

# 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  $1 \times 10^6$  to  $1 \times 10^9$  ohms through **KEY #520-ESD/Conductive**. Application over a conductive primer or basecoat will transmit conductive readings of  $1 \times 10^4$  to  $1 \times 10^6$  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  $1 \times 10^6$  to  $1 \times 10^9$  ohms conforming with ANSI/ESD S20.20 standard when applied over non-conductive primer or basecoat
- Tests in the conductive range of  $1 \times 10^4$  to  $1 \times 10^6$  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 5-7 days 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 light orange peel texture

## COMPOSITION

100% solids bis-A epoxy resin and fillers.

## COVERAGE

**KEY #520-ESD/Conductive** will yield approximately 8-12 mils when spread at 125-200 ft<sup>2</sup> 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 125-200 ft<sup>2</sup> per gallon with a squeegee and lightly back-roll with a medium or short nap roller. IMPORTANT: 12 mils is 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 the following colors supplied as pigment packs: Light Grey, Medium Gray, Beige. Colors will vary slightly compared to when these pigment packs are used in non-ESD resins due to the conductive filler content.

## CURE/DRY TIME

Working Life	25-30 min. @ 75°F
Recoat, for ESD only	12-24 hrs @ 75°F
Light Foot Traffic	48 hrs @ 75°F
Full Cure & Max. Resistance Final ESD/Conductive Readings	7 Days @ 75°F

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### TECHNICAL DATA

Mixing Ratio	2 Parts A:1 Part B by Volume
Solids Content	Approx. 100% Solids by Volume
Volatile Organic Content (VOC) (EPA Method 24)	20 g/L, compliant to low VOC Rule 1113 in all 50 states
Shelf Life	12 months
Weight/gal	9.2 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: $1 \times 10^4$ to $1 \times 10^6$ ohms ESD: $1 \times 10^6$ to $1 \times 10^9$ 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.

### AVAILABILITY

**Key Resin** materials are available throughout the United States and a number of other countries. Contact the **Key Resin Representative** in your area for details.

### TECHNICAL SERVICE

**Key Resin Company** provides services and consultations on material selection, specification, troubleshooting, and other information on the proper repair and protection of concrete surfaces. **Key Resin Sales/Technical Representatives** are available to assist you. Telephone 888.943.4532 or visit [www.keyresin.com](http://www.keyresin.com).

### MAINTENANCE

After completing the application of **KEY #520-ESD/Conductive**, the installer should provide the owner with maintenance instructions. **KEY #520-ESD/Conductive** is easily cleaned with neutral soaps or detergents. Refer to **Key Resin Technical Bulletin #3** and **#3A** for additional recommendations.