

Driving e-mobility solutions.



Smart e-mobility concepts

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The number of electrically powered cars being registered increased rapidly in 2021 in an attempt to significantly reduce CO₂ emissions and achieve ambitious targets. However, e-mobility is not just a hot topic in the automotive industry. In many major European cities, e-scooters are already an integral part of the cityscape. Furthermore, e-bikes and pedelecs are an increasingly common alternative to cars, and are also being subsidized with tax breaks. Transport ministries have literally been overtaken by this trend, and are now endeavoring to integrate these vehicles into the transport revolution and to include them in a legal framework.

Material requirements, amongst other things, will continue to change and align with environmental considerations. Developments are progressing in charging infrastructure, in battery technology and in many other (partly new) components. This is placing new demands on materials.

Charging infrastructure solutions from:



Area	Application (example)	Requirement	Material solution	Products offered by ALBIS
Base pad for cars	Base structures Car pad housings	UL94 V-0 F1 rating (weatherability) Media resistance Drive over resistance Toughness and strength	PA 6 GF FR, PA66 GF FR	Durethan® Ultramid®
EV charging station	Design covers	High transparency (where required) Flame retardance (where required) High surface quality Weatherability	PC PA translucent	Makrolon® Alcom® Ultramid® Vision
		High surface quality Dimensional stability Low warpage Weatherability UV-resistance	PBT- Blends (PBT+ASA) GF	Pocan® Ultradur®
	Front, back and side covers Mounting structures Brackets	Very high surface quality Low warpage Weatherability (UL746C) High mechanical properties Glass fiber reinforced for higher stiffness Scratch resistance Flame retardance (where required)	PC PC+ABS	Makrolon® Bayblend®
			PC+ASA	Altech® ECO Luran® S/C
			PBT, PBT GF, PBT GF FR PBT-Blends (PBT+ASA /PBT+PC)	Pocan® Ultradur®
			PA 6 GB PA6 GF FR	Altech® Durethan® Ultramid®
	Connector housings	High impact properties Chemical resistance Weatherability	PC FR	Makrolon®
	Interior structures Connectors Sockets Electric control units Terminal blocks	UL94 V-0 High CTI Long term heat aging Media resistance High toughness and strength	PA 6 GF FR, PA66 GF FR	Altech® ECO Durethan® Ultramid® Vampamid®
			PBT GF FR, PBT+ASA GF FR	Pocan® Ultradur®
	Charging inlets Charging coupler outlets	UL94 V-0 Dielectric strength High dimensional stability Low warpage High toughness	PA 6 GF FR, PA66 GF FR	Altech® ECO Durethan® Ultramid® Vampamid®
Plug-in charging	Charging coupler housings	UL94 V-2 / V-0 Excellent surface quality Good weathering resistance UL f1 High chemical resistance High impact at low temperatures	PA 6	Durethan® Ultramid® Vampamid®
			PBT+PC FR	Pocan®
	Breakers, switches, safety components	UL 94 V-2 / V-0 at thin wall thickness High chemical resistance High CTI and RTI Dielectric strength	PA 6 FR, PA66 FR PA6 GF FR, PA66 GF FR	Durethan® Ultramid®
	High voltage applications Durable orange colors RAL 2003 RAL 2010	All color listing V-0 @ thin wall thickness Reinforced if higher stiffness is required High CTI High dielectric strength Halide-free stabilization to prevent electrochemical corrosion Laser markability	PA 6 FR, PA66 FR PA6 GF FR, PA66 GF FR	Durethan® Ultramid®
			PBT GF FR	Pocan® Ultradur®

Note: This list is not exhaustive – please contact your ALBIS representative to discuss your specific application requirements.

Plastics play a central role in this conversion, as they offer a sustainable alternative to many other materials and are also characterized by durability, design freedom, safety, lightweight construction and efficiency – properties that are central to the new technology.

Along with experienced partners, ALBIS is your competent, smart, service-oriented and internationally positioned solution provider for e-mobility applications.

Electric vehicle battery packaging solutions from:



Area	Application examples	Requirements	Polymer solutions	Products offered by ALBIS
Battery housing and ancilliary parts	High-voltage connectors Cable brackets Battery disconnect units Junction boxes Tie rods	UL94 V-0 for thin wall parts CTI 600V Media and chemical resistance LV124 (incl. electrolyte) fulfillment High strength and toughness Excellent surface finish Laser markable	PA 6 GF, PA66 GF PA 6 GF FR, PA66 GF FR	Altech® ECO Durethan® Ultradur® Vampamid®
			PBT GF PBT GF FR	Pocan® Ultradur® Vampter®
			PPA GF PPA GF FR	Amodel® Ultradur® Advanced
	Cooling Pipes	Water-glycol resistant up to 100 °C Gas-injection technology Excellent surface finish	PA6 GF modified/stabilized PA6 MR modified/stabilized	Durethan® Ultradur®
	Fittings and adapters for cooling pipes	Heat and chemical resistance Dimensional stability Impact resistance and stiffness UL 94 V-0 Glycol resistance	PPA GF PPA GF FR PPS GF	Amodel® Ultradur® Advanced Tedur® Ecotran®
Battery module	Busbar holders Cell management systems Module separators Housings End plates	UL94 V-0 High CTI Good flowability Chemical resistance LV124 (incl. electrolyte) High mechanical performance Low warpage Good dimensional accuracy	PA 6 GF, PA66 GF PA 6 GF FR, PA66 GF FR	Altech® ECO Durethan® Ultradur® Vampamid®
			PBT GF, PBT GF FR PBT+ASA GF, PBT+ASA GF FR	Pocan® Ultradur®
			PPA GF PPA GF FR	Amodel® Ultradur® Advanced
			PPS GF	Tedur® Ecotran®
EV battery package	Cell holders	UL94 V-0 at thin walls High mechanical performance Pass vibration tests Tight tolerances for complex shapes	PC FR PC+ABS FR	Makrolon® Bayblend®
	Clam shells	High mechanical performance Low warpage in large and flat parts High thin-wall flow Electrically insulating	PC FR PC+ABS FR PC+ABS GF	Makrolon® Bayblend®
	Frames and tabs for pouch cells	UL94 V-0 High flowability High mechanical performance Low warpage High dimensional stability	PC FR PC+ABS MR FR	Makrolon® Bayblend®
	Light vehicle packs	High mechanical performance High heat resistance Chemical resistance Weatherability UL746C f1 Registration	PC+ASA	Altech® ECO Bayblend® Luran® S
			PC+PET PC+PBT	Makroblend®
	Cooling solutions	Thermally conductive V-0 (if required) Electrically insulating	PC MR FR PA MR FR	Makrolon® TC Alcom® TC
	Crash absorbers	Very high impact properties, especially at low temperatures	PC+PBT	Makroblend®
	EV powertrain housings	Thermally conductive (in special cases required) V-0 (if required) Electrically insulating	PC MR PC+ABS GF	Alcom® TC Makrolon® Makrolon® TC Bayblend®

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GF = Glass fiber reinforced
MR = Mineral filled

FR = Flame retardant
GB = Glass beads

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