



# ESD SOLUTIONS FOR INDUSTRY

CONDUCTIVE ROLLS AND TILES

[industrybygerflor.com](http://industrybygerflor.com)



HIGH TECHNOLOGY



MANUFACTURING



CLEANROOM

**Gerflor**<sup>®</sup>  
theflooringgroup



## 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



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

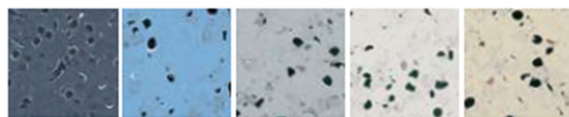
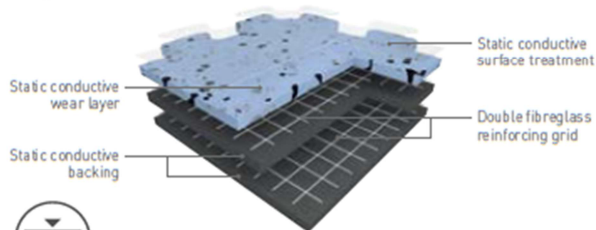




# TILES FOR EPA & CLEANROOM AREAS

## 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



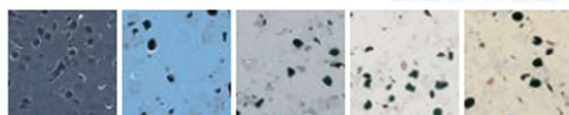
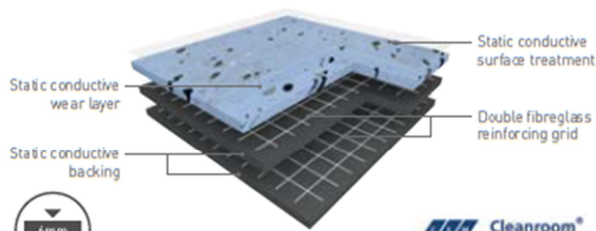
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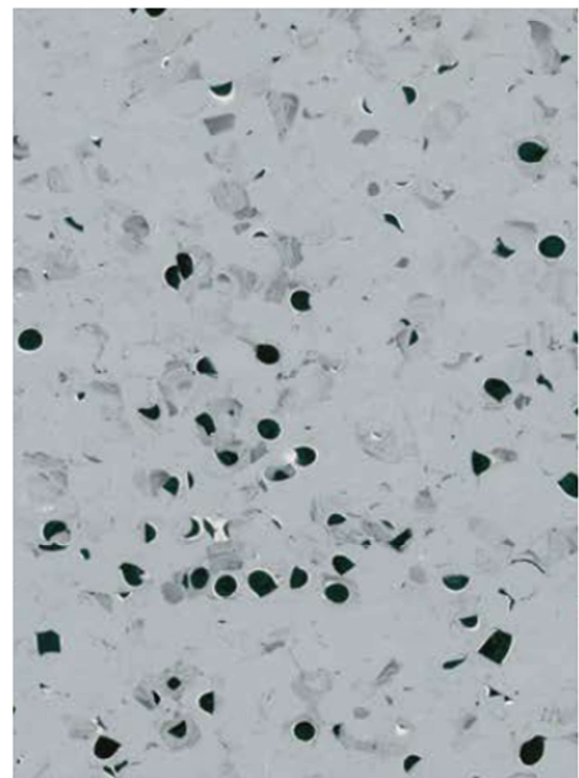
0350 Light Grey

## 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



0351 Black    0354 Blue    0352 Grey    0350 Light Grey    0353 Beige



0352 Grey



# SHEET GOODS FOR EPA & CLEANROOM AREAS

## MIPOLAM BIOCONTROL ESD+

**NEW**



Compliant with IEC 61340 & ANSI ESD S20.20



Patented Clean Corner solution available



Sold in rolls of 20 x 2m



Resistant to chemical spills



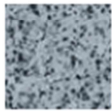
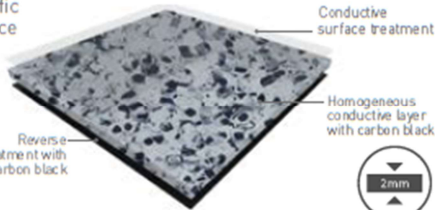
Watertight system



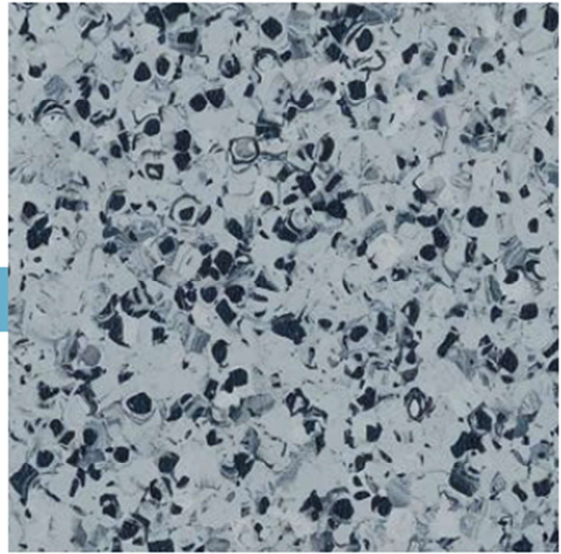
Body Voltage <35V



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



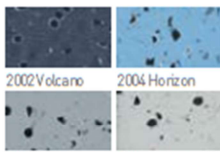
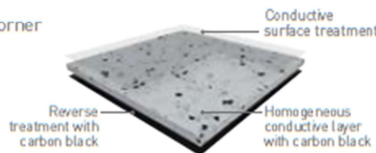
Resistant to chemical spills



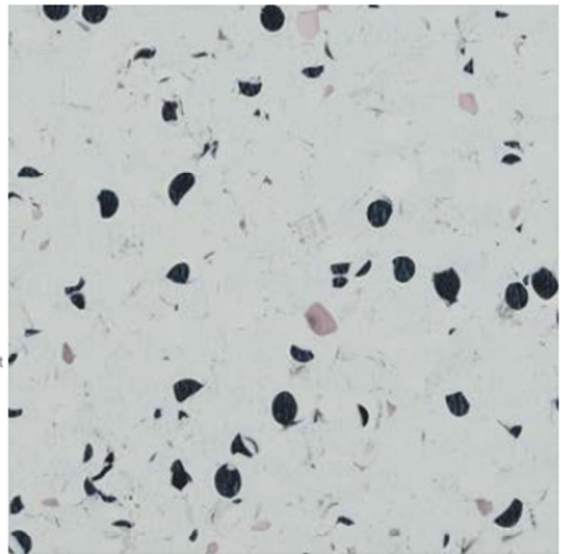
Compliant with ATEX area



Patented Clean Corner solution available



2002 Volcano 2004 Horizon  
2006 Medium fog 2001 Light fog



2001 Light Fog

\* If order > 500 m<sup>2</sup>

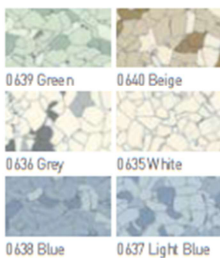
## MIPOLAM TECHNIC EL5



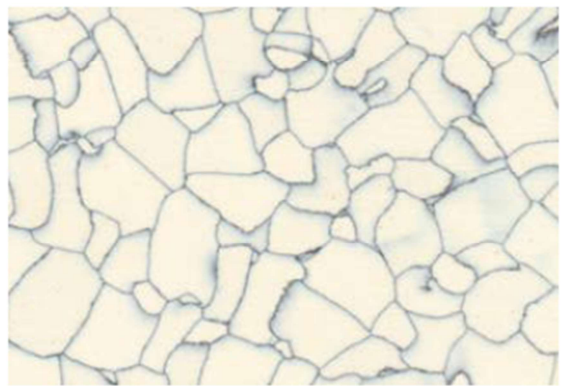
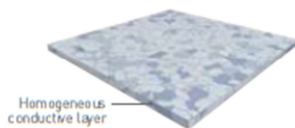
Sold in tiles of 608 x 608 mm



Compliant with technical floor



0639 Green 0640 Beige  
0634 Grey 0635 White  
0638 Blue 0637 Light Blue



0635 White





ESD FLOOR  
SOLUTIONS  
FOR CLEANROOMS

**Gerflor**  
theflooringgroup

**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



Z0013759

	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	Conductive
Total thickness	EN ISO 24346	mm	6.00	2.00	2.00
Weight	EN ISO 23997	g/m <sup>2</sup>	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	OB30	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
Electrical resistance*	EN 1081	Ohm	5x10 <sup>4</sup> < Rg < 10 <sup>6</sup>	Rt < 10 <sup>5</sup>	Rt < 10 <sup>6</sup>
	IEC 61340-4-1	Ohm	< 10 <sup>7</sup>	< 10 <sup>5</sup>	< 10 <sup>9</sup>
	IEC 61340-4-5	Ohm	< 10 <sup>7</sup>	< 10 <sup>9</sup>	< 10 <sup>9</sup>
	ANSI / ESD-STM 7.1	Ohm	2,5x10 <sup>4</sup> < Rg < 10 <sup>7</sup>	< 10 <sup>5</sup>	< 10 <sup>9</sup>
	ANSI / ESD-STM 97.1	Ohm	< 10 <sup>7</sup>	< 10 <sup>9</sup>	10 <sup>5</sup> < Rg < 10 <sup>9</sup>
	ASTM F150 (for clean room)	Ohm	-	-	Rg < 10 <sup>9</sup>
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	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) <sup>(1)</sup>	EN 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 <sup>3</sup>	-	< 10	< 10
Certification	-	-	-	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	[iOg/m <sup>3</sup> /h]	unmeasurable at 23°C	unmeasurable at 23°C
Ammonium N emission	ISO11732	ISO 14644-8	[iOg/m <sup>3</sup> /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	-	-	-0.02" under 250 psi and up to 2000 psi	-0.02" 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><b>COMPOSITION</b> 100% REACH compliant FREE of formaldehyde FREE of heavy metals FREE of solvent Phthalates FREE</p>	<p><b>RECYCLED CONTENT</b> 25% average recycled content 100% REACH compliant recycled content</p>	<p><b>RECYCLABILITY</b> 100% recyclable product Second life program: recycling of installation scraps and end-of-life products</p>	<p><b>INDOOR AIR QUALITY</b> TVOC emissions between 10 and 100 times better than norms requirements Products classified A+ (Genelle environment labelling) No formaldehyde emission</p>	<p><b>INSTALLATION</b> Innovative adhesive free installation systems</p>	<p><b>ECO-CONCEPTION</b> 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, BREAM...)</p>	<p><b>WELLNESS</b> Health: Antibacterial activity (inhibits growth &gt; 99%) Safety: Anti slip performance Comfort: Walking comfort and impact noise reduction</p>
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