conductive	Conductive	Conductive	Conductive	Conductive	Conductive	Conductive
Total thickness	EN ISO 24346	mm	6.00	6.00	6.00	6.00	2.00	2.00	2.00
Weight	EN ISO 23997	g/m ²	9240	9240	9320	9320	2980	2985	3800
Width of sheet	EN ISO 24341	cm	-	-	-	-	200	200	-
Length of sheet	EN ISO 24341	ml	-	-	-	-	20	20	-
Tile size	EN ISO 24342	mm	635 × 635	650 × 650	635 × 635	650 × 650	-	-	608 × 608
Number of tiles per package	-	-	-	-	-	-	-	-	20
Classification									
Standard/Product specification	-	-	EN ISO 10582	-	-	-	EN ISO 10581	EN ISO 10581	EN ISO 10581
European classification	EN ISO 10874	class	34 - 43	34 - 43	34 - 43	34 - 43	34 - 43	34 - 43	34 - 43
Fire behaviour	EN 13 501-1	class	Bfl-s1	Bfl-s1	Bfl-s1	Bfl-s1	Bfl-s1	Bfl-s1	Bfl-s1
Fire rating	ASTM E648	class	Class 1	-	-	-	Class 1	-	-
Electrical resistance*	EN 1081	Ohm	5×10 ⁴ < Rt < 10 ⁶	10 ⁴ < Rt < 10 ⁶	10 ⁴ < Rt < 10 ⁶	10 ⁴ < Rt < 10 ⁶	Rt ≤ 10 ⁶	Rt ≤ 10 ⁶	10 ⁴ < Rt < 10 ⁶
	IEC 61340-4-1	Ohm	< 10 ⁹	< 10 ⁶	< 10 ⁶	< 10 ⁶	< 10 ⁶	< 10 ⁹	< 10 ⁹
	IEC 61340-4-5	Ohm	< 10 ⁹	< 10 ⁷	< 10 ⁷	< 10 ⁷	< 10 ⁹	< 10 ⁹	-
	ANSI / ESD-STM 7.1	Ohm	2,5×10 ⁴ < Rg < 10 ⁹	Rg < 10 ⁶	Rg < 10 ⁶	Rg < 10 ⁶	< 10 ⁹	< 10 ⁹	< 10 ⁹
	ANSI / ESD-STM 97.1	Ohm	-	Rg < 3.5×10 ⁷	Rg < 3.5×10 ⁷	Rg < 3.5×10 ⁷	Rg < 3.5×10 ⁷	10 ⁶ < Rg < 10 ⁹	-
	ASTM F150 (for clean room)	Ohm	< 10 ⁹	-	-	-	-	Rg ≤ 10 ⁹	-
Static electrical propensity / Body voltage generation	EN 1815	kV	< 2	< 2	< 2	< 2	< 2	< 2	< 2
	IEC 61340-4-5	V	< 100 **	< 35**	< 35**	< 35**	< 35**	< 100 **	< 100 **
	ANSI / ESD-STM97.2	V	< 100 **	< 35**	< 35**	< 35**	< 35**	< 100 **	-
Protection against electrostatic discharges	ANSI / ESD S20.20	-	OK	OK	OK	OK	OK	OK	OK
	IEC 61340-5-1	-	OK	OK	OK	OK	OK	OK	OK
Slip resistance	DIN 51130	class	R9	R9	R9	R9	R9	R9	-
Coefficient of friction	ASTM C 1028	-	OK	OK	OK	-	OK	OK	-
Performance									
Type binder content	EN ISO 10581 / ISO EN 10582 (GTI EL)	type	I	I	I	I	I	I	II
Dimensional stability	EN ISO 23999	%	≤ 0.15	≤ 0.15	≤ 0.15	≤ 0.15	≤ 0.40	≤ 0.40	≤ 0.25
Residual indentation (norm)	EN ISO 24343-1	mm	≤ 0.10	-	-	-	≤ 0.10	≤ 0.10	< 0.10
Residual indentation (average measured value)	-	mm	~ 0.02	-	-	-	~ 0.02	~ 0.02	~ 0.03
Castor chair test (type W)	ISO 4918	-	OK	OK	OK	OK	OK	OK	OK
Thermal conductivity	EN ISO 10456	W / (m.k)	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Colour fastness	EN ISO 105 - B02	degree	≥ 6	≥ 6	≥ 6	≥ 6	≥ 6	≥ 6	≥ 6
Surface treatment	-	-	Evercare™	Evercare™	Evercare™	Evercare™	Evercare™	Evercare™	-
Anti-viral activity (Human coronavirus 229E)	ISO 21702	-	-	-	-	-	99.7% after 2h 99.9% after 5h	99.7% after 2h 99.9% after 5h	-
Anti-bacterial activity (E.coli - S. aureus - MRSA) ⁽¹⁾	ISO 22196	-	-	-	-	-	> 99% inhibits growth	> 99% inhibits growth	> 99% inhibits growth
Chemical products resistance	EN ISO 26987	class	OK	OK	OK	OK	OK	OK	OK
Environment/Indoor Air Quality									
TVOC after 28 days	-	micrograms/ m ³	-	< 10	< 10	< 10	< 10	< 10	< 10
Certification	-	-	-	Floorscore®	Floorscore®	Floorscore®	Floorscore®	Floorscore®	-
Cleanroom performance									
Particulate emission	FRAUNHOFER method	ISO14644-1	-	ISO 5	-	-	-	ISO 5	-
	-	FS 209E	-	Class 100	-	-	-	Class 100	-
Air cleanliness	ISO 16000-6,-9,-11	ISO 14644-8	ACCn/AMCn Class	-8	-	-	-	-7.7	-
Anion emission	FRAUNHOFER method	ISO 14644-8	[ΩG/m ² /h]	unmeasurable at 23°C	-	-	-	unmeasurable at 23°C	-
Ammonium N emission	ISO11732	ISO 14644-8	[ΩG/m ² /h]	unmeasurable at 23°C	-	-	-	unmeasurable at 23°C	-
Particulate cleanability	FRAUNHOFER method	VDI 2083 part 9.3 ISO 14644-9	%	98.8% reduction in particulate contamination	-	-	-	98.8% reduction in particulate contamination	-
Microbiological cleanability	FRAUNHOFER method	ISO 1498-1/GMP	classification	A	-	-	-	A	-
Action of micro-organisms on the flooring	ISO 846	GMP	classification	Inert and resistant	-	-	-	Inert and resistant	-
Micro-organism growth on the flooring	ISO 846	ISO 14698-1	classification	Inhibits growth	-	-	-	Inhibits growth	-
Chemical resistance	ISO2812-1	ISO 14644-4	-	Excellent	-	-	-	Excellent	-
Resistance to gaseous H2O2	BIOQUELL process	ISO 14644-4	-	No alteration	-	-	-	No alteration	-
Maximum static load	ASTM F970	-	-	-.002" under 250 psi and up to 2000 psi	-	-	-	-.002" under 250 psi and up to 2000 psi	-

* Measured before installation / ** Measured with ESD shoes compliant with ESD S20.20 and IEC 61340.5.1
(1) Compliance with floor maintenance protocols is the best guarantee against infection.

We care / we act Our Commitments for a Sustainable future



CARBON FOOTPRINT*

-20 % kg CO₂ equivalent/m² between 2020 and 2025



BIOSOURCED CONTENT**

10 % by 2025



RECYCLED CONTENT

30 % by 2025



ADHESIVE FREE***

35 % by 2025



ANNUAL VOLUME RECYCLED

60 000 t by 2025

Gerflor®

* Scopes 1 and 2 defined in the GHG protocol ** % of activity with biosourced materials *** % of activity - adhesive free solution