

KEY #520-ESD/CONDUCTIVE EPOXY

Product Information Sheet



DESCRIPTION

KEY #520-ESD/Conductive is a 100% solids bis-A epoxy floor coating designed to provide electrostatic control properties to various surfaces including concrete or other non-conductive substrates. **KEY #520-ESD/Conductive** has good chemical resistance and is ideal for any areas requiring electrostatic dissipative surfaces, provides excellent bond to concrete as well as high impact and wear. Application over a non-conductive primer or basecoat will transmit ESD readings of 1×10^6 to 1×10^9 ohms through **KEY #520-ESD/Conductive**. Application over a conductive primer or basecoat will transmit conductive readings of 1×10^4 to 1×10^6 ohms through **KEY #520-ESD/Conductive**.

KEY ADVANTAGES

- Good chemical and stain resistance
- Meets USGBC LEED criteria for low VOC, low odor
- Gloss finish, easy to clean
- Good abrasion resistance
- Tests in the static dissipative range of 1×10^6 to 1×10^9 ohms conforming with ANSI/ESD S20.20 standard when applied over non-conductive primer or basecoat
- Tests in the conductive range of 1×10^4 to 1×10^6 ohms conforming with ANSI/ESD S20.20 standard when applied over conductive primer or basecoat
- Body Voltage Generation (BVG) below 100 volts conforming with ANSI/ESD S20.20 standard
- Dissipates a 5000 volt charge to zero in less than 0.1 seconds @ 72° and 12% RH

KEY CONSIDERATIONS

- Substrate temperature must be a minimum of 55-60°F and maximum of 85°F
- Relative Humidity should be 30-85% and substrate temperature must be 5°F above the measured dew point
- Refer to **Key Resin Technical Bulletin #1** regarding substrate requirements and surface preparation
- To achieve Conductive reading: Must be applied in a single coat at 8-10 mils, maximum thickness of 12 mils, do not exceed 12 mils or reduction of conductivity may result, requiring reapplication of primer/basecoat and **Key #520-ESD/Conductive** at correct thickness range
- To achieve ESD reading: Must be applied in a single or multiple coats at 8-12 mils per coat, maximum thickness of 16 mils/coat. Do not exceed 16 mils/coat or reduction of conductivity may result, requiring reapplication of **Key #520-ESD/Conductive** at correct thickness range
- Final conductivity testing requires 72 hours cure time to obtain final readings. **Key #520-ESD/Conductive** applied over conductive primer or basecoat will test in low ESD range prior to 48-72 hours cure at 75°F
- Finish has a variable orange peel texture

COMPOSITION

100% solids bis-A epoxy resin and fillers.

COVERAGE

KEY #520-ESD/Conductive will yield approximately 8-10 mils when spread at 160-200 ft² per gallon.

APPLICATION

SURFACE PREPARATION

Surface Preparation is the most critical portion of any successful resinous flooring system application. All substrates must be properly prepared as outlined in **Key Resin Technical Bulletin #1**. Work must be performed by trained or experienced contractors or maintenance personnel. The **Key Resin Technical Service Department** is available to answer any questions.

INSTALLATION

Installation of **KEY #520-ESD/Conductive** will vary with application. Typically spread in a single coat at 160-200 ft² per gallon with a squeegee and lightly back-roll with a medium or short nap roller. IMPORTANT: 12 mils are considered the maximum total thickness for Conductive readings and 16 mils per coat (in single or multiple coats) for ESD readings. Care should be taken to minimize the entrapment of air caused by over rolling. For complete instructions, consult **Key Resin Technical Service**.

CLEAN UP

Clean skin with soap and water. Tools and equipment should be cleaned with xylene or lacquer thinner. Consult Safety Data Sheet (SDS) for safety and health precautions.

COLOR SELECTION

KEY #520-ESD/Conductive is available in **Key Resin Standard Colors** and custom colors with lab approval, longer lead time and possible added cost. Standard colors will vary slightly from **Key Resin Standard Colors** due to the conductive filler content.

CURE/DRY TIME

Working Life	25-30 min. @ 75°F
Recoat, for ESD only	14-16 hrs @ 75°F
Light Foot Traffic	48 hrs @ 75°F
Full Cure & Max. Resistance	7 Days

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TECHNICAL DATA

Mixing Ratio	3 Parts A:1 Part B by Volume
Solids Content	100% Solids by Volume
Volatile Organic Content (VOC) (EPA Method 24)	0 g/L, compliant to low VOC Rule 1113 in all 50 states
Shelf Life	3 months
Weight/gal	11-11.5 lbs/gal, Mixed
Viscosity @ 75°F	1,000-1,500 cps

CHEMICAL RESISTANCE

Contact **Key Resin Technical Service**.

PHYSICAL PROPERTIES

Abrasion Resistance	ASTM D4060 CS-17 Wheel, 1000 cycles	75-100 mgs
Adhesion to Concrete	ASTM D7294	300-400+ psi (Concrete Failure, varies by concrete strength)
Flammability	ASTM D635	Self Extinguishing
Hardness, Shore D	ASTM D2240	70-80
Impact Resistance	ASTM D2794	100 in-lbs. direct
Conductivity Resistance	ANSI/ESD-S7.1	Conductive: 1×10^4 to 1×10^6 ohms ESD: 1×10^6 to 1×10^9 ohms
Static Charge Decay	MIL-B-81705B	Dissipates a 5,000 volt charge to zero in <0.1 seconds

WARRANTY

Key Resin Company ("Key") warrants for a period of one (1) year that its products will be free of manufacturing defects and will be in conformity with published specifications when handled, stored, mixed, and applied in accordance with recommendations of Key. If any product fails to meet this warranty, the liability of Key will be limited to replacement of any non-conforming material if notice of such non-conformity is given to Key within (1) one year of delivery of materials. Key may in its discretion refund the price received by Key in lieu of replacing the material. No customer, distributor, or representative of Key is authorized to change or modify the published specifications of this warranty in any way. No one is authorized to make oral warranties on behalf of Key. In order to obtain replacement or refund the customer must provide written notice containing full details of the non-conformity. Key reserves the right to inspect the non-conforming material prior to replacement. EXCEPT FOR THE EXPRESSED WARRANTY STATED ABOVE, THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE. KEY'S OBLIGATION SHALL NOT EXTEND BEYOND THE OBLIGATIONS EXPRESSLY UNDERTAKEN ABOVE AND KEY SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO THE PURCHASER OR ANY THIRD PARTY FOR ANY LOSS, COST, EXPENSE, DAMAGE OR LIABILITY, WHETHER DIRECT OR INDIRECT, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

