



Industrial Coating Solutions

Battery Solutions

Coatings for Battery Pack Components
used in Electrification

Engineered Coatings for Electrified Performance: Battery Components

Powering Electrification Innovation with Advanced Coating Solutions

Axalta Coating Systems partners with top automotive manufacturers and suppliers to push the boundaries of electric vehicle innovation. Our advanced coating technologies, including UV curable liquid, e-coat, powder, and liquid solutions are engineered to protect and optimize critical EV battery components.

With high-performance products like Alesta® e-PRO, Imron® Industrial e-PRO and AquaEC™, we deliver durable, cost-effective protection that enhances reliability and efficiency across the entire value chain.



Dielectric Protection



Fire Protection



Corrosion Protection



Thermal Management

Battery Coating Applications

- 01

Dielectric Protection
Module, Cooling Plate, Racking, Bus Bar
- 02

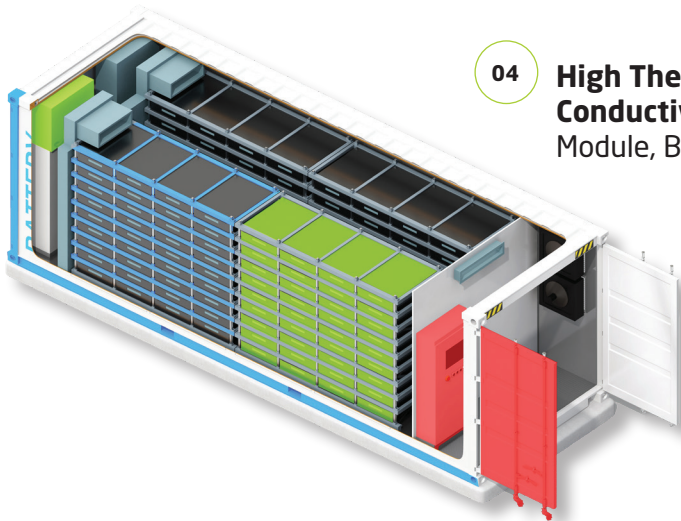
Thermal & Fire Protection
Battery Top Covers, Heat Exchangers, Fire Barriers
- 03

Corrosion Protection
Frame, Racking, Exterior and Interior Cooling
- 04

High Thermal Conductivity Coatings
Module, Battery Pack
- 05

Enclosure & Cabinet Coatings
BMS, PCS, EMI Shielding
- 06

Exterior Coatings
Corrosion Resistance, 25-year Color and Gloss Retention; High Solar Reflectance



Innovative Solutions

Safety, efficiency, and affordability of Li ion battery packs for electric vehicles, energy storage, humanoid robots and EVTOL.

Alesta® e-PRO Dielectric Insulation Thermal Conductivity

Battery tray, cooling plates,
side plates, module covers,
battery frame, structural
components, busbars

Alesta® e-PRO Fire Protection

Inside and/or outside
battery top cover

Imron® Industrial e-PRO UV Cure

Prismatic & cylindrical cell cans,
cooling plates, side plates

AquaEC™ Alesta® e-PRO Corrosion Protection

Battery box, frame, pack

Our Product Offering for Electrical Insulation Coatings

Electric insulation is a primary need for safeguarding battery components. Depending on battery design, component placement, and manufacturing demands, specialized coatings like thermoset, thermoplastic powder, electrocoat, UV, and specialty liquids can be used individually or layered for multifunctional performance. Coatings offer advantages such as edge coverage, electrical insulation, and corrosion protection.

Alesta e-PRO - Our Flagship for Powder

	Alesta e-PRO Dielectric Gray	Alesta e-PRO Dielectric HE	Alesta e-PRO Epoxy Battery Gray	Alesta e-PRO Light Gray	Alesta e-PRO Bus Gray	Alesta e-PRO EE(matt)	EV Black	EB Orange
Value Proposition	Outstanding dielectric, superb dielectric upon bending and high impact resistance with low consumption	Outstanding edge protection and coverage with thinner film	High dielectric powder with low temp cure possible and easy to build film	High insulation product with good chemical and humidity resistance	Good insulation product with smooth finish and meets specs	Good insulation and corrosion resistant product with application versatility	Insulation product that meets major Chinese specs	Insulation product with high edge coverage for fluidized bed
Dielectric Strength	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
CTI	● ● ●	● ● ●	● ● ●	● ● ●	● ● ○	● ● ●	● ● ○	● ○ ○
Surface Energy	● ● ●	● ● ○	● ● ●	● ● ○	● ● ○	● ● ○	● ● ●	● ● ○
Edge Protection*	● ● ○	● ● ●	● ○ ○	● ● ○	● ● ○	● ● ○	● ○ ○	● ● ●
Flexibility (Mandrel Bend)	● ● ●	● ● ○	● ● ○	● ● ○	● ● ○	● ○ ○	● ● ○	● ● ●
Impact (Forward/Reverse) inch/lbs	● ● ●	● ● ○	● ● ○	● ● ○	● ● ○	● ○ ○	● ● ○	● ● ○
Region	NA	EMEA	NA	EMEA/NA	NA	EMEA/NA	CHINA	CHINA

*Edge protection is critical to minimize Hipot failures. ● ● ● Best ● ● ○ Better ● ○ ○ Good Based on Internal Benchmarks

CORROSION PROTECTION

Alesta® e-PRO Primer gray

is an anti-corrosive zinc free primer offering corrosion protection that passes stringent corrosion requirements along with dielectric performance

- Gloss @60 degree: 95+/-5
- Dielectric strength: 90KV @ 70 micron
- Surface energy: 42 dyne/cm
- Corrosion: Passes OEM cyclic corrosion test, with alternate & repetitive cycles of Salt spray, humidity and thermal shock

THERMAL CONDUCTIVE

Alesta® e-PRO 691142D

is an epoxy powder requiring dielectric properties, corrosion protection and thermal conductivity suitable for thermal management in battery packs

- Gloss @60 degree: 50-70
- Thermal conductivity: 0.69 W/m-K
- Surface energy: 48 dyne/cm
- Corrosion: 1000 hrs salt spray

UV Cured Dielectric Coating

Imron Industrial e-PRO DiElec UV



Environmentally friendly
with 100% solids and no VOC



Can be cured with LED and Hg
lamps in a few seconds



Provides protection against prolonged
environmental and chemical exposure



Imron e-PRO DiElec-UV is a blue
colored, acrylic based 1K liquid coating.
The coating is used for demanding
applications that require electrical
insulation including Aluminum/Steel
prismatic cells, cooling plates,
and side plates



#	Test	Results
01	Dielectric Strength	78kV/mm @ 120µm
02	Breakdown Voltage	9.4KV @ 120µm
03	Surface Energy	50 dyne/cm

Ask about our digital spray application.

Ecoat for Corrosion

Axalta's flagship electrocoat platform, AquaEC™ is our next-generation E-coat chemistry, engineered for today's high-efficiency manufacturing environments. For corrosion and dielectric performance, ecoated panels can be layered with any of our dielectric powder.



Advanced Corrosion Protection

Durable, long-lasting protection designed to meet the most demanding performance standards.



Lower Cure Temperatures

Optimized cure profiles help reduce oven temperatures and cycle times.



Strong Edge Coverage

Uniform film build across complex geometries, including sharp edges and recessed areas.



Reduced Energy Consumption

Efficient processing supports lower operational costs and improved line sustainability.



Superior Throw Power

Excellent penetration into cavities and hard-to-reach areas for complete part coverage.



Environmentally Responsible Formulations

IMDS-listed, eco-conscious chemistries aligned with evolving regulatory requirements.

PRODUCT	FILM THICKNESS	FLAME RATING	SALT SPRAY	85/85 AGING	REACH COMPLIANCE	EDGE PROTECTION	THERMAL SHOCK	REGION
AquaEC™ 2600EP	15-50 µm	UL94 V0	≥1000 h	1000 h	No	Standard	1000 cycles	NA+APAC
AquaEC™ 3500EP/ 6100EP	15-50 µm	UL94 V0	>1000h	1000 h	Yes	Ultra High	1000 cycles	Global

Alesta® e-PRO FG Black:

High-Temperature, Low-Smoke Flame Barrier for Battery Applications

Engineered for thermal stability and secondary flame protection. It is designed to resist ignition, expansion, and smoke generation at temperatures up to 1200°C helping to delay the propagation of fire in a battery pack.

KEY FEATURES

- High-temperature-resistant formulation
- Designed for secondary fire protection – inside or outside battery packs
- Passes Salt Spray (1000 hrs) and Xenon Weathering (SAE J2527)

PRODUCT PERFORMANCE BENEFITS

- Thermal integrity maintained under direct flame and extreme heat (600-1200°C)
- Zero smoke emission at high temperature – enhances safety in thermal events
- Strong corrosion protection, stand alone or enhanced over ecoat substrates

APPLICATION ADVANTAGES

- Adheres well to ecoat and/or direct to metal (bare metal)
- No special post application cleaning required
- Flexible use in multi-layer protection systems

Specialty Coatings

Thermal Conductive Liquid Spray Coating

Thermally conductive and electrically insulating coatings for efficient heat dissipation

- Thermal conductivity: 0.5-2 W/mK
- Dielectric: >80KV/mm at 75 microns
- Dry film thickness: 50-100 microns
- Cure: 30 mins at 140C
- Air spray or electrostatic spray
- Black or white

EMI Shielding Liquid Spray Coating

To protect sensitive electronic parts from electromagnetic interference

- WaterBorne and Solventborne
- >50dB attenuation(ASTM D4935)
- Good adhesion to plastic and composite surfaces
- WB bake 140C/30mins
- SB - room temp cure



Disclaimer: Performance data presented herein is based on laboratory testing and/or internal evaluations under controlled conditions. Actual results may vary depending on substrate, application method, operating environment, and other factors and the performance data described herein should not be construed as representations that any product will achieve the same results under all conditions or in any particular application. Customers are responsible for determining the suitability of any Axalta product for their specific application and should conduct their own testing prior to use. Nothing in this document constitutes an express or implied warranty or guarantee of performance.

Contact Your Local Sales Representative or Email
battery-info@axalta.com

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