

KEY #520 NT-ESD EPOXY

Product Data Sheet



DESCRIPTION

KEY #520 NT-ESD is a high solids bis-A epoxy floor coating designed to provide electrostatic control properties to various surfaces including concrete or other non-conductive substrates. **KEY #520 NT-ESD** has good chemical resistance and is ideal for any areas requiring electrostatic dissipative or conductive surfaces, provides excellent bond to concrete as well as impact and wear resistance. Application over a non-conductive primer or basecoat will transmit ESD readings of less than 1×10^9 ohms through **KEY #520 NT-ESD**. Application over **KEY #534 CONDUCTIVE PRIMER** will transmit conductive readings of less than 1×10^6 ohms through **KEY #520 NT-ESD**.

KEY ADVANTAGES

- Carbon nanotube technology: Consistent electrical resistance readings regardless of film thickness
- ESD/Conductive properties for life of the coating
- Meets USGBC LEED criteria for low VOC, low odor
- Gloss finish, easy to clean
- Good chemical resistance and abrasion resistance
- May be sealed with Key #467-ESD Urethane for enhanced performance properties
- Tests less than 1×10^9 ohms conforming with ANSI/ESD S20.20 standard when applied over non-conductive primer or basecoat
- Tests less than 1×10^6 ohms conforming with ANSI/ESD S20.20 standard when applied over Key #534 Conductive Primer
- Body Voltage Generation (BVG) below 100 volts with conductive footwear, conforming with ANSI/ESD S20.20 standard
- Dissipates a 5000 volt charge to zero in less than 0.1 seconds

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
- Apply at 20-35 mils, application at <20 mils will create a prominent orange peel finish
- Note: Cove base/vertical surfaces require a finish coat of **KEY #520** (non-ESD) for improved aesthetic appearance, color will be slightly lighter than ESD color

COMPOSITION

100% solids bis-A epoxy resin and fillers.

COVERAGE

KEY #520 NT-ESD will yield approximately 20-32 mils when spread at 50-80 ft² per gallon.

COLOR SELECTION

KEY #520 NT-ESD is available in **Key #520 NT-ESD Standard Colors** only, contact Key Resin for color selection samples. The colors will vary slightly from **Key Resin Standard Colors** due to the conductive filler content.

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. Contact **Key Resin Technical Service** with questions.

INSTALLATION

Installation of **KEY #520 NT-ESD** will vary with application. Typically spread in a single coat at 50-80 ft² per gallon with a 25-30 mil notched EasySqueegee and lightly back-roll with a medium nap roller, followed immediately with cross rolling using a spiked roller. Optional use of a metal-tined spiked roller will improve leveling of the coating. **IMPORTANT:** 20 mils is considered the minimum thickness to avoid a variable orange peel texture, depending to some extent on using a spiked roller. Optional: Add 5-10% MEK or Anhydrous Isopropyl Alcohol (99%) as thinner to reduce orange peel, use **ONLY** these specific thinners. 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.

CURE/DRY TIME

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|---------------------------------------|--------------------------------------|
| Working Life | 25-35 min. @ 75°F |
| Minimum Recoat Time | 12-14 hrs @ 75°F |
| Light Foot Traffic Wheeled Traffic | 24-30 hrs @ 75°F 36-48 hrs @ 75°F |
| Full Cure & Max. Resistance | 7 Days @ 75°F |

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TECHNICAL DATA

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| Mixing Ratio | 2 Parts A:1 Part B by Volume |
| Solids Content | 99% Solids by Volume |
| Volatile Organic Content (VOC) (EPA Method 24) | <50 g/L, compliant to low VOC Rule 1113 in all 50 states |
| Shelf Life | 12 months |
| Gloss (60°) | 80-90 |
| Unit Sizes Available | 3 gallons, 15 gallons |

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.

MAINTENANCE

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

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 | 75-80 |
| Chemical Resistance | Consult Key Resin Technical Service | |
| Conductivity Resistance | ANSI/ESD-S7.1 | Conductive Range: Less than 1×10^6 ohms ESD Range: Less than 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.

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