



ESD SOLUTIONS FOR INDUSTRY

CONDUCTIVE ROLLS AND TILES

industrybygerflor.com



HIGH TECHNOLOGY











MANUFACTURING



CLEANROOM



Gerflor[®]
theflooringgroup

EPA AERA

-  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
-  Patented Clean Corner solution available



CLEANROOM

-  Compliant with IEC 61340 & ANSI ESD S20.20
-  Compliant with ATEX area
-  High traffic resistance
-  Good micro-biological performance
-  Resistance to decontamination process
-  Compliant with ISO 14644-1 (FRAUNHOFER method)
-  Resistant to chemical spills
-  Withstands heavy loads
-  Low molecular emission



TILES

CLEANTECH  OR CONNECT 



FAST RENOVATION:
no shutdown



WATERTIGHT SYSTEM
(hot welding)



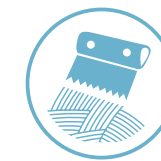
FAST
INSTALLATION



SHEET GOODS



IDEAL FOR NEW
PROJECTS



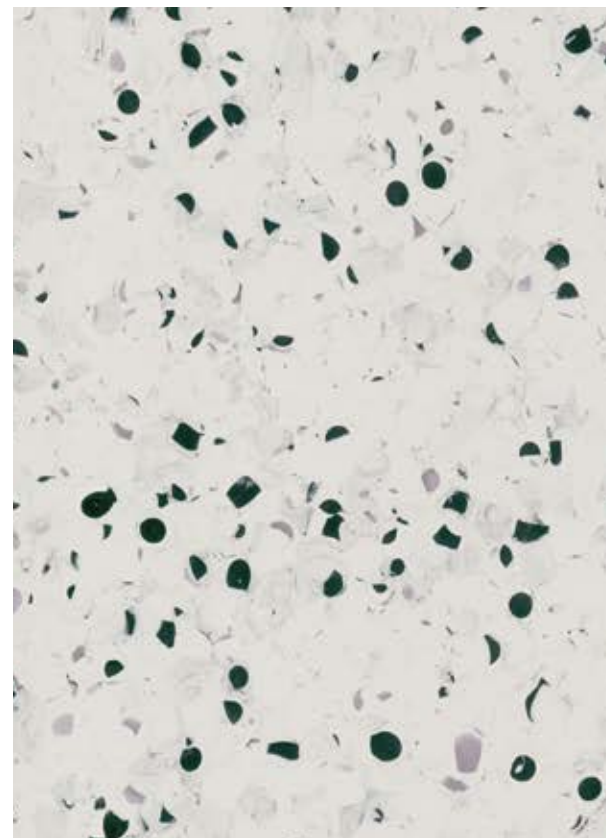
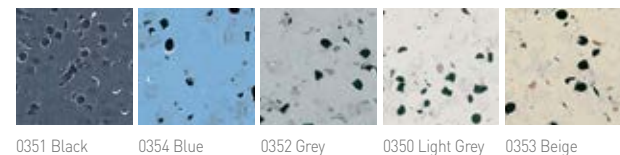
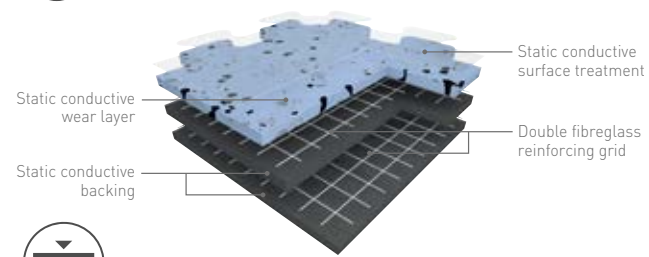
PERMANENT
INSTALLATION ON
PREPARED SUBFLOOR



TILES FOR EPA & CLEANROOM AREAS

GTI EL5 CONNECT

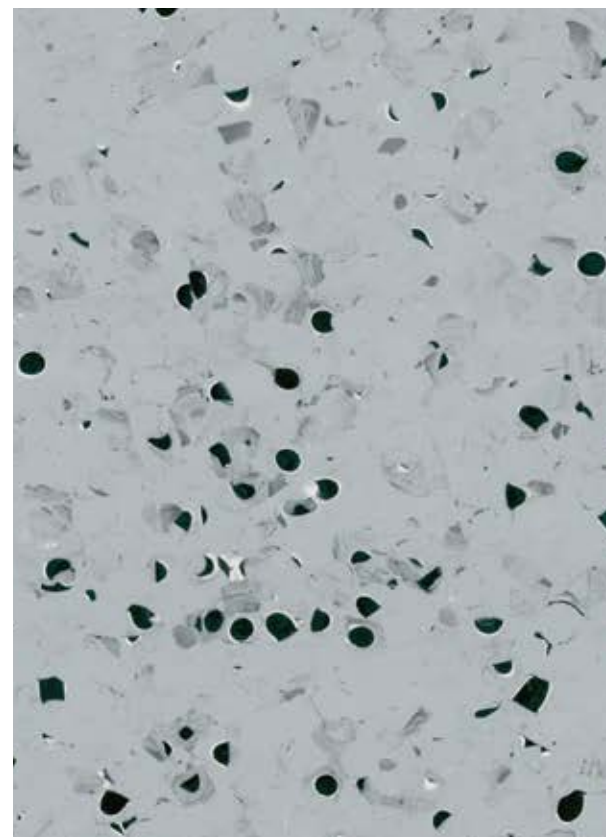
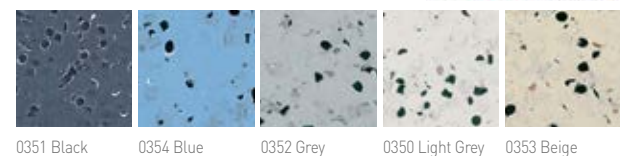
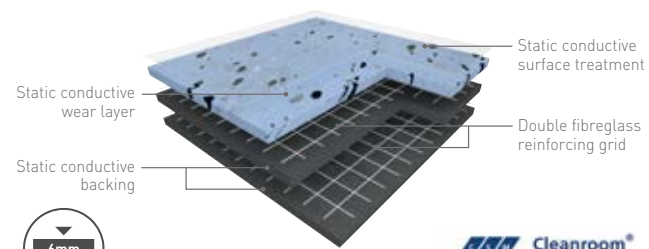
- Compliant with IEC 61340 & ANSI ESD S20.20
- High mechanical traffic resistance
- Sold in tiles of 635 x 635 mm
- Resistant to chemical spills
- Direct and Fast installation, easy repairs and replacement without disruption in production
- Compliant with ATEX area
- Installation with or without adhesive



0350 Light Grey

GTI EL5 CLEANTECH

- Compliant with IEC 61340 & ANSI ESD S20.20
- Installation with or without adhesive
- Sold in tiles of 600 x 600 mm
- High mechanical traffic resistance
- Patented Clean Corner solution available
- Resistant to chemical spills
- Watertight system
- Compliant with ATEX area



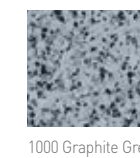
0352 Grey

SHEET GOODS FOR EPA & CLEANROOM AREAS

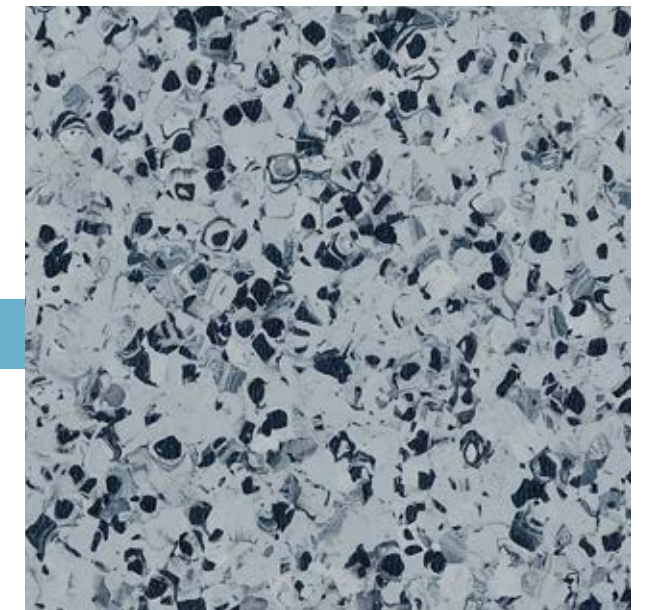
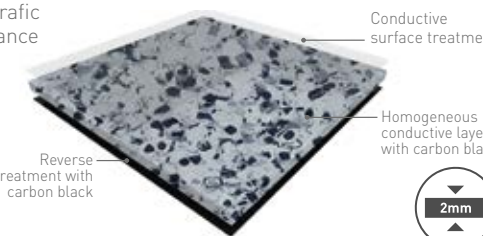
MIPOLAM BIOCONTROL ESD+



- Compliant with IEC 61340 & ANSI ESD S20.20
- Patented Clean Corner solution available
- Sold in rolls of 20 x 2m
- Resistant to chemical spills
- Watertight system
- Body Voltage <35V
- High traffic resistance



1000 Graphite Grey



1000 Graphite Grey

MIPOLAM BIOCONTROL EL5

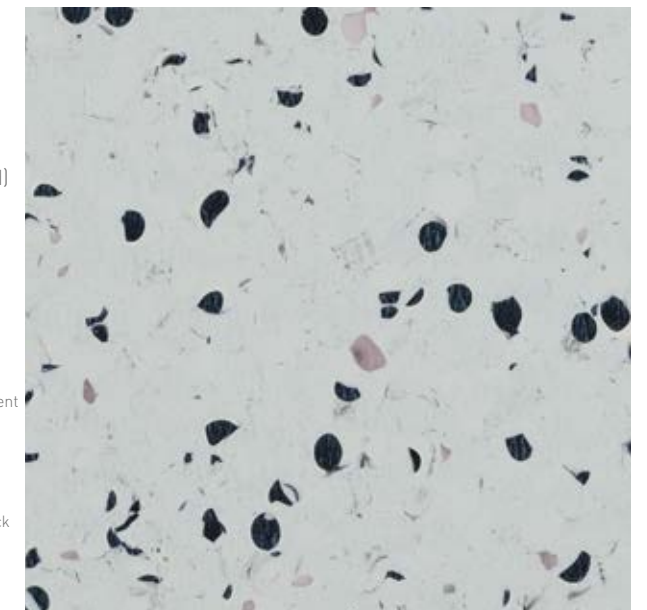
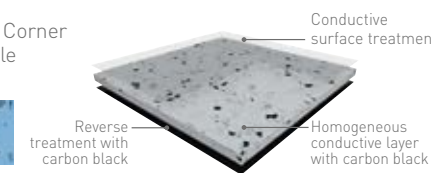
- Compliant with IEC 61340 & ANSI ESD S20.20
- Compliant with ISO 14644-1 (FRAUNHOFER method)
- Sold in rolls of 20 x 2m + sold in tiles of 608 x 608*
- High traffic resistance
- Resistant to chemical spills
- Compliant with ATEX area
- Patented Clean Corner solution available



2002 Volcano 2004 Horizon



2006 Medium fog 2001 Light fog



2001 Light Fog

* If order > 500 m²

MIPOLAM TECHNIC EL5

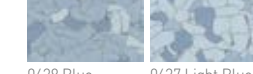
- Sold in tiles of 608 x 608 mm
- Compliant with technical floor



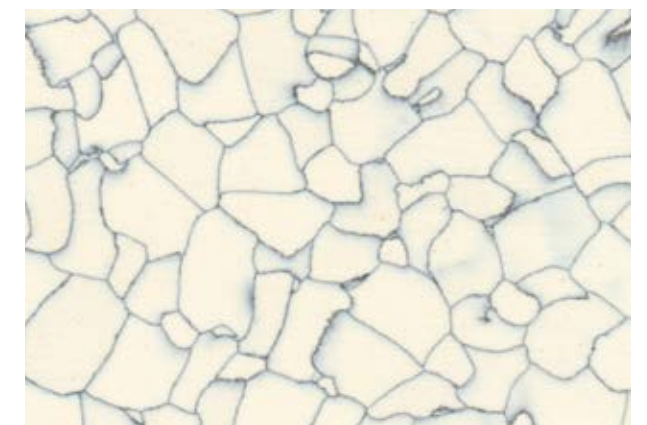
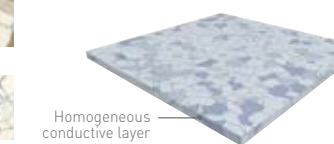
0639 Green 0640 Beige



0636 Grey 0635 White



0638 Blue 0637 Light Blue

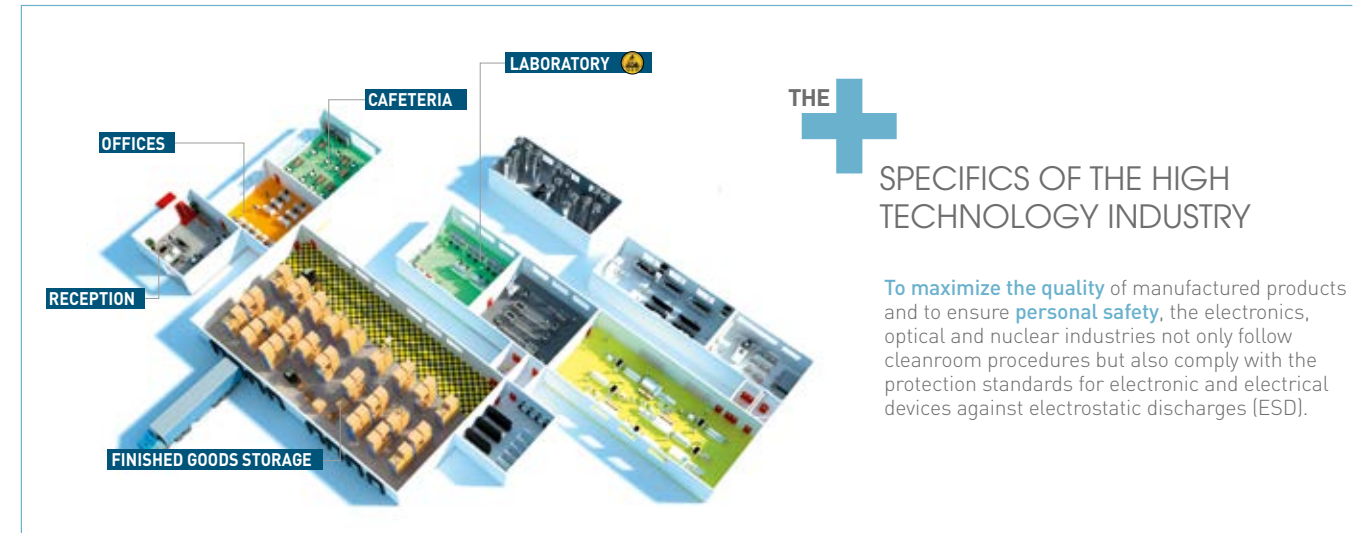


0635 White



ESD FLOOR SOLUTIONS FOR CLEANROOMS

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THE + SPECIFICS OF THE HIGH TECHNOLOGY INDUSTRY

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).

KEY ESD FLOOR FOR NEW BUILD

THE + 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



THE + NO DOWNTIME DURING INSTALLATION

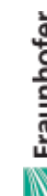


QUICK & EASY TO INSTALL

- 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



THE + ISO STANDARDS AND GMP REQUIREMENTS



MIPOLAM BIOCONTROL EL5 and GTI EL5 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



	GTI EL5 CONNECT	GTI EL5 CLEANTECH	MIPOLAM BIOCONTROL ESD+	MIPOLAM BIOCONTROL EL5	MIPOLAM TECHNIC EL5
EPA AERA	✓	✓	✓	✓	✓
CLEANROOM		✓		✓	✓
DESCRIPTION	According to EN 1081		Conductive	Conductive	Conductive
Total thickness	EN ISO 24346	mm	6.00	2.00	2.00
Weight	EN ISO 23997	g/m ²	9240	2980	2985
Width of sheet	EN ISO 24341	cm	-	200	200
Length of sheet	EN ISO 24341	ml	-	20	20
Tile size	EN ISO 24342	mm	650 x 650	-	608 x 608
Number of tiles per package	-	-	20	-	20
CLASSIFICATION					
Standard/Product specification	-	-	EN ISO 10581	EN ISO 10581	EN ISO 10581
European classification	EN ISO 10874	class	34 - 43	34 - 43	34 - 43
UPEC classification	-	classification	Adapted for rooms classified U4P3E2/3C2	Adapted for rooms classified U4P3E2/3C2	Adapted for rooms classified U4P3E2/3C2
UPEC certification	QB30	n° certif	-	20.4012	301-064.1
Fire behaviour	EN 13 501-1	class	Bfl-s1	Bfl-s1	Bfl-s1
Fire rating	ASTM E648	class	Class 1	Class 1	Class 1
Electrical resistance*	EN 1081	Ohm	5x10 ⁴ < Rg < 10 ⁶	Rt < 10 ⁵	Rt < 10 ⁵
	IEC 61340-4-1	Ohm	< 10 ⁹	< 10 ⁹	< 10 ⁹
	IEC 61340-4-5	Ohm	< 10 ⁹	< 10 ⁹	< 10 ⁹
	ANSI / ESD-STM 7.1	Ohm	2,5x10 ⁴ < Rg < 10 ⁹	< 10 ⁴	< 10 ⁴
	ANSI / ESD-STM 97.1	Ohm	< 10 ⁹	< 10 ⁹	10 ⁵ < Rg < 10 ⁹
	ASTM F150 (for clean room)	Ohm	-	-	Rg < 10 ⁹
Static electrical propensity / Body voltage generation	EN 1815	kV	< 2	< 2	< 2
	IEC 61340-4-5	V	< 100 **	< 35**	< 100 **
	ANSI / ESD-STM97.2	V	< 100 **	< 35**	< 100 **
Protection against electrostatic discharges	ESD S20.20	-	OK	OK	OK
	IEC 61340-5-1	-	OK	OK	OK
Slip resistance	DIN 51130	class	R9	R9	R9
Coefficient of friction	ASTM C 1028	-	OK	-	OK
PERFORMANCE					
Type binder content	EN ISO 10581	type	I	I	II
Dimensional stability	EN ISO 23999	%	≤ 0.40	≤ 0.40	≤ 0.25
Residual indentation (norm)	EN ISO 24343-1	mm	≤ 0.10	≤ 0.10	≤ 0.10
Residual indentation (average measured value)	-	mm	-0.02	-0.02	-0.03
Castor chair test (type W)	ISO 4918	-	OK	OK	OK
Thermal conductivity	EN ISO 10456	W / (m.k)	0.25	0.25	0.25
Colour fastness	EN ISO 105 - B02	degree	≥ 6	≥ 6	≥ 6
Surface treatment	-	-	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	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
ENVIRONMENT/INDOOR AIR QUALITY					
TVOC after 28 days	-	micrograms/ m ³	< 10	< 10	< 10
Certification	-	-	Floorscore®	Floorscore®	Floorscore®
CLEANROOM PERFORMANCE					
Particulate emission	FRAUNHOFER method	ISO14644-1	-	ISO 5	-
	-	FS 209E	-	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	[0G/m ² /h]	unmeasurable at 23°C	unmeasurable at 23°C
Ammonium N emission	ISO11732	ISO 14644-8	[0G/m ² /h]	unmeasurable at 23°C	unmeasurable at 23°C
Particulate cleanliness	FRAUNHOFER method	VDI 2083 part 9.3 ISO 14644-9	%	98.8% reduction in particulate contamination	98.8% reduction in particulate contamination
Microbiological cleanliness	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	Bacteriostatic	Bacteriostatic
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	-	-	-0.002" under 250 psi and up to 2000 psi	-0.002" 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.

GERFLOR, ECO-RESPONSIBLE SOLUTIONS

<p>COMPOSITION 100% REACH compliant FREE of formaldehyde FREE of heavy metals FREE of solvent Phthalates FREE</p>	<p>RECYCLED CONTENT 25% average recycled content 100% REACH compliant recycled content</p>	<p>RECYCLABILITY 100% recyclable product Second life program: recycling of installation scraps and end-of-life products</p>	<p>INDOOR AIR QUALITY TVOC emissions between 10 and 100 times better than norms requirements Products classified A+ (Grenelle environment labeling) No formaldehyde emission</p>	<p>INSTALLATION Innovative adhesive free installation systems</p>	<p>ECO-CONCEPTION Eco-designed according to a product specific Life Cycle Analysis - Product specific EPD (Environmental Products Declaration) available - Manufactured in an ISO 14001 and ISO 50001 certified site - Contribution to many Green Building Schemes (LEED, HQE, BREEAM...)</p>	<p>WELLNESS Health: Antibacterial activity (inhibits growth > 99%) Safety: Anti slip performance Comfort: Walking comfort and impact noise reduction</p>
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