esd

POLYFLOR™
COVERING THE WORLD

esd

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

The Polyflor ESD range 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 range covers all major applications, and includes Static Dissipative, Electrostatic Conductive, and Conductive ROF floorings, each of which combines static control properties with the hardwearing and decorative qualities that Polyflor is renowned for.

All Polyflor ESD floorcoverings are homogeneous in construction, to ensure that these properties are present throughout the product, guaranteeing a consistent and effective appearance and performance.

They have excellent abrasion and chemical resistance, and can be welded to create a completely impervious floor, offering no sanctuary to dirt and bacteria.

The closed surface and high vinyl content make Polyflor ESD floorcoverings easy and economical to maintain. So they'll go on looking good and performing well for years, providing 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.

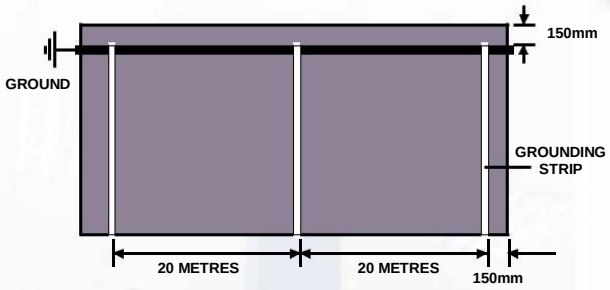
Polyflor ESD products can be used in conjunction with static control clothing, footwear and wrist straps; special workstations; ionisers and humidity controllers.

They are available in sheet format or as 608 x 608mm tiles: the preferred size for use on access flooring.

Installation is obviously critical, but it can be carried out by any competent commercial flooring contractor, using known and accepted procedures and Polyflor approved adhesives.

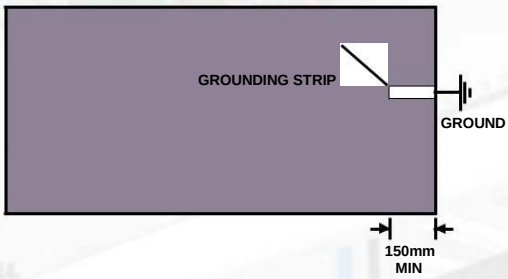
It is important that the correct Polyflor product is selected to meet the specification required. For information and advice on all issues concerning static control flooring, installation techniques, and testing procedures, please contact our trained technical staff, who will be pleased to help you.

sd



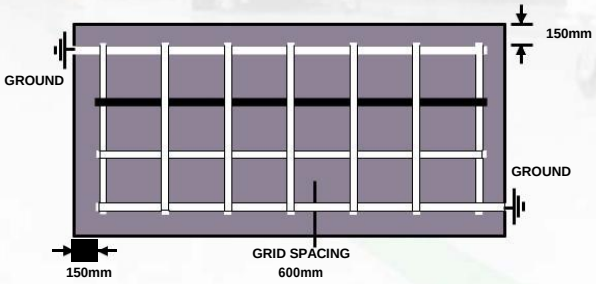
Polyflor SD — showing the method of installation using grounding strip, where conductance to ground is specified.

ec

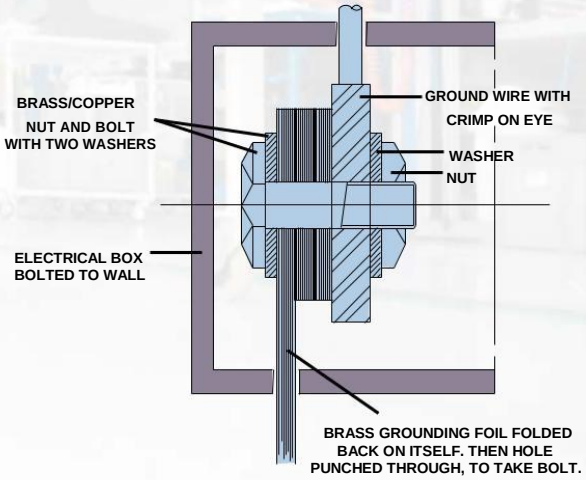


Polyflor EC — shows the method of installation where conductance to ground is specified. The grounding strip need only extend along the floor for 150mm.

rof



Polyflor Conductive ROF — shows the method of installation to a grounding grid: an essential requirement for this product.



A typical connection of the grounding grid to the building ground point.

BRE GENERIC ENVIRONMENTAL RATING

Refer to the BRE Green Guide for more details (www.thegreenguide.org.uk).

100% RECYCLABLE
25% RECYCLED MATERIAL

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 floor.

These floorcoverings are ideal for use in telecommunications installations, computer rooms, and healthcare facilities such as scanner rooms, X-ray suites and operating theatres, also suitable for use in electronics manufacturing.

The range comprises: Polyflor SD, in 6 marbleised colourways; Polyflor Finesse SD, in 5 non-directional colourways.

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.

FINESSE SD

5800 Cascade
w/r 5200
NCS S 3010-R80B LRV 38.1

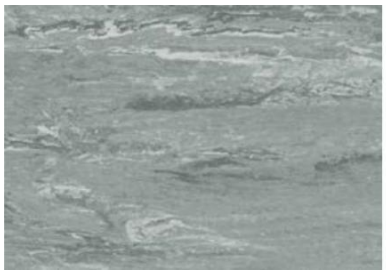
5820 Daybreak
w/r 3130
NCS S 2500-N LRV 48.5

5830 Lodestone
w/r 3140
NCS S 4000-N LRV 33.1

5840 Woodglade
w/r 5240
NCS S 3005-G20Y LRV 40.8

5860 Moonscape
w/r 5260
NCS S 2005-Y40R LRV 54.7

POLYFLOR SD



5030 Steel Grey
w/r 9120
NCS S 4502-G LRV 31.5

5050 Ocean Blue
w/r 5350
NCS S 3005-R80B LRV 41.4

5060 Flaxen
w/r 5330
NCS S 1010-Y30R LRV 60.3

5070 Golden Sand
w/r 2500
NCS S 3020-Y10R LRV 42.9

5080 Teal
w/r 2610
NCS S 4010-B70G LRV 29.8

5011 Silver Grey
w/r 2090
NCS S 2500-N LRV 48.6

ec

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

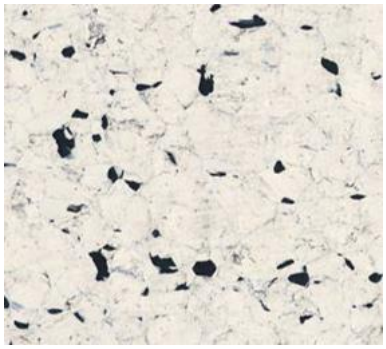
Where the floor system including the footwear is the primary means of grounding personnel, the resistance of the combination is recommended in BSEN/IEC 61340-5-1 as being between 7.5 x 10^5 and 3.5 x 10^7 ohms. Polyflor Electrostatic Conductive flooring in combination with ESD control footwear meets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

Recommended applications include: electronics manufacturing –wafer fabrication, product assembly, inspection and storage; laboratories; clean rooms; and defence establishments.

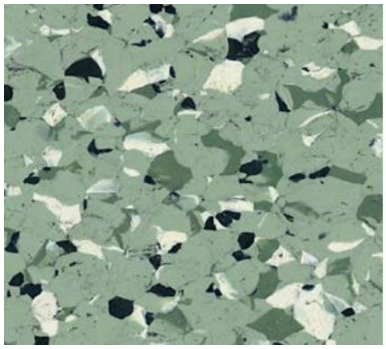
Polyflor EC is also recommended for healthcare facilities where gases and/or electronic equipment are used during medical procedures – operating theatres, anaesthetising areas, intensive-care units and radiology departments.

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.

FINESSE EC

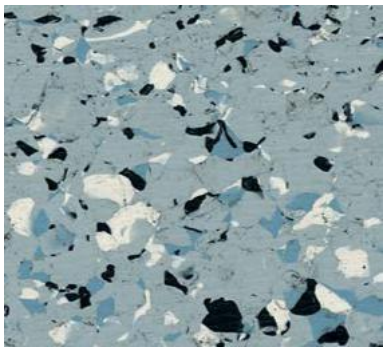


5360 Birchwood
w/r 0630
NCS S 1002-Y50R LRV 71.9



5370 Hedgerow
w/r 5370
NCS S 3010-G20Y
LRV 37.2

5330 Corn Husk
w/r 5330
NCS S 2005-Y60R LRV 54.6



5350 Water Ripple
w/r 5350
NCS S 3010-B LRV 36.9

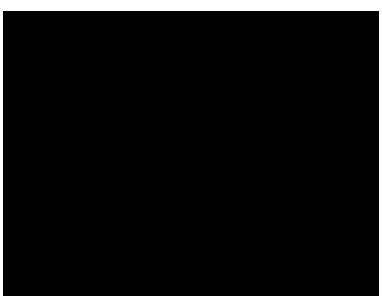
5320 Silver Leaf
w/r 5320
NCS S 2000-N LRV 49.3

POLYFLOR EC

8990 Black/Grey
w/r 8640
NCS S 7502-B
LRV 8.4

rof

CONDUCTIVE ROF



5980 Black
w/r 8640
NCS S 8502-R
LRV 4.9

Polyflor Conductive ROF has been specifically engineered for use in ordnance factories, in manufacturing areas, and 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.

PERFORMANCE & TECHNICAL SPECIFICATIONS

SPECIFICATION	TEST TYPE	ELECTRODE DETAILS	VOLTAGE	CLASSIFICATION	RESISTANCE REQUIREMENTS	RECOMMENDED POLYFLOR PRODUCT
EN 1081:1998	Surface R_3	30kg min load (66lb) on tripods with conductive feet. Tripods 100mm apart (4in)	$>10^6$ 500Vdc $<10^6$ 100Vdc	N/R	Results to be quoted	All Polyflor SD products 1×10^6 — 1×10^9 All Polyflor EC products 5×10^4 — 1×10^6
	Ground R_2	30kg min load (66lb) on tripod with conductive feet, lower electrode to ground	$>10^6$ 500Vdc $<10^6$ 100Vdc	N/R		All Polyflor SD products 1×10^6 — 1×10^9 All Polyflor EC products 5×10^4 — 1×10^6
	Vertical R_1	Upper electrode 30kgmin load (66lb) on tripod with conductive feet, lower electrode graphite coated.	$>10^6$ 500Vdc	Static Dissipative		All Polyflor SD products 1×10^6 — 1×10^9 All Polyflor EC products 5×10^4 — 1×10^6
			$<10^6$ 100Vdc	Conductive		
BS IEC 61340-4-1: 2003	Installed Ground	2.5kg (5.5lb) 65mm dia (2.6in)	$\delta 10^5$ 10Vdc	N/R	5×10^4 — 1×10^6	All Polyflor EC products
			$>10^5$ 100Vdc	N/R	1×10^6 — 1×10^9	All Polyflor SD products
	Installed Protective Earth	2.5kg (5.5lb) 65mm dia (2.6in)	$\delta 10^5$ 10Vdc	N/R	5×10^4 — 1×10^6	All Polyflor EC products
			$>10^5$ 100Vdc	N/R	1×10^6 — 1×10^9	All Polyflor SD products
ESD S7.1: 2005	Resistance to groundable point	63.5mm dia (2.5in). Load 2.27kg (5lb). Lower electrode is ground connection to simulate end use grounding method.	$\delta 10^5$ 100Vdc	N/R		All Polyflor SD products 1×10^6 — 1×10^9
			$\delta 10^5$ 100Vdc			All Polyflor EC products Avg. 5×10^4 — 1×10^6
IBM	Ground	63.5mm dia (2.5in). Load 2.27kg (5lb).	500Vdc	N/R	5×10^5 — 2×10^{10}	All Polyflor SD products conform
ASTM F 150	Surface	63.5mm dia (2.5in). Load 2.27kg (5lb). 91cm (3ft) apart.	100Vdc	Conductive	Avg. 1×10^6 max 2.5×10^4 min.	All Polyflor EC products conform
UK HGN Static Discharges (previously HTM2)	Surface	50mm square (2in) 1kg (2.2lb)	500Vdc	N/R	5×10^4 — 2×10^6avg	All Polyflor EC products conform
BS 2050	Surface A4.1	25mm square (1in) 50mm apart (2in)	500Vdc	Hospital floors	5×10^4 — 2×10^6	All Polyflor EC products conform
				Antistatic floors	5×10^4 — max. 10^8	All Polyflor SD & EC products conform
	Ground A4.2	25mm square (1in)	500Vdc	Explosive handling area floors	Max. 5×10^4	Conductive ROF conforms

SPECIFICATION name of standard/test method. TEST TYPE details of the method of test, i.e. to ground, surface etc. ELECTRODE DETAILS lists size, weight and any special features of the electrodes. VOLTAGE the voltage at which the test is carried out. CLASSIFICATION identifies the terminology used in the standard or test method (if any). RESISTANCE REQUIREMENTS details the parameters within which the flooring must perform in order to comply with the standard. N.B. some test methods do not give any requirements other than just to quote the results. RECOMMENDED POLYFLOR PRODUCT Polyflor product which best fits the requirements.

Access Panel applications require specific fitting instructions, to ensure product performance and achievement of electrical results outlined. Contact Polyflor Customer Technical Support Department on 0161 767 1912 for information.

Polyflor SD products require a minimum of 40% RH in order to perform to specification

sd ec rof

	POLYFLOR SD	FINESSE SD	POLYFLOR EC	FINESSE EC	CONDUCTIVE ROF▲
Gauge	2mm	2mm	2mm	2mm	2mm
Roll Size	2m x 20m = 40m^2	2m x 20m = 40m^2	2m x 20m = 40m^2	2m x 20m = 40m^2	2m x 20m = 40m^2
Tile Size	608 x 608mm	608 x 608mm	608 x 608mm	608 x 608mm	—
Weight	3400g/m^2	3030g/m^2	3500g/m^2	2900g/m^2	3300g/m^2
EN 649	Conforms	Conforms	Conforms	Conforms	Conforms
Use Area Classification	34, 43	34, 43	34, 43	34, 43	34, 43
Agrément	G5ws	G5ws	—	—	—
ASTM F1913	Conforms	Conforms	Conforms	Conforms	Conforms
ASTM F1700	Conforms	Conforms	Conforms	Conforms	—
EN 13501-1	Class Bfl-S1	Class Bfl-S1	Class Bfl-S1	Class Bfl-S1	Class Bfl-S1
EN ISO 9239-1	ε8kw/m^2	ε8kw/m^2	ε8kw/m^2	ε8kw/m^2	ε8kw/m^2
EN ISO 11925-2	Pass	Pass	Pass	Pass	Pass
ASTM E648	Class 1	Class 1	Class 1	Class 1	Class 1
EN 649 Abrasion Group	Group M	Group P	Group M	Group P	Group M
EN 13893	Class DS (dry)	Class DS (dry)	Class DS (dry)	Class DS (dry)	Class DS (dry)
AS/NZS 4586	R9	R9	R9	R9	R9
EN 1081 R_1/R_2	<10^9 ohms	<10^9 ohms	5 x 10^4 to 1 x 10^6 ohms	5 x 10^4 to 1 x 10^6 ohms	<5 x 10^4 ohms
ESD S 7.1	1 x 10^6 to 1 x 10^9 ohms	1 x 10^6 to 1 x 10^9 ohms	5 x 10^4 to 1 x 10^6 ohms	5 x 10^4 to 1 x 10^6 ohms	—
BSEN/IEC 61340-4-1 2003 R_G*	1 x 10^6 to 1 x 10_9 ohms	1 x 10^6 to 1 x 10^9 ohms	5 x 10^4 to 1 x 10^6 ohms	5 x 10^4 to 1 x 10^6 ohms	—
BS 2050	1 x 10^6 to 1 x 10^9 ohms	1 x 10^6 to 1 x 10^9 ohms	5 x 10^4 to 2 x 10^6 ohms	5 x 10^4 to 2 x 10^6 ohms	<5 x 10^4 ohms
ASTM F150	—	—	2.5 x 10^4 to 1 x 10^6 ohms	2.5 x 10^4 to 1 x 10^6 ohms	—
HTM2	—	—	Conforms	Conforms	—
IBM	Conforms	Conforms			
BS 1815	<2kv	<2kv	<2kv	<2kv	—
ASTM F970 (modified)	750psi static load		750psi static load		

◈Conductive ROF for explosive handling areas, no protection from short circuit on a 240/250 volt mains.

❒ BSEN/IEC 61340-5-1 Polyflor EC and Finesse EC conform to foot/floor combination between 7.5 x 10^5 and 3.5 x 10^7 tested to BSEN/IEC 61340-4-5

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POLYFLOR™
COVERING THE WORLD

James Halstead™ FLOORING

2011

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