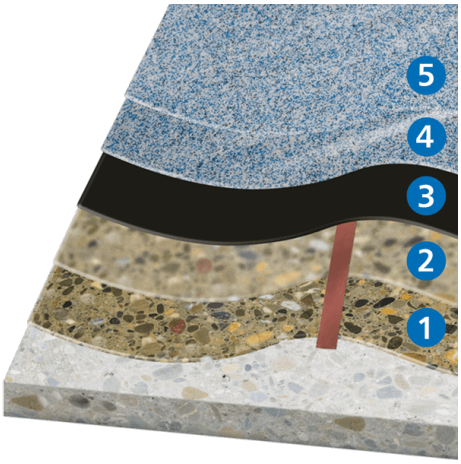
System F4
KLB CONDUCTIVE EP ESD RX

ESD-conductive, slip-resistant coloured sand epoxy resin coating

The coating system F4 provides many properties for industrial areas with special requirements on ESD protection. It is designed to have a slip-resistant surface with grades R11 to R12 and is intended for dry uses.

Typical areas of application are, for example, in electronics and electrical engineering. Up to medium loads, it can also be used in commercial or industrial production and storage facilities.

Alternative systems: System F2 for a lower slip-resistance, System F3 for alternative requirements on the site transfer resistance VDE 100.



5. Top sealer **KLB-SYSTEM POLYURETHAN PU 484**
4. Top coat **KLB-SYSTEM EPOXID EP 99 EL+** and mixed sand **KLB-Mischsand 3/1,** fully scattered with **coloured sand CQS-47xx AS**
3. Conductive layer **KLB-SYSTEM EPOXID EP 799 Ableitgrund** with copper strip **KLB-Kupferband** attached underneath
2. Scratch coat with **KLB-SYSTEM EPOXID EP 50** and mixed sand **KLB-Mischsand 3/1**
1. Primer **KLB-SYSTEM EPOXID EP 50**

System build-up

Layer	See product information for more details
Total layer thickness	approx. 2.5 - 3 mm
Top sealer (5)	**KLB-SYSTEM POLYURETHAN PU 484**
Top coat (4)	**KLB-SYSTEM EPOXID EP 99 EL+** with mixed sand **KLB-Mischsand 3/1**, fully scattered with coloured sand **KLB-Colorsand CQS-47xx AS**
Conductive layer (3)	**KLB-SYSTEM EPOXID EP 799 Ableitgrund**, with copper strip **KLB-Kupferband** attached underneath
Scratch coat (2)	**KLB-SYSTEM EPOXID EP 50*** with mixed sand **KLB-Mischsand 3/1**
Primer (1)	**KLB-SYSTEM EPOXID EP 50*** *alternatively, EP 52 Spezialgrund, EP 52 RAPID, etc. can be used. Seek advice if necessary.
Substrate	Requirements to the substrate according to BEB worksheets and our primer list or by consultancy from our technical sales service/ application technology

Area of application

Industry:

- Manufacturing and production
- Laboratory
- Storage and logistics
- Conductive floors (ESD)

Special solutions:

- ESD coatings

Technical data

Bending tensile strength (EP 99 EL+)	Approx. 35	N/mm²	DIN EN 196/1
Compressive strength (EP 99 EL+)	Approx. 80	N/mm²	DIN EN 196/1
Shore-hardness D (EP 99 EL+)	Ca. 78	-	DIN 53505 (after 7 days)
Abrasion (Taber Abraser) (EP 99 EL+)	Approx. 55	mg	ASTM D4060 (CS10/1000)
Electrical resistance (EP 99 EL+)	Tested in the system with EP 799 Ableitgrund/ CQS-47xx AS/PU 484	-	
Electrical resistance to ground (EP 99 EL+)	<10^6	Ohm	DIN EN 61340-5-1
Walking Body Model (EP 99 EL+)	< 100	V	DIN EN 61340-5-1
Person/footwear/flooring system (EP 99 EL+)	< 10^9	Ohm	DIN EN 61340-5-1

The values established in tests are average values. Deviations from the product specification may occur.

Tests and certifications

The following external test certificates are available for the system:

- Slip-resistance grade R11 V4 according to DIN 51130 and BGR 181
- Fire behaviour classification according to DIN EN 13501-01:2010-01: B_{fl}-s1
- Cleanroom-suitable materials according to ISO 14644-1; VDI 2083 Part 17: ISO 5
- Declaration of performance in accordance with Annex III to Regulation (EU) No. 305/2011 (Construction Products Regulation)

- Declaration of product conformity with Environmental Product Declarations (EPD)

Please consider the latest version of this system information on our website.

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