

ESD FLOORING



ELECTROSTATIC DISCHARGE IS A PROBLEM THAT YOU CAN'T IGNORE



The scuff of a shoe, the scrape of a chair creates an electron imbalance and, although the resulting discharge may be so small that the human body can't feel it, it can nevertheless have serious consequences.

In electronics manufacturing, in healthcare, pharmaceuticals, ordnance manufacture and storage, ESD incidents can often cause material, component or system failures, which may prove costly and perhaps even dangerous.

Specify ESD
flooring to
prevent damage
to processes,
equipment
or people

A COMPREHENSIVE COLLECTION ENGINEERED TO CONTROL ELECTROSTATIC DISCHARGE

The Polyflor ESD collection is designed to minimize or eliminate the risk of Electro Static Discharge (ESD) and has been specifically engineered to combat this problem at source, by facilitating a uniform flow of static electricity directly to a ground point. Problem solved.

The collection covers all major applications, combining the hard wearing, decorative qualities that Polyflor is renowned for with the benefits of static control properties.

Static Dissipative (SD)

PALLETONE **SD**

FINESSE **SD**

POLYFLOR **SD**

Electrostatic Conductive (EC)

OHMEGA **EC**

POLYFLOR **EC**

Conductive ROF

CONDUCTIVE **ROF**

FEATURES

- ▶ Homogeneous in construction, to ensure that these properties are present throughout the product, guaranteeing a consistent and effective appearance and performance
- ▶ Excellent abrasion and chemical resistance
- ▶ Weld to create a completely impervious floor, offering no sanctuary to dirt and bacteria
- ▶ The closed surface and high vinyl content is easy and economical to maintain, ensuring the floor will go on looking good and performing well for years. **A long-term solution to the ESD problem**
- ▶ Polyflor-approved conductive polishes may be used, in accordance with the manufacturers' instructions. **Standard polishes should not be applied**
- ▶ Polyflor ESD products can be used in conjunction with static control clothing & footwear, wrist & heel straps; special work stations, dissipative packaging & sealing, ionisers & humidity controllers
- ▶ Available formats - sheet 2m x 20m rolls or 608 x 608mm* tiles particularly useful for use on access flooring



SPECIFYING THE CORRECT PRODUCT



The Polyflor ESD family of vinyl floor coverings is designed to meet specific electro static resistance requirements and is categorized to ensure that the same terminology is used by all parties (EN14041). The correct Polyflor ESD product can be identified by taking in to account both the electrical performance and the method of installation.

An electrical performance specification must be identified at the outset. This will not only stipulate the maximum and minimum electrical resistance requirements of the installed floor, but will also identify the method of test, the electrodes to be used, the method of measurement and the testing environment.

INSTALLATION & FLOORCARE

CONDUCTIVE ADHESIVES

Polyflor recommends the use of Polyflor conductive adhesive for all Static Control floor coverings and Polyflor conductive adhesive for earthing strips.

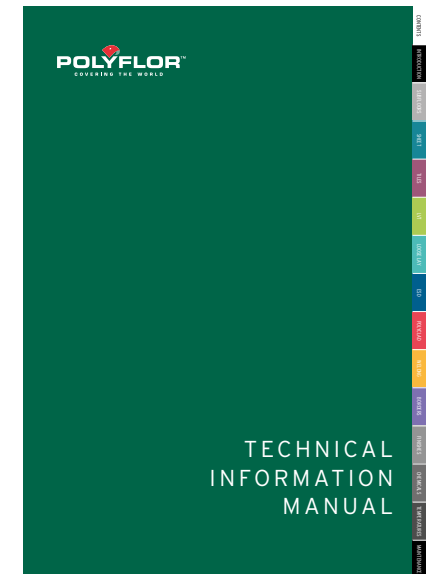
If alternative adhesives are used, they must be recommended by the adhesive manufacturer and approved by Polyflor.

FLOORCARE

In order to ensure the ESD features work effectively, the maintenance instructions produced by Polyflor should be followed. These are available at <https://www.polyflor.com/technical>.

Normal, commercially available polishes should not be applied to Polyflor ESD products, as they will inhibit the conductive properties. Conductive polishes which are approved by Polyflor can be applied in strict accordance with the manufacturer's instructions.

All Polyflor ESD sheet vinyl ranges provide a continuous, impervious and hygienic flooring solution which can be confidently cleaned in accordance with recommended maintenance procedures and approved maintenance products. The implementation of an effective cleaning regime is the most important defence against infection.



ENVIRONMENTALLY PREFERABLE FLOORING

Polyflor is an ISO 9001 and ISO 14001 certified company. Our ESD products have low VOC emissions and will not contribute to negative indoor air quality. They contain up to 72% natural materials, they feature 25% recycled content and are 100% recyclable. BRE Generic A+ and A ratings are awarded for Health and Commercial applications respectively.

TECHNICAL DATA	STANDARDS	Palettone SD	Finesse SD	Polyflor SD	OHmega EC	Polyflor EC	Conductive ROF†
Product Format							
Gauge	ISO 24346 (EN 428)	2.0mm	2.0mm	2.0mm	2.0mm	2.0mm	2.0mm
Sheet Size	ISO 24341 (EN 426)	2m x 20m	2m x 20m	2m x 20m	2m x 20m	2m x 20m	2m x 20m
Tile Size	ISO 24343 (EN 427)	-	608mm x 608mm	608mm x 608mm	-	608mm x 608mm	-
Total Weight	ISO 23997 (EN 430)	3030g/m ²	3030g/m ²	3400g/m ²	3060g/m ²	3500g/m ²	3300g/m ²
Performance Requirements							
General Performance	ISO 10581 (EN 649)	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms
	ASTM F1913	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms
	ASTM F1700	-	Conforms	Conforms	-	Conforms	-
Use Area	ISO 10874	34, 43	34, 43	34, 43	34, 43	34, 43	34, 43
Slip Resistance	DIN 51130	R9	R9	R9	R9	-	-
	EN 13893	Class DS	Class DS	Class DS	Class DS	Class DS	Class DS
Binder Content	ISO 10581	Type I	Type I	Type II	Type I	Type II	Type II
Abrasion Resistance	EN 660-2	Group P	Group P	Group M	Group P	Group M	Group M
Reaction to Fire	EN 13501-1	Class Bfl-S1	Class Bfl-S1	Class Bfl-S1	Class Bfl-S1	Class Bfl-S1	Class Bfl-S1
	ASTM E648	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
	ASTM E662	<450	<450	-	-	-	-
	CAN/ULC S102.2	FSV < 300; SDV < 500	FSV < 300; SDV < 500	-	-	-	-
Static Electrical Propensity	EN 1815	≤2.0kV Classified as 'antistatic'	≤2.0kV Classified as 'antistatic'	≤2.0kV Classified as 'antistatic'	≤2.0kV Classified as 'antistatic'	≤2.0kV Classified as 'antistatic'	≤2.0kV Classified as 'antistatic'
Electrical Resistance	EN 1081 R1/R2	1 x 10 ⁶ - 1 x 10 ⁹ ohms	1 x 10 ⁶ - 1 x 10 ⁹ ohms	1 x 10 ⁶ - 1 x 10 ⁹ ohms	1 x 10 ⁴ - 1 x 10 ⁶ ohms‡	1 x 10 ⁴ - 1 x 10 ⁶ ohms	<5 x 10 ⁴ ohms
	ESD S 7.1	1 x 10 ⁶ - 1 x 10 ⁹ ohms	1 x 10 ⁶ - 1 x 10 ⁹ ohms	1 x 10 ⁶ - 1 x 10 ⁹ ohms	2.5 x 10 ⁴ - 1 x 10 ⁹ ohms	5 x 10 ⁴ - 1 x 10 ⁶ ohms	-
	IEC 61340-4-1	1 x 10 ⁶ - 1 x 10 ⁹ ohms	1 x 10 ⁶ - 1 x 10 ⁹ ohms	1 x 10 ⁶ - 1 x 10 ⁹ ohms	≤1 x 10 ⁹ ohms*	5 x 10 ⁴ - 1 x 10 ⁶ ohms	-
	IEC 61340-4-5	-	-	-	<100v**	<100v**	-
	BS 2050	-	-	-	-	-	<5 x 10 ⁴ ohms
	JSP 482	-	-	-	-	-	<5 x 10 ⁴ ohms
All SD products require minimum 40% RH							
Sustainability							
BRE Green Guide		A+ Generic	A+ Generic	A+ Generic	A+ Generic	A+ Generic	A+ Generic
Indoor Air Comfort Gold		Eurofins certified product	Eurofins certified product	Eurofins certified product	-	Eurofins certified product	-
FloorScore		Certified	Certified	Certified	Certified	-	-
Finnish M1		Certified	Certified	-	Certified	-	-
Maintenance Performance							
Resistance to Chemicals	ISO 26987 (EN 423)	Good resistance	Good resistance	Good resistance	Good resistance	Good resistance	Good resistance

All Polyflor commercial sheet vinyl ranges provide a continuous, impervious and hygienic flooring solution which can be confidently cleaned in accordance with recommended maintenance procedures and approved maintenance products. The implementation of an effective cleaning regime is the most important defence against infection.

† Polyflor ROF flooring for explosive handling areas, no protection from short circuit on a 240/250 volt mains
‡ When tested at min 100v
* When tested to a geometric mean
** Measured using ABEDA and Uvex approved ESD Footwear

ESD COLLECTION OVERVIEW

SD

Polyflor Static Dissipative products are engineered for use where static control is required, but the resistance level of the floor does not need to be as low as that provided by a conductive flooring.

These floor coverings are ideal for use in telecommunications installations, computer rooms, electronic manufacturing and healthcare facilities, such as scanner rooms, X-ray suites and operating theatres.

The SD range comprises: Palettone SD, in 6 non-directional colourways, Finesse SD, in 5 non-directional colourways, and Polyflor SD, in 6 shades with a marbleised design.

EC

Polyflor Electrostatic Conductive products have been engineered to meet the latest international standards for ESD protection floor coverings.

Where the floor system including the footwear is the primary means of grounding personnel, the resistance of the combination is recommended in IEC 61340-5-1 as being between 7.5×10^5 and 3.5×10^7 ohms. Polyflor EC and OHMega EC in combination with ESD control footwear meets this requirement when tested to IEC 61340-4-5.

Recommended applications include electronics manufacturing (wafer fabrication, product assembly, inspection and storage), laboratories and cleanrooms, also healthcare facilities including operating theatres, anaesthetising areas, intensive-care units and radiology departments.

ROF

Polyflor Conductive ROF has been specifically engineered for use in ordnance factories, in manufacturing areas where explosives and flammable agents are stored. It does not provide protection from a short circuit on a 240/250 volt mains, so installation and switching in these rooms are critical, and must be considered prior to any handover.

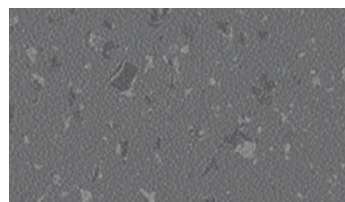
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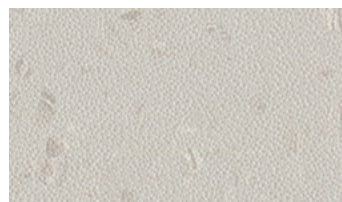
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PALETTONE SD



Pencil Lead 8608
NCS S 6005-B20G

w/r 8608
LRV 18



Frosted Glass 8606
NCS S 2002-G50Y

w/r 8606
LRV 53



Weekend Sky 8611
NCS S 0907-R90B

w/r 8611
LRV 64



Dove Tail 8607
NCS S 3502-R

w/r 8607
LRV 38



Woodland Air 8615
NCS S 1005-G20Y

w/r 8615
LRV 70



Harvest Air 8620
NCS S 1005-Y30R

w/r 8620
LRV 69

POLYFLOR SD



Silver Grey 5110
NCS S 2500-N

w/r 2090
LRV 49



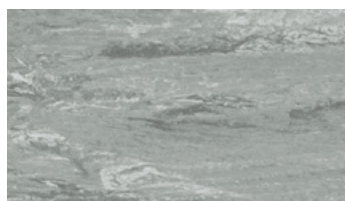
Flaxen 5060
NCS S 1010-Y30R

w/r 5330
LRV 60



Golden Sand 5070
NCS S 3020-Y10R

w/r 2500
LRV 43



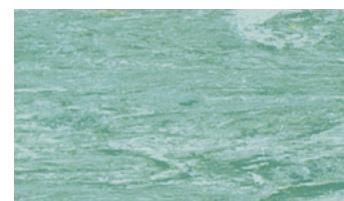
Steel Grey 5030
NCS S 4502-G

w/r 9120
LRV 32



Ocean Blue 5050
NCS S 3005-R80B

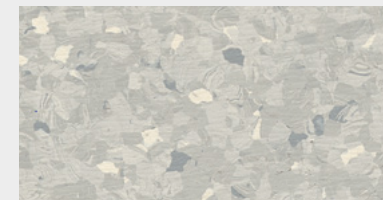
w/r 5350
LRV 41



Teal 5080
NCS S 4010-B70G

w/r 2610
LRV 30

FINESSE SD



Daybreak 5820
NCS S 2500-N

w/r 3130
LRV 49



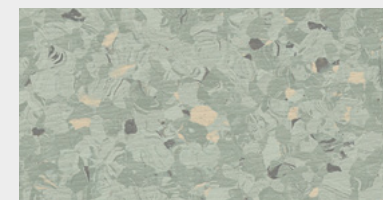
Lodestone 5830
NCS S 4000-N

w/r 3140
LRV 33



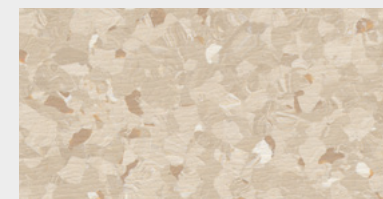
Cascade 5800
NCS S 3010-R80B

w/r 5200
LRV 38



Woodglade 5840
NCS S 3005-G20Y

w/r 5240
LRV 41



Moonlandscape 5860
NCS S 2005-Y40R

w/r 5260
LRV 55

EC COLLECTION

Polyflor Electrostatic Conductive products have been engineered to meet the latest international standards for ESD protection floor coverings.

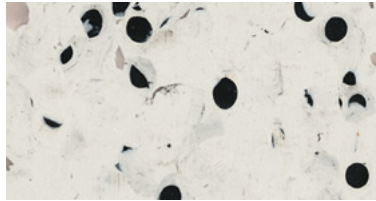
Where the floor system including the footwear is the primary means of grounding personnel, the resistance of the combination is recommended in IEC 61340-5-1 as being between 7.5×10^5 and 3.5×10^7 ohms. Polyflor EC and OHMega EC in combination with ESD control footwear meets this requirement when tested to IEC 61340-4-5.

Recommended applications include electronics manufacturing (wafer fabrication, product assembly, inspection and storage), laboratories and clean rooms, also healthcare facilities including operating theatres, anaesthetising areas, intensive-care units and radiology departments.

ROF COLLECTION

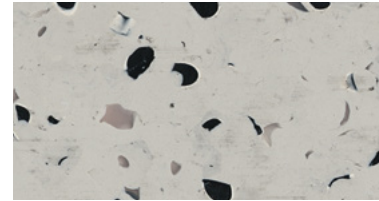
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OHMEGA EC



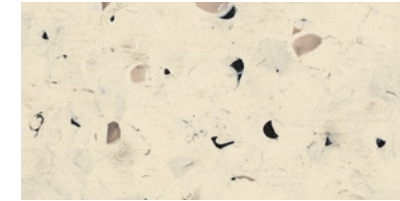
Frosty Glen **6005**
NCS S 1500-N

w/r 9834
LRV 65



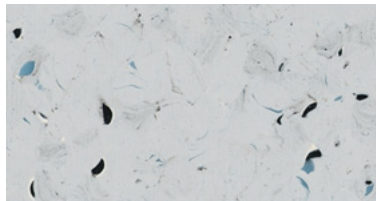
Thunderstorm **6002**
NCS S 2500-N

w/r 6002
LRV 46



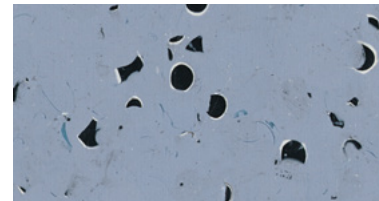
Warm Haze **6003**
NCS S 1005-Y30R

w/r 6003
LRV 65



Morning Dew **6006**
NCS S 2005-R70B

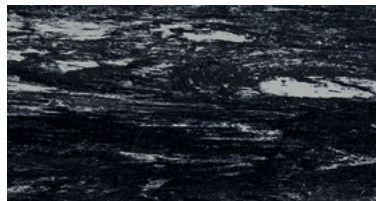
w/r 6006
LRV 53



Tempest **6004**
NCS S 3020-R80B

w/r 6004
LRV 33

POLYFLOR EC



Black/Grey **8990**
NCS S 7502-B

w/r 8640
LRV 8

CONDUCTIVE ROF



Black **5980**
NCS S 8502-R

w/r 8640
LRV 5

ESD RESISTANCE CLAIMS & TESTING

SUMMARY OF RESISTANCE CLAIMS BY STANDARD AND PRODUCT

Product:	EN 1081 R1 - R2	EN 1815	IEC 61340 - 4-1 Rtg	IEC 61340 - 4-5	ESD s7.1	BS2050	JSP 482
Polyflor SD	1 x 10 ⁶ Ω- 1 x 10 ⁹ Ω	≤2.0kV	1 x 10 ⁶ Ω- 1 x 10 ⁹ Ω	N/a	1 x 10 ⁶ Ω- 1 x 10 ⁹ Ω	N/a	N/a
Finesse SD	1 x 10 ⁶ Ω- 1 x 10 ⁹ Ω	≤2.0kV	1 x 10 ⁶ Ω- 1 x 10 ⁹ Ω	N/a	1 x 10 ⁶ Ω- 1 x 10 ⁹ Ω	N/a	N/a
Palettone SD	1 x 10 ⁶ Ω- 1 x 10 ⁹ Ω	≤2.0kV	1 x 10 ⁶ Ω- 1 x 10 ⁹ Ω	N/a	1 x 10 ⁶ Ω- 1 x 10 ⁹ Ω	N/a	N/a
OHMega EC	1 x 10 ⁴ Ω- 1 x 10 ⁶ Ω‡	≤2.0kV	≤1 x 10 ⁹ Ω	<100v**	2.5 x 10 ⁴ Ω - 1 x 10 ⁹ Ω	N/a	N/a
Polyflor EC	1 x 10 ⁴ Ω- 1 x 10 ⁶ Ω	≤2.0kV	5 x 10 ⁴ Ω - 1 x 10 ⁶ Ω	<100v**	5 x 10 ⁴ Ω - 1 x 10 ⁶ Ω	N/a	N/a
Polyflor ROF†	< 5 x 10 ⁴ Ω	≤2.0kV	N/a	N/a	N/a	<5 x 10 ⁴ Ω	<5 x 10 ⁴ Ω

† Polyflor ROF flooring for explosive handling areas, no protection from short circuit on a 240/250 volt mains.

‡ When tested at min 100v

* When tested to a geometric mean

** Measured using ABEBA and Uvex approved ESD Footwear

TESTING SERVICE

Whenever specifying a Polyflor ESD vinyl floor covering, Polyflor strongly recommends discussing your requirements with the Customer Technical Services Department. They will advise on which products are best suited for the particular application, and where no specification has been identified, will advise on the specifications used in similar installations and industries.

To ensure the whole installation meets the specification requirements Polyflor also offers a fee based, finished installation testing service.

FOR MORE INFORMATION

Email tech@polyflor.com or telephone +44 (0)161 767 1912

www.polyflor.com/esd