



**RESICOAT®**

Functional

# Resicoat EL

Your world of electrical insulation

When protection defines your success

AkzoNobel



## Resicoat EL

# Reliable powder coating protection for generations of electrical applications

Some critical environments need powder coatings with superior levels of protection.

The Resicoat EL series has been developed specifically for the electrical applications market, to deliver exceptional levels of reliable and trusted protection in programs where failure to any degree is not an option.

Applications are extensive, and include slot insulation, coil impregnation, core insulation, insulation of wire and bus bars and the encapsulation of electronic components (capacitors, resistors, varistors). Typical objects are: bobbins, busbars, field coils, housings, rotors, stators, toroid rings, transformers and wire.

## Leading benefits

- Excellent electrical insulation.
- Outstanding protection properties (corrosion, chemicals and heat).
- Exceptional edge coverage.
- Excellent cut through resistance.
- Underwriters Laboratories Inc. tested and listed.



## Comprehensive product range



### Rotors and stators

No matter how challenging the environment, the Resicoat EL3, EL4 and e-lock ranges provide the ultimate protection for rotors and stators to ensure optimum performance. Forming both the rotating and stationary parts of an electric drive, the rotor and stator combine to power our generators and cool our engines.

Resicoat powder coatings provide high dielectric strength, long service life and a good cut-through resistance with a high dimensional stability on the edge up to 300°C. This ensures the components work safe all the time.

Thermal class ratings\*:

<b>Resicoat EL3 and Resicoat e-lock</b>	Class F (155° C)
<b>Resicoat EL4</b>	Class H (180° C)

\* Listed as system component (UL 1446)



### Busbars

Busbars act as the arteries for higher-voltage distributions. To ensure high electric current are carried safely, effective insulation is critical to a busbar's performance.

That's why specific grades of Resicoat EL, Resicoat EL3 and Resicoat EL 201 are tested and listed with UL 94 V-0, UL 746B and UL 1446 (Class B and Class F) approvals, and come with good resistance to heat, chemicals and moisture. They combine excellent insulation and heat dissipation with improved durability and all-round performance.

### Electronic components

Resicoat EL powder coatings protect against a range of threats, including chemicals, moisture and heat.

Our solutions can be used to address the needs of UL 94 (V-0) approvals, and even in applications where a high level of flexibility or laser making is required.

### Low Application Temperature solutions

The comprehensive product range includes Resicoat EL-LAT, which offers significantly lower application and curing temperatures compared to conventional powder coating solutions. This makes the Resicoat EL-LAT series more sustainable helping coaters save on energy and costs.

# Deciding features

## Rotors and stators

### Special benefits of Resicoat powder coatings in relation to slot insulation / armature coating:

- Compared to the insulation achieved with thermoplastics and paper, epoxy powder coatings offer a higher adhesion to metal (up to 25 MPa).
- Heat transfer from the coil to the bottom plate ensures a longer lifetime and improves cooling and output. The more compact construction results in less weight.
- The resin-bond of the lamella components increases the stability of the product, reduces vibration noise and achieves additional permanent protection against corrosion.
- Insulation in the slot without an air gap allows a higher slot fill-factor for more wire, which results in a higher engine power/ output.
- Even skewed slots can be coated homogeneously (noise reduction).

## Busbars

### Resicoat EL for busbars is ideally suited to the following:

- Electrostatic spraying and fluidized bed applications.
- Systems from 25 A up to 6300 A.

Applications are nickel, silver, tin-plated copper and aluminum bars, as well as plain copper and aluminum. Busbars coated in Resicoat EL are guaranteed to protect against thermal impact for longer than alternative solutions. They also deliver a lower fire load compared to cable.

## Electronic components

### In protecting electronic components, Resicoat EL delivers:

- Good heat flow.
- Good protection against various external factors (abrasion, chemicals, humidity etc.).
- Exceptional edge coverage.

## Low Application Temperature solutions

### The benefits of Resicoat EL-LAT include:

- More efficient process.
- Lower curing temperatures deliver significant energy savings.
- Lowered energy consumption offers a more sustainable solution.



# Special features

## Coating processes

Our decades of experience in electrical insulation means that we know what it takes to protect the most critical components in the most challenging environments.

That's why we offer an extensive range of special formulations for different powder coating processes:

### Electrostatic Fluidized Bed Coating

The powder is fluidized in a bed using ionised air. This causes an electrostatic charge to be imparted to the powder. The earthed parts pass through a cloud of charged powder particles and are cured by induction. As the surface is not pre-heated prior to the powder being applied, excess areas of powder application can be easily removed if required.

### Fluidized Bed Coating

The object is heated to a temperature above the powder's melting point and immersed in the coating material contained in a fluid bed. The typical immersion time is 1 – 5 seconds which allows a coating build-up of between 200 – 2000 µm. Depending upon the type of material being coated and the thickness of coat applied, post curing may be required. The coating material is especially designed for this application method.

### Electrostatic Spray

Application by electrostatic powder spraying uses a spray gun in which powder particles are charged with a high voltage. The electrostatic field causes deposition of the charged powder onto the grounded surface. Many surfaces can be coated at one time. It is also possible to achieve all round coating of such work pieces by the wrap round phenomenon.

## Sustainability

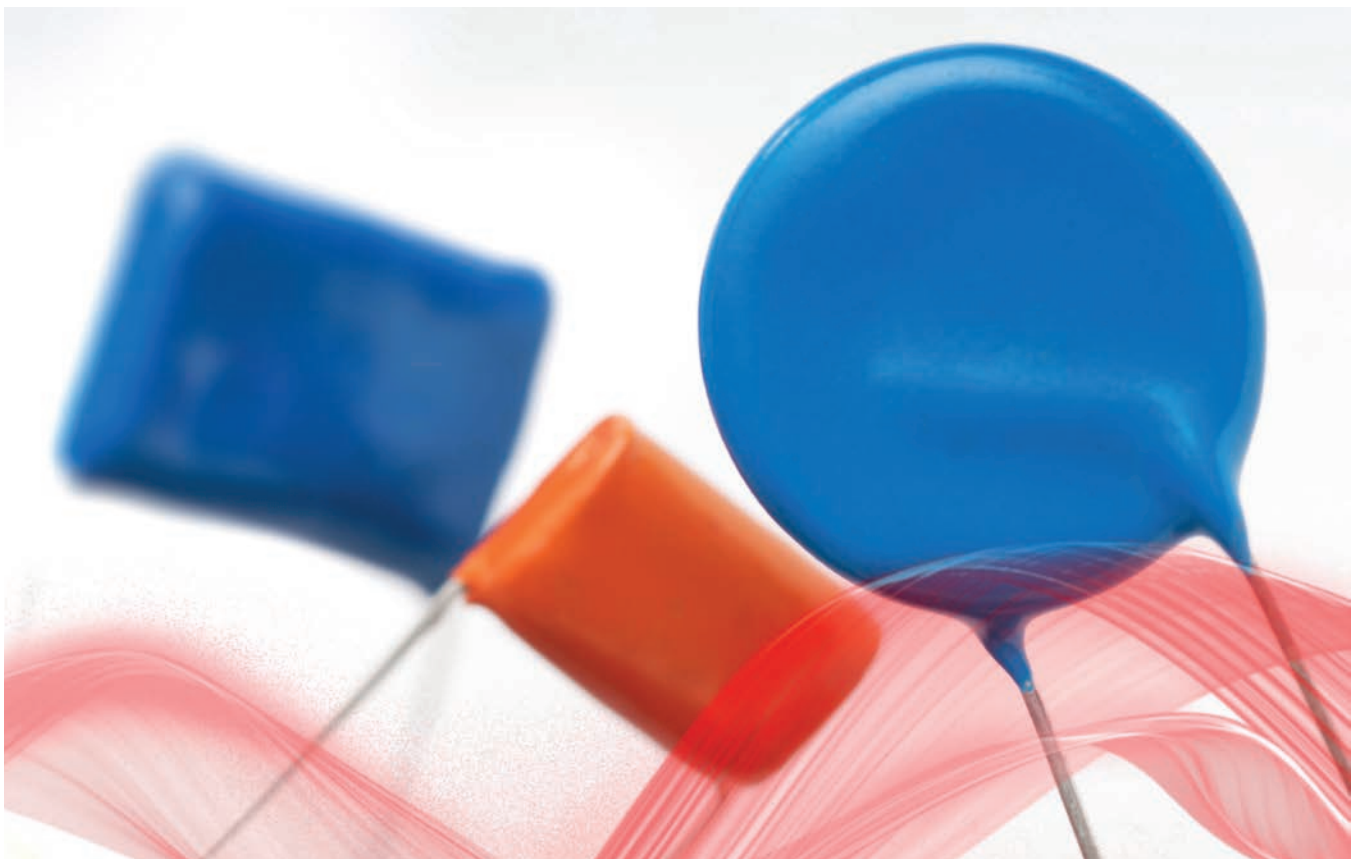
Resicoat EL is designed to be sustainable, with levels of durability that support a longer life.

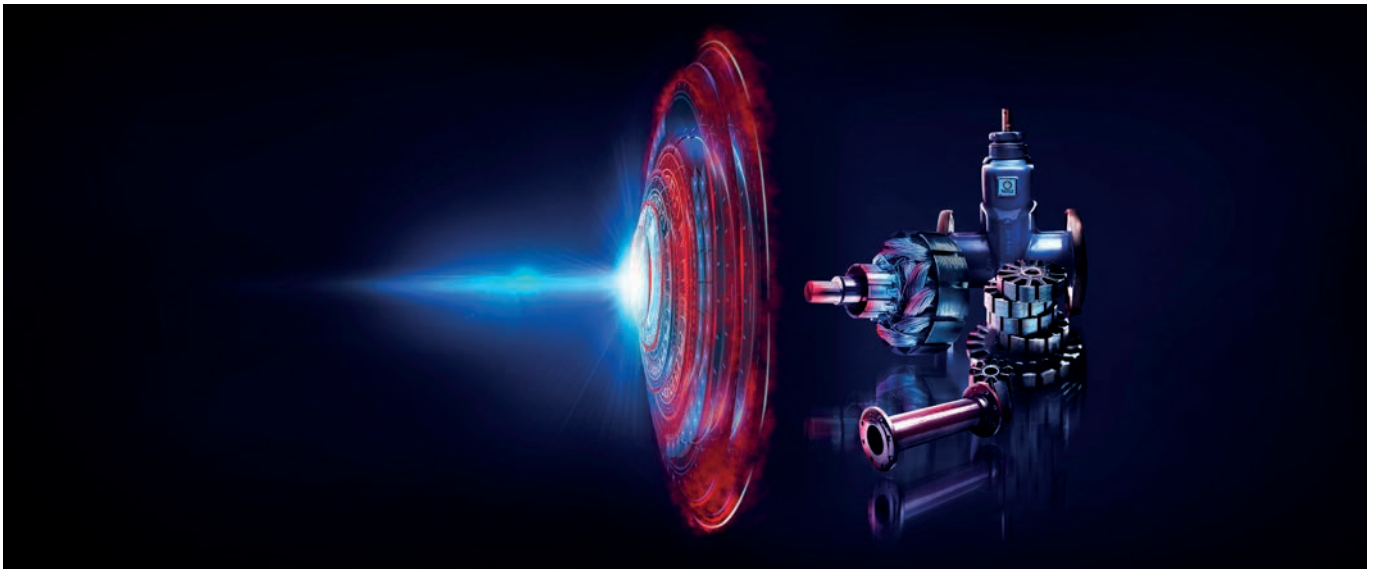
All ranges are REACH and RoHS compliant protecting people and the environment by limiting the use of potentially hazardous substances.

- LAT solutions available.

### Carbon Footprint

Powder coatings in general have a low carbon footprint. Carbon footprint calculations available on request.





## AkzoNobel

We supply the sustainable and innovative paints and coatings that our customers, communities – and the environment – are increasingly relying on. Our world class portfolio of brands – including Dulux, International, Sikkens and Interpon – is trusted by customers around the globe. We're active in more than 150 countries and have set our sights on becoming the global industry leader. It's what you'd expect from a pioneering paints company that's committed to science-based targets and is taking genuine action to address globally relevant challenges and protect future generations.

For more information please visit [www.akzonobel.com](http://www.akzonobel.com) and [www.resicoat.com](http://www.resicoat.com)

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