

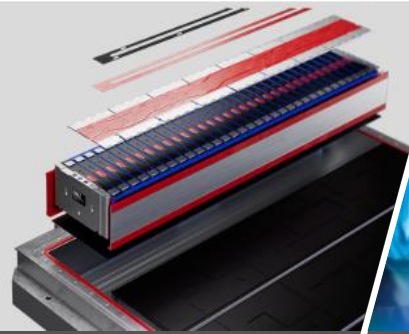
Powering
innovation
together



Distributor 

+34 912 30 24 69

Chapters



Comprehensive
assortment of
EV batteries



Innovation for
the future of
EV batteries



Testing and
application
process support



More
sustainable
products

e.g. debondable solutions
for reworking
and recycling



Why work
with tesa?





Comprehensive product assortment

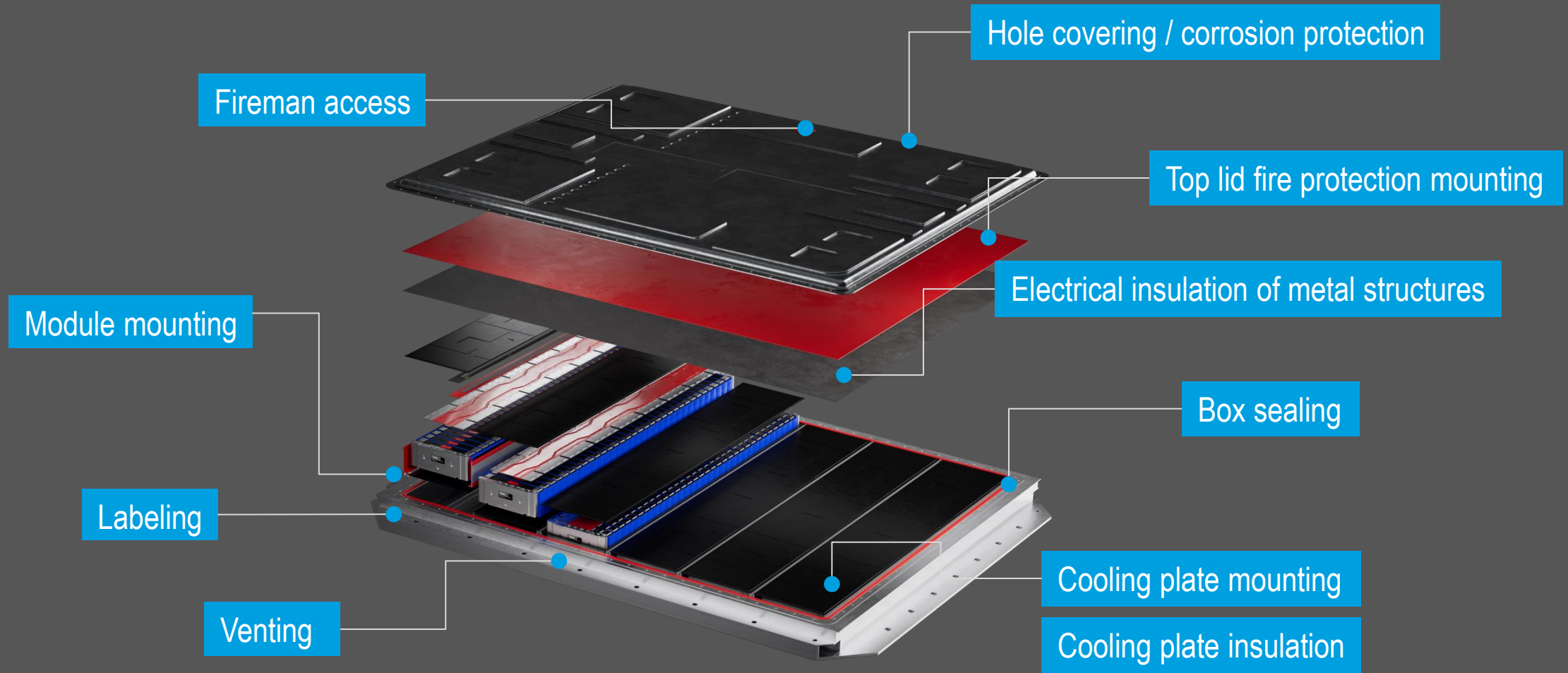
Applications on a battery pack level

Applications on a battery module level

Applications on cell types



Applications on a battery pack level



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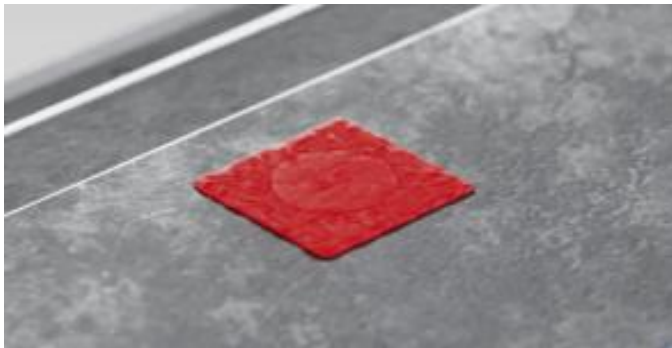
Fireman battery access

Your Challenge



Application requirements

- Seal of hole on top lid
- Strength of material to avoid puncture
- Prevent failure during fire event
- Keeps hole sealed during thermal runaway (>5min)
- Long term reliability in harsh environment



Our Solution



Product features

- High adhesion with soft layer
- High stiffness
- Temperature resistance up to 600°C
- Asymmetric design
- Ageing resistance



Application process

- Hole Covering



Back to Menu

View Hole Covering Assortment



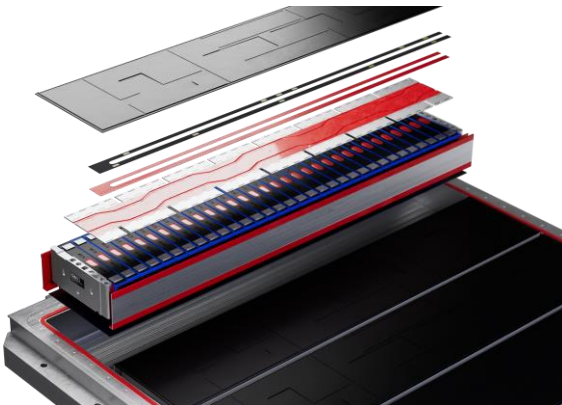
Module mounting

Your Challenge



Application requirements

- Reliability even in demanding environmental conditions
- Good thermal conductivity to enable cooling efficiency
- High adhesive reliability
- Apply on surface of wrapped cells
- Should not peel off or have bubbles when laminated



Our Solution



Product features

- High peel adhesion and holding power
- High thermal conductivity
- High aging resistance
- Broad thickness range
- Assortment available for lamination from rolls, die cuts or spools



Application process

- Lamination from rolls, die-cuts or spools



Back to Menu

View General Mounting Assortment 

Labeling

Your Challenge



Application requirements

- Tamper-proof label
- Customize to project requirements
- Reliable bonding
- Fully automated process



Our Solution



Product features

- Excellent tamper evidence
- High speed marking up to 4000 mm/s
- Heat resistance 120°C / 1000hrs and 250°C / 5min



Application process

- Automated laser labeling



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View Labelling Assortment



Venting

Your Challenge



Application requirements

- Reliable and precise pressure burst (200mbar +/- 50mbar)
- Sealing level from IP 67
- Long term reliability including salt spray
- Safety relevant
- Vibration resistance

Under Development



Back to Menu

Our Solution



Product features

- Design allowing precise pressure burst
- Sealing properties
- Adaptable to different hole designs
- Ageing resistance
- Highly reliable application



Application process

- Hole Covering

Hole covering / corrosion protection

Your Challenge



Application requirements

- Sealing of screw lids on cooling plate / battery plate
- Flexible material needed
- Flame-retardant
- Fulfill QUO25



Our Solution



Product features

- Flexible PET s/s tape
- Reliable sealing and corrosion protection
- Puncture resistance



Application process

- Hole Covering



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[View Hole Covering Assortment](#)



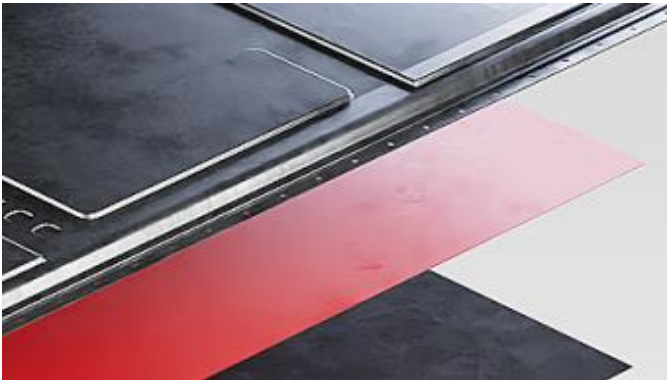
Top lid fire protection mounting

Your Challenge



Application requirements

- Low thickness
- Conformability
- Temperature resistance up to 1200°C
- Cell blast resistance
- Electric insulation > 5kV



Our Solution



Product features

- 1.2 mm thickness
- Flexible backing
- Temperature resistance up to 1200°C
- SVT test
- BDV > 12kV



Application process

- Lamination from roll



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View General Mounting Assortment 

Electrical insulation of metal structures

Your Challenge



Application requirements

- High breakdown voltage 5kV
- CTI minimum class 3A
- Reliable in demanding environmental conditions
- Superior bonding strength with anti-repulsion properties
- Process efficiency in lamination with optical detection



Our Solution



Product features

- Reliable electrical insulation backings like PET and PI
- High breakdown Voltage (8kV)
- CTI up to Class 1
- Different colors and thickness
- Superior bonding strengths and anti-repulsion properties
- Flame retardancy up to UL94VTM-0
- Long rolls up to 3000 meters available



Application process

- Lamination from roll



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View Metal Part Insulation Assortment



Box Sealing

Your Challenge



Application requirements

- Gap filling
- Sealing
- Resistance to thermal runaway
- Resistance to aging
- Automatic process



Our Solution



Product features

- Enables easy rework of battery within days by removing without residues
- High thickness solutions
- Watertight material combined with compression forces
- Temperature resistance up to 900°C
- Acrylic foam base material
- Spools available



Application process

- Robot head applicator



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View ACX^{plus} Box Seal Assortment



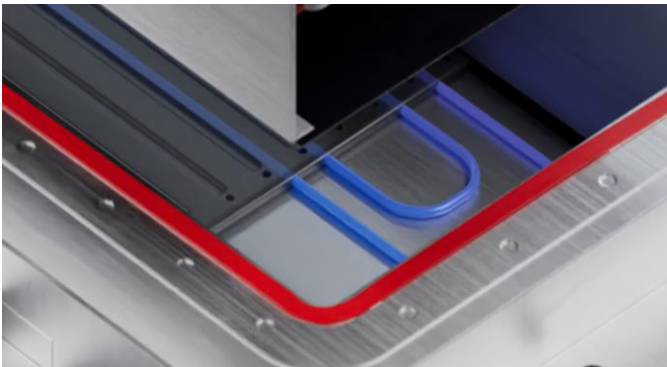
Cooling plate mounting

Your Challenge



Application requirements

- Proven reliability in demanding environmental conditions
- Good thermal conductivity to enable cooling efficiency
- High adhesive reliability
- Apply on surface of cooling plate
- Doesn't peel off or have bubbles



Our Solution



Product features

- High peel adhesion & holding power
- High thermal conductivity
- High aging resistance
- Broad thickness range
- Available for lamination from rolls



Application process

- Lamination from rolls die-cuts or spools



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View General Mounting Assortment 

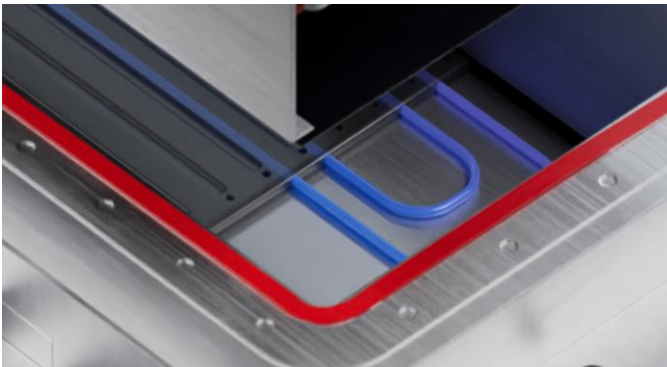
Cooling plate insulation

Your Challenge



Application requirements

- High breakdown voltage 5kV
- CTI minimum class 3A
- Reliable in demanding environmental conditions
- Superior bonding strength with anti-repulsion properties
- Process efficiency in lamination with optical detection



Our Solution



Product features

- Reliable electrical insulation backings like PET and PI
- High breakdown Voltage (8kV)
- CTI up to Class 1
- Different colors and thickness
- Superior bonding strengths and anti-repulsion properties
- Flame retardancy up to UL94VTM-0
- Long rolls up to 3000 meters available



Application process

- Die-cut and lamination from roll



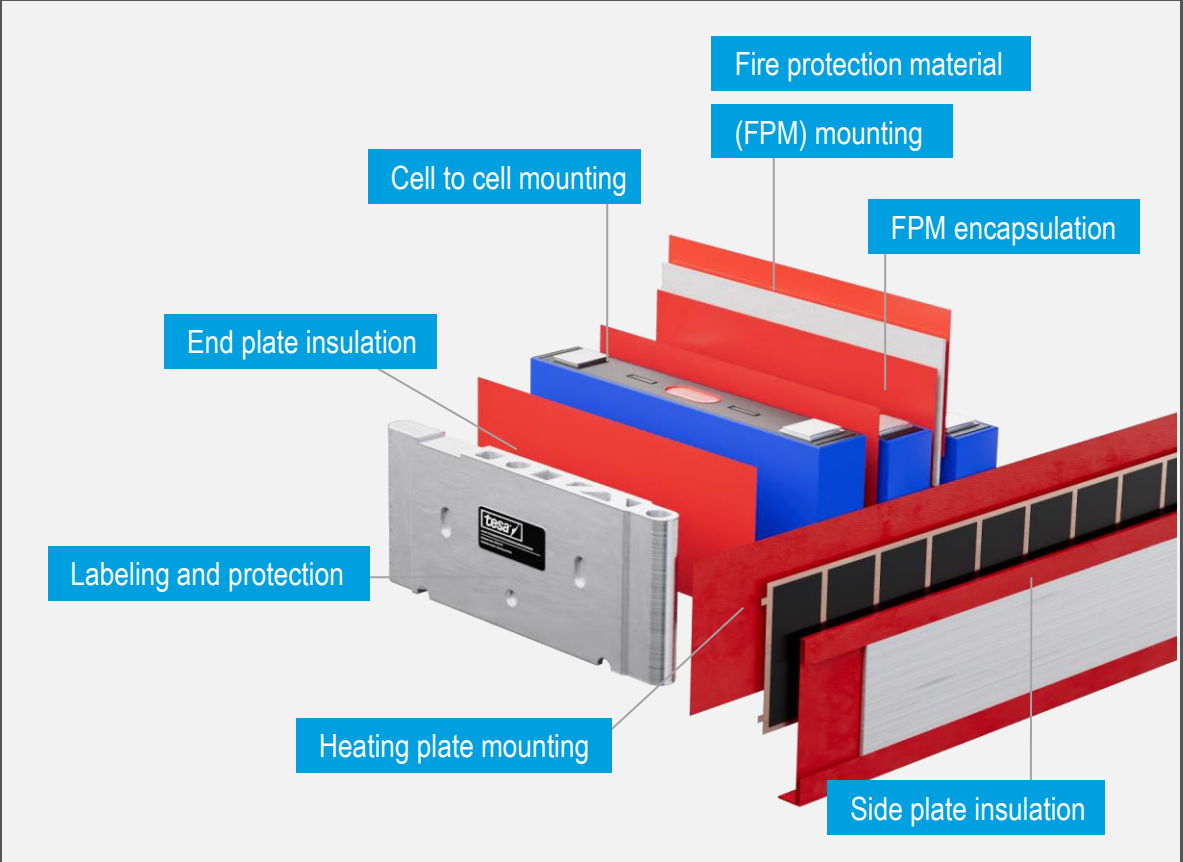
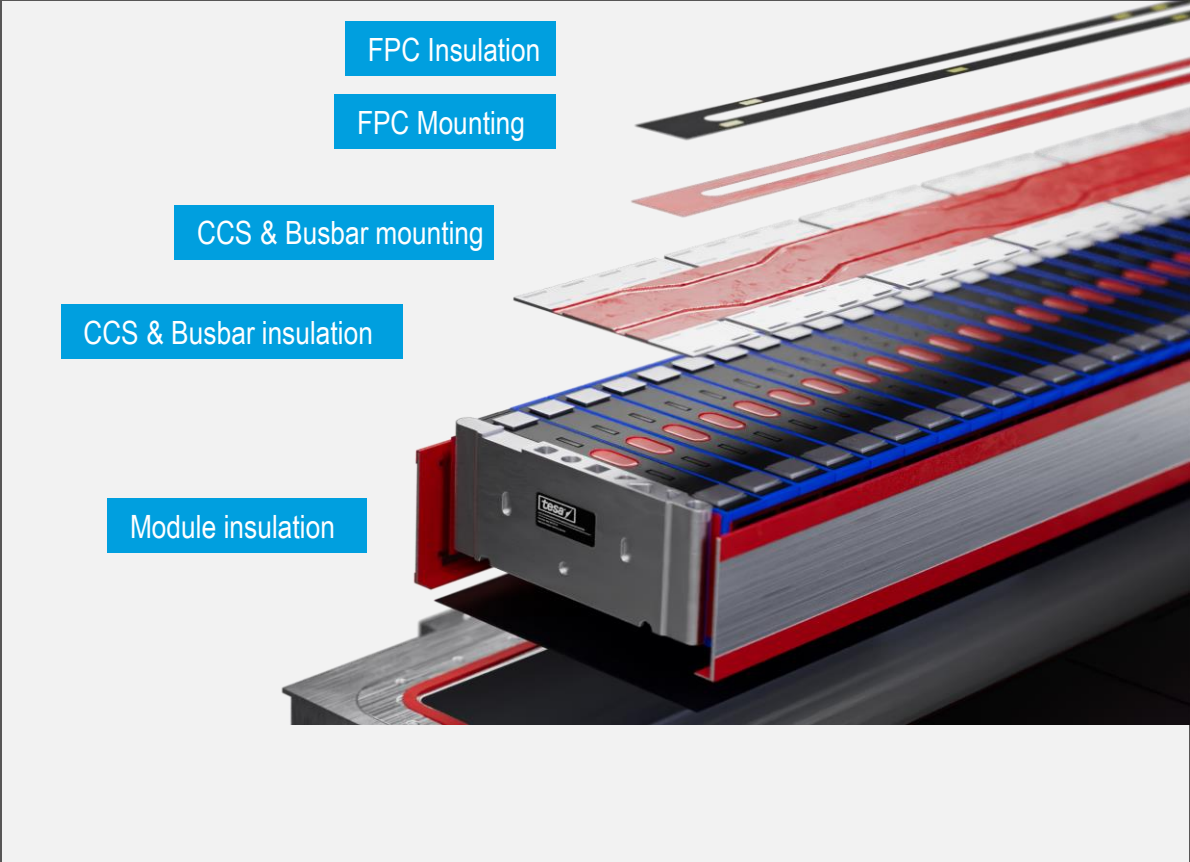
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View Metal Part Insulation Assortment



Applications on battery module level

Please choose



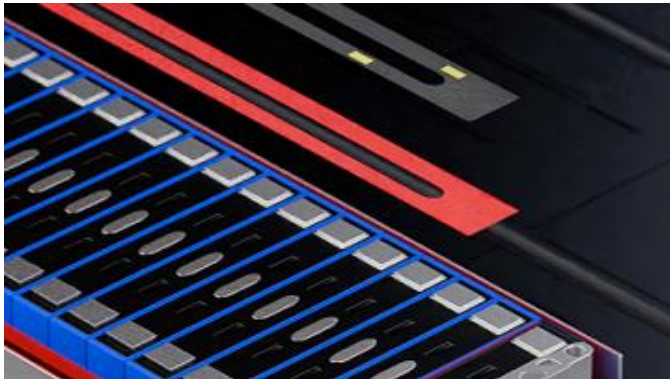
FPC Mounting

Your Challenge



Application requirements

- Proven reliability even in demanding environmental condition
- Easy to die cut
- High adhesive reliability
- Apply on the surface of PI/PC/ABS
- Should not peel of or have bubbles



Our Solution



Product features

- Peel adhesion >5.5N/cm after 72h
- High conformability for uneven surfaces
- Aging resistance up 1008hrs @ 125°C
- Good repulsion resistance
- High holding power and peel strength



Application process

- Die-cut and lamination from roll



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View General Mounting Assortment 

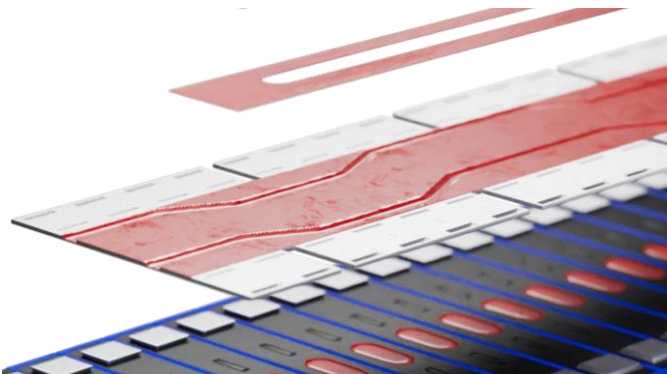
CCS & Bus bar mounting

Your Challenge



Application requirements

- Process efficiency in lamination and die-cutting
- Proven reliability even in demanding environmental conditions
- Design is CCS + d/s tape + Cylindrical battery, so insulation is needed



Our Solution



Product features

- Good peel strength and high dynamic shear between two polar substrates
- High breakdown voltage is 4kV
- Temperature resistance from -40°C to 120°C
- High conformability for uneven surface
- Good aging resistant



Application process

- Lamination



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View General Mounting Assortment 

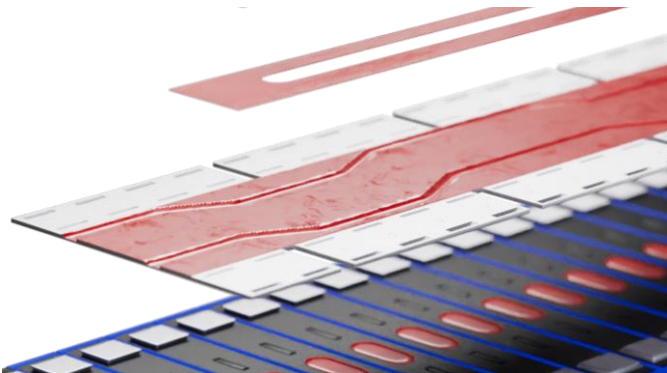
CCS & Bus bar insulation

Your Challenge



Application requirements

- Process efficiency in lamination and die-cutting
- Superior electrical insulation including sharp edges
- Proven reliability even in demanding environmental conditions
- Superior bonding strength with repulsion properties
- Can help prevent confusion



Our Solution



Product features

- Superior bonding strength and anti-repulsion properties
- Excellent mechanical resistance
- Temperature resistance (-40°C – 120°C)
- Different colors available



Application process

- Lamination



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View Metal Part Insulation Assortment



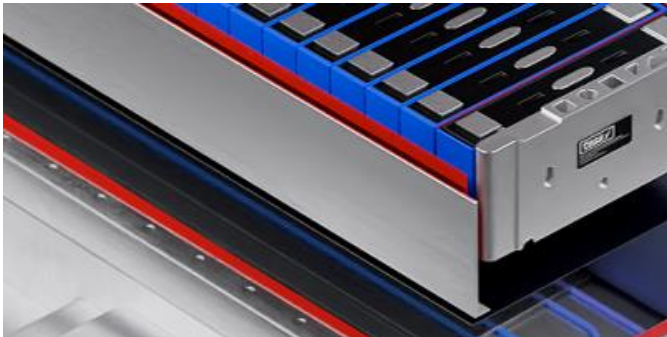
Module insulation

Your Challenge



Application requirements

- Superior electrical insulation including sharp edges
- High breakdown Voltage 5kV
- CTI minimum class 3A
- Proven reliability even in demanding environmental condition
- Superior bonding strength
- Residual free removal
- Process efficiency in lamination



Our Solution



Product features

- Reliable electrical insulation backings like PET and PI
- High breakdown voltage up to 8kV
- CTI up to Class 1
- Excellent mechanical resistance
- Superior bonding strength thanks to PSA acrylic and epoxy adhesive
- Long rolls up to 3000 meters



Application process

- Lamination from roll



Back to Menu

View Metal Part Insulation Assortment



Labeling and protection

Your Challenge



Application requirements

- Tamper-proof label
- Customized to project requirements
- Reliable bonding
- Fully automated



Our Solution



Product features

- Excellent tamper evidence
- High-speed marking up to 4,000 mm/s
- Heat resistance:
 - 120°C for 1000 hrs
 - 250°C for 5 min



Application process

- Automated laser labeling



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View Labelling Assortment



Heating plate mounting

Your Challenge



Application requirements

- Easy to die cut, no glue overflow
- Apply on heater without bubbles
- High adhesive reliability
- Proven reliability even in demanding environmental
- Apply on the surface of PI



Our Solution



Product features

- Good conformability, non-woven
- Adhesion Peel >4N/cm
- Aging resistance up 3000h @ 100°C
- Temperature resistance short time to 150°C
- Temperature resistance long time to 80°C



Application process

- Lamination from roll



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View General Mounting Assortment 

Side plate insulation

Your Challenge



Application requirements

- Superior electrical insulation including sharp edges
- High breakdown voltage from 5kV
- Proven reliability even in demanding environmental conditions
- Superior bonding strength with anti-repulsion properties up to 10MPa
- Flame retardancy up to UL 94VTM-0
- Process efficiency in lamination with optical detection



Our Solution



Product features

- Reliable electrical insulation backings like PET and PI
- High breakdown voltage up to 8kV
- CTI up to Class 1
- Excellent conformability to wrap edges
- Superior bonding strength and anti repulsion properties thanks to PSA acrylic or structural epoxy adhesive



Application process

- Lamination from roll



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View Metal Part Insulation Assortment



End plate insulation

Your Challenge



Application requirements

- Superior electrical insulation including sharp edges
- High breakdown voltage from 5kV
- Proven reliability even in demanding environmental conditions
- Superior bonding strength with anti-repulsion properties up to 10MPa
- Flame retardancy up to UL 94VTM-0
- Process efficiency in lamination with optical detection



Our Solution



Product features

- Reliable electrical insulation backings like PET and PI
- High breakdown voltage up to 8kV
- CTI up to Class 1
- Excellent conformability to wrap edges
- Superior bonding strength and anti repulsion properties thanks to PSA acrylic or structural epoxy adhesive



Application process

- Lamination from roll to die-cut



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View Metal Part Insulation Assortment



Cell to cell mounting

Your Challenge



Application requirements

- Gap filling
- When the car is in motion, the stability between the battery cells can be ensured
- Automatic process (die cut or spool)
- Absorb the stress generated by the volume change during charging and discharging
- After compression can rebound



Our Solution



Product features

- Acrylic foam tape, thickness 400 to 2000 µm
- Spools available
- Dynamic shear 1MPa
- Good processability for die-cutting
- Flame retardancy up to UL 94 VTM-0



Application process

- Lamination from roll to die-cut



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View General Mounting Assortment 

Fire protection material (Mica) mounting

Your Challenge



Application requirements

- Process efficiency in lamination and die-cutting
- Easily released without adhesive residue during application
- Automatic process
- Liner should not peel off when transporting Mica plate



Our Solution



Product features

- Very fast wetting performance on rough surface
- Low VOC
- Outstanding conformability
- Good initial peel strength
- High conformability for uneven surfaces



Application process

- Lamination from roll to die-cut



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[View FPME Assortment](#)



FPM encapsulation

Your Challenge



Application requirements

- Different levels of flame retardancy needed
- Lamination without bubbles
- Color without transparency
- Adhesion to brittle materials
- Adhesion to PET backing



Our Solution



Product features

- Excellent processability
- VTM-0 & VTM2 flame retardancy
- Different colors available
- Excellent adhesion to challenging substrates



Application process

- Wrapping



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[View FPME Assortment](#)



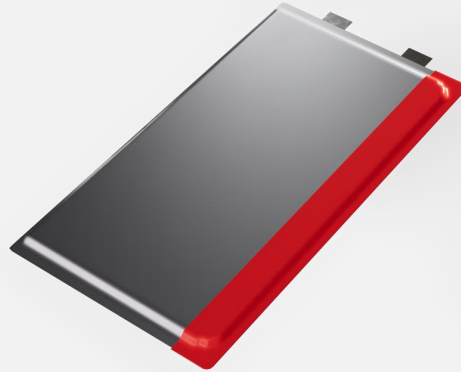
Application on cell types

Please choose

Prismatic



Pouch

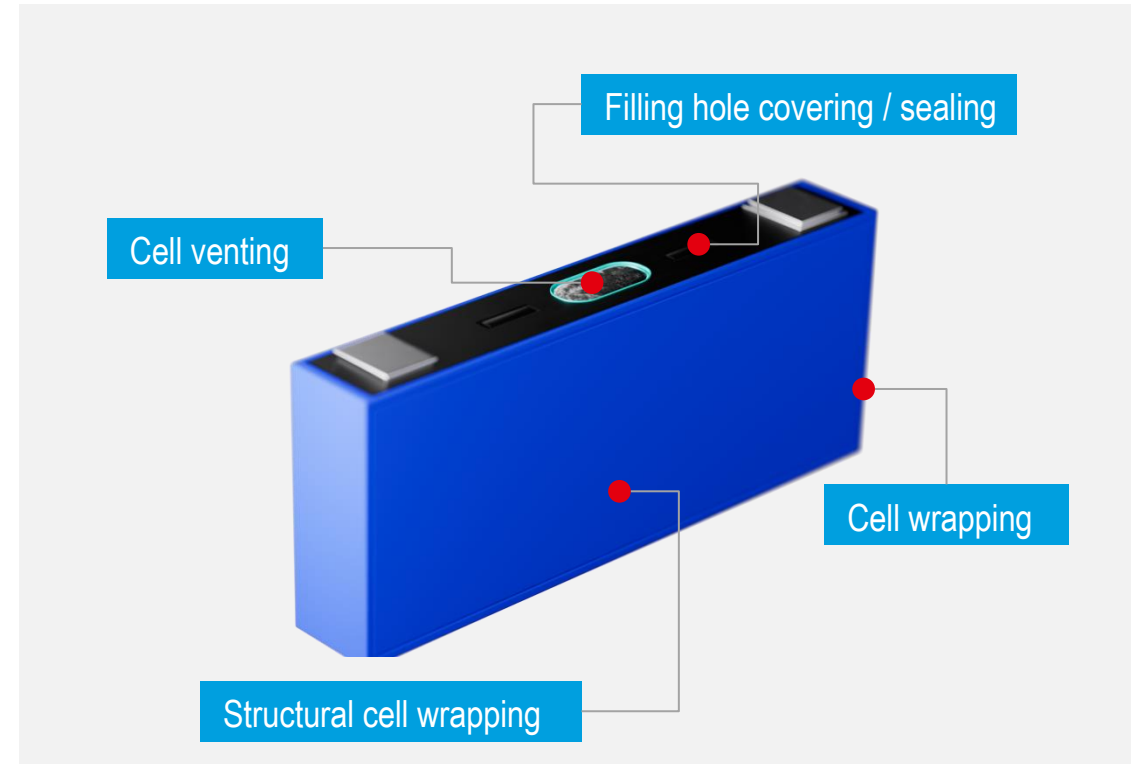
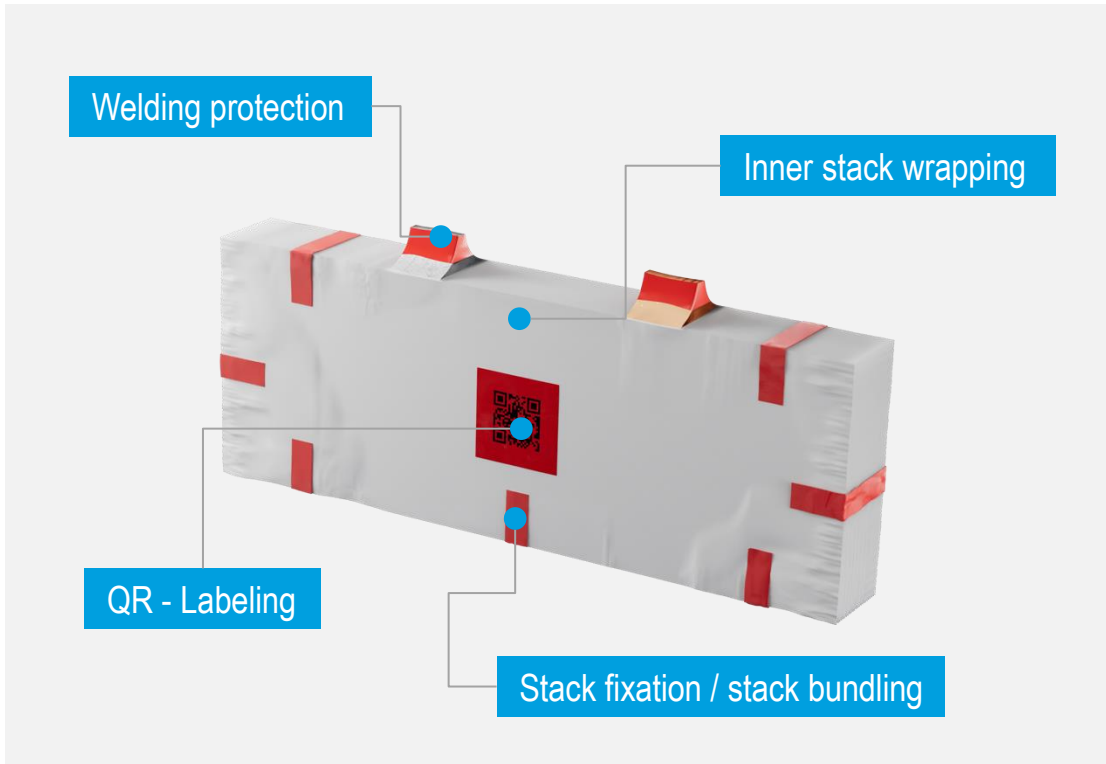


Cylindrical



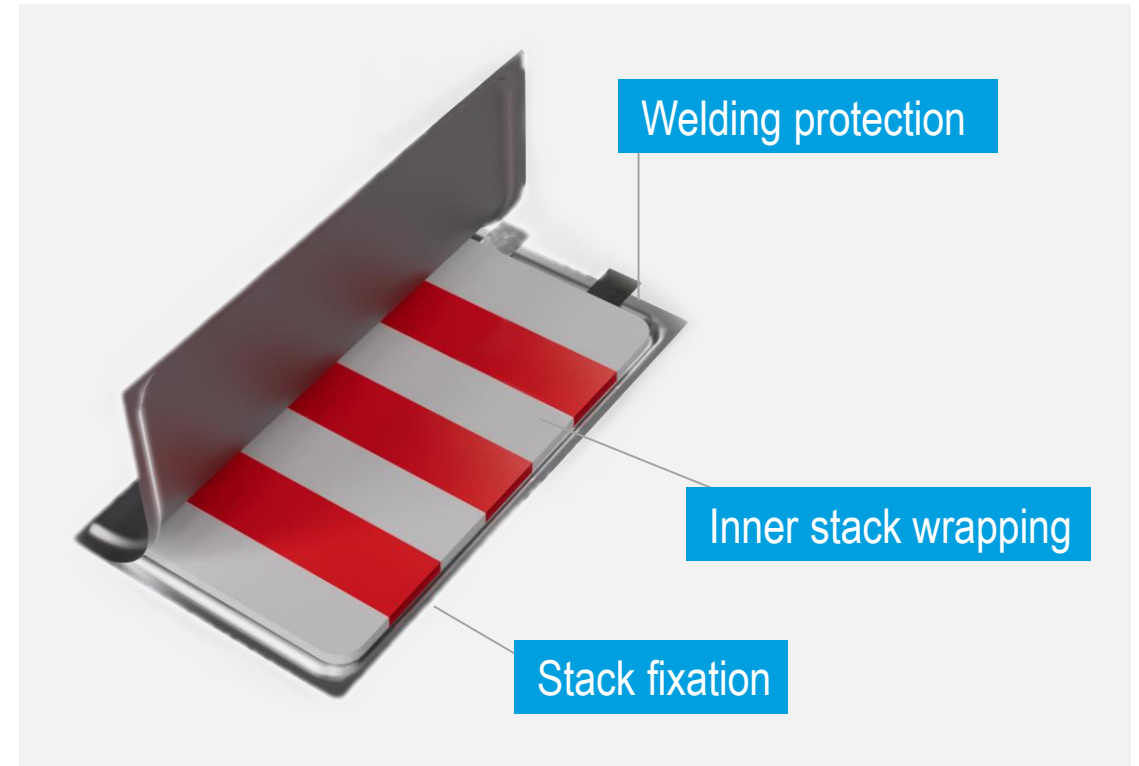
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Applications on cell level



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Applications on cell level



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Applications on cell level



Cell wrapping



Welding protection

Inner jelly roll wrapping



Separator fixation

Jelly roll fixation



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Welding protection

Your Challenge



Application requirements

- Electrolyte resistance
- Electrical insulation
- Technical cleanliness management, free from contamination
- PI backing needed for high temperature stability



Our Solution



Product features

- Electrolyte resistant acrylic adhesive
- PI backing needed for high temperature stability
- Production under technical cleanliness management VDA 19.1 & 19.2 / ISO 16232
- Different thicknesses available
- 1000m splice-free rolls



Application process

- Automatic roll dispenser



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View In-Cell Assortment



QR labeling

Your Challenge



Application requirements

- Electrolyte resistance
- Printable with laser
- QR readable by scanner
- Tape thickness of 25µm
- Max operational temperature from 140°C to 150°C



Our Solution



Product features

- Electrolyte resistant acrylic adhesive
- Production under technical cleanliness management according to VDA 19.1 & 19.2 / ISO 16232



Application process

- Automated laser labeling



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View Labelling Assortment



Inner stack wrapping

Your Challenge



Application requirements

- Electrical resistance
- Electrical insulation
- Technical cleanliness management, product free from particle contamination
- No lifting
- Colored and non-translucent; camera detection for fully automated application and positioning



Our Solution



Product features

- Electrolyte resistant acrylic adhesive formulations
- 500m splice-free rolls
- Production under technical cleanliness management according to VDA 19.1 & 19.2 / ISO 16232
- Different thicknesses available
- Maybe resistance to different electrolyte types



Application process

- Automatic roll dispenser



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[View In-Cell Assortment](#)



Stack fixation /stack bundling

Your Challenge



Application requirements

- Electrolyte resistance
- Camera detection for fully automated application and positioning
- Reliable adhesion on the separator film
- Excellent processability, tear resistance and unwinding force



Our Solution



Product features

- Electrolyte resistant acrylic adhesive formulations
- PP backings temperatures up to 80°C, PI backing 140°C
- Production under technical cleanliness management VDA 19.1 & 19.2 / ISO 16232
- Different Colors
- 500m splice free roll



Application process

- Automatic roll dispenser



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[View In-Cell Assortment](#)



Cell venting

Your Challenge



Application requirements

- Innovation for cell makers and lid suppliers



Our Solution



Product features

- Under development



Application process

- Hole Covering



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View Hole Covering Assortment



Structural cell wrapping

Your Challenge



Application requirements

- Superior electrical insulation including sharp edges
- Temperature range of -40°C to 80°C even after aging
- Mechanical resistance against abrasion and puncture
- Automated wrapping while avoiding bubbles



Our Solution



Product features

- Production under technical cleanliness management according to VDA 19.1 & 19.2 / ISO 16232
- Cutting-edge dynamic shear – enabling cell-to-pack architecture
- Excellent CTI and breakdown voltage
- Reactive structural adhesives
- Recycled backings



Application process

- Automatic cell wrapping



Back to Menu

View Structural Cell Wrapping



Filling hole covering / sealing

Your Challenge



Application requirements

- Electrolyte resistance
- Withstand pressure up to 7 bars
- Technical cleanliness management product free from particle contamination
- Clean removability without residues
- Camera detection for fully automated application, positioning and removal



Our Solution



Product features

- Electrolyte resistant acrylic adhesive
- High bonding strength acrylic adhesive
- Production under technical cleanliness management according to VDA 19.1 & 19.2 / ISO 16232
- Different die-cut dimensions available



Application process

- Hole Covering



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View Hole Covering Assortment



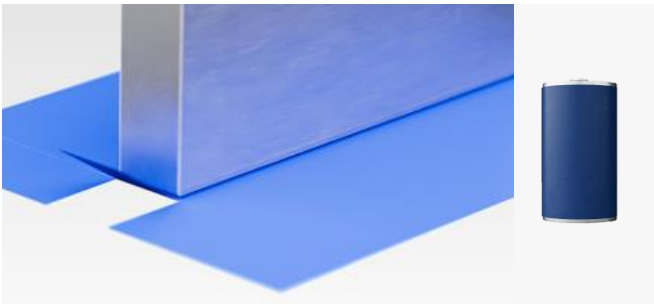
Cell wrapping

Your Challenge



Application requirements

- Superior electrical insulation including sharp edges
- High breakdown voltage from 3.5kV
- CTI minimum class 2
- Isolation shall have 180° peeling strength ≥ 0.6 N/mm to an Al3003-H14 metal
- Puncture strength ≥ 9.5 N
- Technical cleanliness
- The electrical and mechanical requirements of the outer isolation shall remain unchanged after testing



Our Solution



Product features

- Production under technical cleanliness management according to VDA 19.1 & 19.2 /ISO 16232*

Values according to VDA 19 with pressure rinsing method:

- no metallic shiny particles $> 200 \mu\text{m}$ (class H),
- no non-shiny particles (without fiber) $> 400 \mu\text{m}$ (class I)



Application process

- Automatic cell wrapping



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View Cell Wrapping Assortment



Edge fixation

Your Challenge



Application requirements

- Electrolyte resistance
- Colored and non-translucent camera detection for fully automated application
- Technical cleanliness
- Reliable adhesion
- Excellent processability



Our Solution



Product features

- Production under technical cleanliness management according to VDA 19.1 & 19.2 / ISO 16232
- Electrolyte resistant acrylic adhesive
- PP backing: up to 80°C
- PI backing: up to 140°C
- Different colors available
- Up to 500m splice-free rolls possible



Application process

- Automatic roll dispenser



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View Cell Wrapping Assortment



Inner jelly roll wrapping

Your Challenge



Application requirements

- Electrolyte resistance
- Colored and non-transfluent; camera detection for fully automated application and positioning; QR Code or DMC code laser writing reading



Our Solution



Product features

- Electrolyte resistant acrylic adhesive
- Production under technical cleanliness management according to VDA 19.1 & 19.2 / ISO 16232
- Thickness 25-45 μm , enabling increased space for active material
- Different colors available
- Up to 500m splice-free rolls possible



Application Process

- Automatic roll dispenser



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[View Cell Wrapping Assortment](#)



Separator fixation

Your Challenge



Application requirements

- Electrolyte resistance
- Thickness > 35 µm
- No color needed, transfer tape



Our Solution



Product features

- Electrolyte resistant acrylic adhesive
- Production under technical cleanliness management according to VDA 19.1 & 19.2 / ISO 16232



Application process

- Automatic roll dispenser



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View In-Cell Assortment



Jelly roll fixation

Your Challenge



Application requirements

- Electrolyte resistance
- Thickness > 35 µm
- Color must be detectable by vision system and can not be dissolve into electrolyte



Our Solution



Product features

- Electrolyte resistant acrylic adhesive
- Production under technical cleanliness management according to VDA 19.1 & 19.2 / ISO 16232



Application process

- Automatic roll dispenser



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View In-Cell Assortment



Hole Covering



Venting & Fire Protection

Product	tesa® <u>54332</u>
App. area	Protected areas near battery
App. time (Paint shop)	+
App time (Assembly)	+
Characteristics	Fire resistance for >5 min at 500C / excellent paint and UBC anchorage
Backing material	Aluminum laminated fiberglass cloth
Color	Silver
Adhesive	Thick acrylic foam
Thickness	1,010
Temp. resistance [C]	200
Puncture resistance [N]	400
Peel adhesion on steel [N/cm]	13
Stone chip resistance	•
Acoustic insulation	...
Paintability / UBC Compability	...
Sealing performance	...



Product	<u>tesa® ACX^{plus} 76730 Box Seal</u>
Layer	Two
Construction	Acrylic foam core with PU passivation layer
Color	Deep black
Available thicknesses [µm]	2800, 5600 (in development)
Application	Sealing of boxes of any kind in the car, e.g. battery box. Special feature: re-openability
Peel adhesion initial2 aluminum	4 N/cm
Peel adhesion 3d aluminum	5 N/cm
Peel adhesion initial2 steel	4 N/cm
Peel adhesion 3d steel	4 N/cm
Compression	20%-80%
Gap filling	2.2 mm – 0.6 mm
Sealing properties	IPX72
Reopening possible	after up to 5d3
Flame resistance	1050 °C4
Air leakage test	50 mbar



General mounting



Product family		General Mounting	High Dynamic Shear	Rough Surface Mounting	Flame Retardant	Primerless	Debond on Demand
Application		FPC mounting Module busbar mounting	Cell to cell mounting PC plate mounting	Mica mounting Ceramic fiber mounting	*mounting when customer require FR as added value	Mounting of LSE substrates	Enables repair & recycle. suitable for bonding heavy components
Adhesive		Modified acrylic	Modified acrylic	WB acrylic	Modified FR acrylic		Synthetic rubber
Color		Transparent	Transparent	Transparent	Transparent		Deep black
Thickness	50 µm		tesa® 58360	tesa® 58332	tesa® 58372		
	75 µm	tesa® 58323					
	80 µm				tesa® 58373		
	100 µm	tesa® 58361	tesa® 58362	tesa® 58334	tesa® 58374		
	130 µm				tesa® 58375		
	150 µm		tesa® 58363	tesa® 58335			
	200 µm	tesa® 4965	tesa® 58364		tesa® 45199		
	300 µm		tesa® 58366 (white)				
	500 µm	tesa® 7805				tesa® 64905, tesa® 77805	tesa® 76565
	800 µm				tesa® 45001	tesa® 64908, tesa® 77808	
	1,000 µm				tesa® 45010		
	1,100µm, 1,200µm					tesa® 77811, tesa® 64912	
Features		Reliability	> 2 MPa	Fast dwell	UL 94 VTM 0	No primer	Stretch release



Product Name	tesa® <u>58315</u>	tesa® <u>58316</u>	tesa® <u>58337</u>	PI Prototype
Thickness	35µm	35µm	45µm	30µm
Backing Thickness	23µm	23µm	23µm	12,5µm
Backing	PP	PET	PP	PI
Adhesive	w/b acrylic	w/b acrylic	w/b acrylic	w/b acrylic
Color	blue	tawny	light blue	amber
Liner	no	no	no	no
Adhesion to Steel	1.7	1.9	2.4	2
Tensile Strength	35	40	35	25
Elongation at Break	≥ 100	≥ 100	≥ 100	22
Electrolyte resistance	✓	✓	✓	✓



Cell wrapping



Product Name	tesa® <u>58330</u>	tesa® <u>61001</u>	tesa® <u>61002</u>	tesa® <u>61003</u>	tesa® <u>58338 PV2</u>	tesa® <u>58338 PV1</u>	tesa® <u>58352</u>	tesa® <u>58331</u>	tesa® <u>58347</u>
Thickness w/o liner	55µm	56µm	56µm	56µm	75µm	85µm	85µm	85µm	110µm
Backing Thickness	23µm	36µm	36µm	36µm	50µm	50µm	50µm	55µm	2x23µm
Adhesion to Steel	7 N/cm	3.5 N/cm	3.2 N/cm	3.2 N/cm	4.2 N/cm	4.5 N/cm	4.5 N/cm	7 N/cm	4.1 N/cm
CTI adhesive side	I	I	I	I	I	I	I	I	I
CTI backing side	IIIa	II	II	II	II	II	II	IIIa	I
Liner removal force		≤ 40 cN/cm	-	-	≤ 40 cN/cm	≤ 40 cN/cm	≤ 40 cN/cm		≤ 10 cN/cm
Breakdown voltage	≥5.5 kV	≥ 6.0 kV	≥ 6.0 kV	≥ 6.0 kV	≥ 7.0 kV	≥ 7.0 kV	≥ 7.0 kV	≥8.5 kV	≥ 9.0 kV
Tensile strength		≥ 50 N/cm	≥ 50 N/cm	≥ 50 N/cm	≥ 50 N/cm	≥ 50 N/cm	≥ 50 N/cm		≥ 60 N/cm
Elongation at break	≥70%	≥ 80%	≥ 80%	≥ 80%	≥ 80%	≥ 80%	≥ 80%	≥90%	≥ 50%
Edge-lifting test		✓	✓	✓	✓	✓	✓		✓
Reworkability		+	+	+	+	+	+		+
Shrinkage		≤ 3.0%	≤ 3.0%	≤ 3.0%	≤ 3.0%	≤ 3.0%	≤ 3.0%		≤ 3.0%



← Return

Launch in Q2 2025

Product Name

tesa® 58656

Thickness w/o liner

105 µm

Backing Thickness

50 µm

Adhesion to aluminum

>5 N/cm

Breakdown voltage

>8.5 kV

Tensile strength RT

>7 MPa

Tensile strength -40°C

>10 MPa

Dynamic lap shear RT

>10 MPa

Dynamic lap shear -40°C

>10 MPa



← Return

Metal part insulation



Product Name	tesa® <u>58377</u>	tesa® <u>58351</u>	tesa® <u>58344</u>	tesa® <u>58357</u>	tesa® <u>58358</u>
Thickness w/o liner	50µm	73µm	90µm	100µm	220µm
Backing	PET	PET	PET	PET	PET
Backing Thickness	23µm	23µm	75µm	50µm	100µm
Adhesive	FR acrylic	mod. acrylic	mod. acrylic	mod. acrylic	mod. acrylic
Color	white	transp.	blue	transp.	black
Liner	Paper	Glassine	PET	PET	Paper
Liner color	white / red logo	yellow	transp.	transp.	white
Origin	GC	GC	GC	GC/EU	EU



Product		tesa® <u>6930</u>
Category		Rapid
Backing		Two-layer acrylic
Available colors		White glossy / black
Product version		8
Thickness w/o release paper		120
Standard adhesive		Yes
Release paper		122 coated paper
Tamper evidence		Excellent
Heat resistance		120°C / 1000hrs and 250°C / 5min
High-speed marking up to 4,000 mm/s		Yes
Suitable laser hardware		Nd:YAG, CO ₂



Fire protection material encapsulation



Product	tesa® <u>58377</u>	tesa® <u>58381</u>
Adhesive	FR acrylic	FR acrylic
Backing	PET	PET
Available colors		White
Liner thickness	25 µm	25 µm
Thickness w/o release paper	25 µm	25 µm
Adhesion to Aluminum (after 14 days)	6.5 N/cm	6 N/cm
Adhesion to aluminum (initial)	5.6 N/cm	5 N/cm
Adhesion to ASTM (after 14 days)	7.3 N/cm	6.5 N/cm
Adhesion to ASTM (initial)	6.7 N/cm	5.6 N/cm
Breakdown voltage	6000V	6000V
Elongation at break	131.9%	111.5%
Tensile strength	32.2 N/cm	39.9 N/cm
Temp. resistance	125°C	





Innovation for the battery of the future

For CTP & CTC: Structural cell wrapping

For Safety: Cell venting

For Sustainability: Debonding technologies

For Cost Reduction: Process development



Innovations for CTP & CTC: structural cell wrapping

Structural adhesives for Cell-to-Pack (&CTC) design

Our **cutting-edge UV epoxy tape** enables **structural bonding** of cells with reliable electric insulation performance.

- **Structural integrity**
through high bonding performances
- **Highest electrical insulation safety**
across entire cell surface and edges
- **High process integration efficiency**
by usage of existing wrapping production lines
- **Low capital investment and process risk**
by usage of existing wrapping production lines
- **Highest application speed and yield**
activation time of <2 seconds

Cell wrapping with
UV epoxy tape



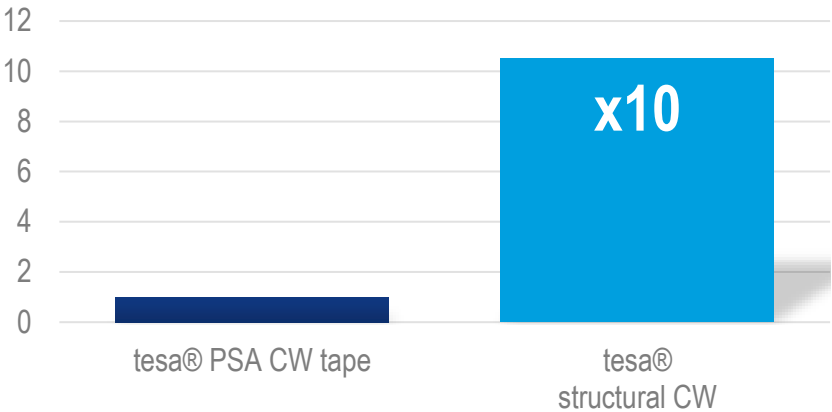
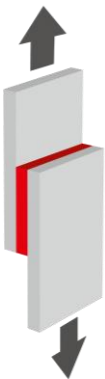
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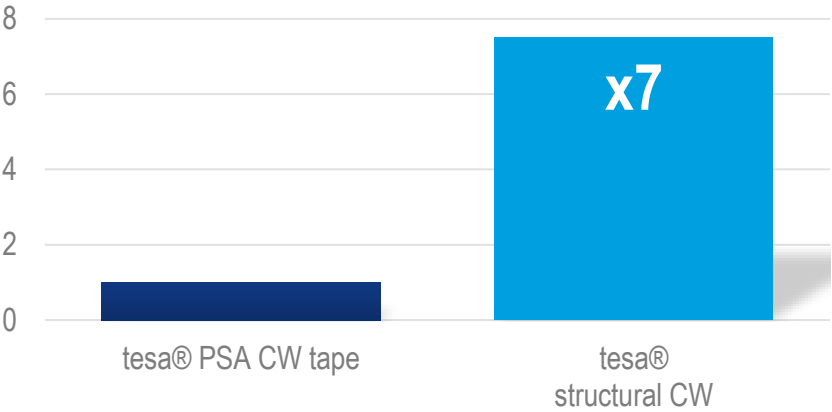
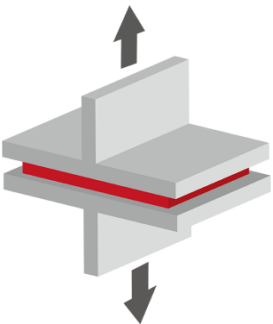


Structural vs. standard cell wrapping tape

Shear strength
[MPa]



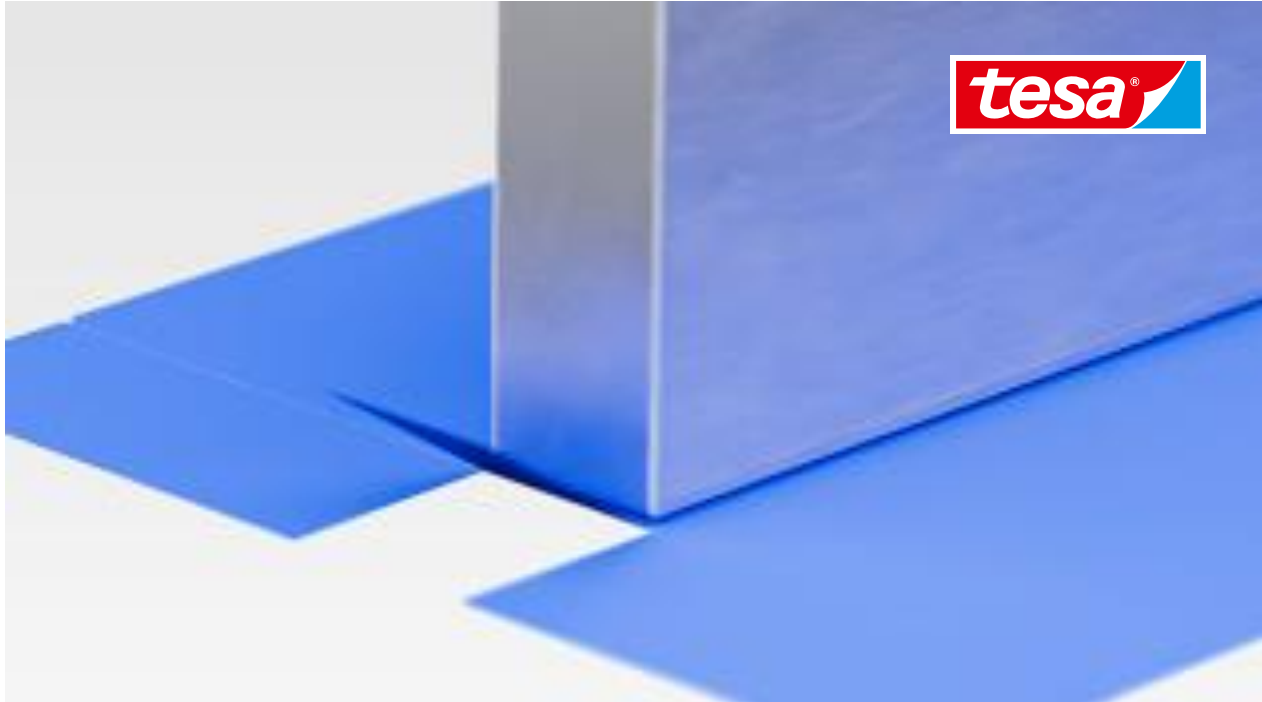
Tensile strength
[MPa]



Structural cell wrapping tape - features



- 50 µm PET liner
- 55 µm UV-Epoxy adhesive
- 50 µm blue PET backing



Dynamic lap shear RT:	>10 MPa
Tensile strength RT:	>7 MPa
Breakdown voltage:	>8.5 kV
Peel adhesion to Alu:	>5 N/cm
Open time:	15 min
Rework ability:	residue-free removal

Cell venting

Under development

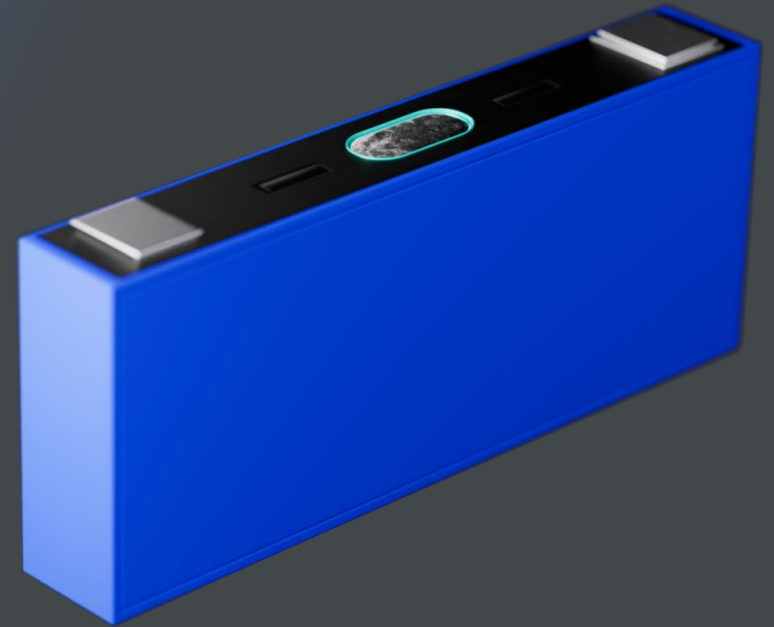
Opening pressure of up to 15 bar with low tolerances

Application process for fast cycle times

Avoiding laser welding → cleanliness, no metal particles

High performance, electrolyte resistant adhesive

Improving yield, quality and durability while allowing for excellent integration into existing manufacturing process



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Innovations for sustainability

... by enabling



Rework

Correcting defective items during production



Repair

Replacing or restoring a broken part in the life cycle



Recycle

Regaining raw materials at the end of the life cycle



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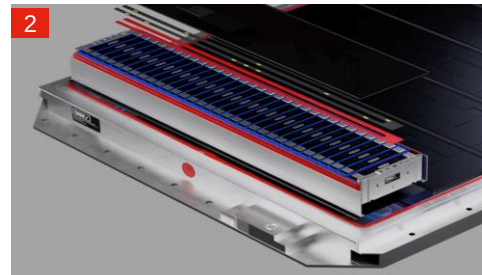


Innovations for sustainability

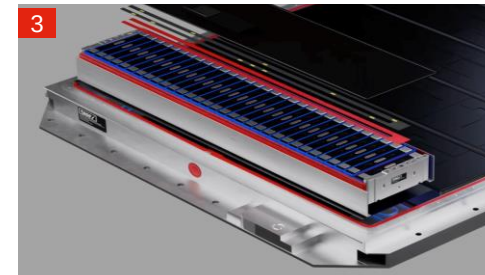
Adhesive tape solutions that drive EV battery sustainability by enabling rework ability, repairability and recyclability



Battery Pack Sealing with tesa® Box Seal



Mounting of components with tesa® Bond and Detach



Structural Bonding and Debond-on-Demand



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Automated sealing of battery packs
for electric vehicles with
tesa® Box Seal adhesive tape



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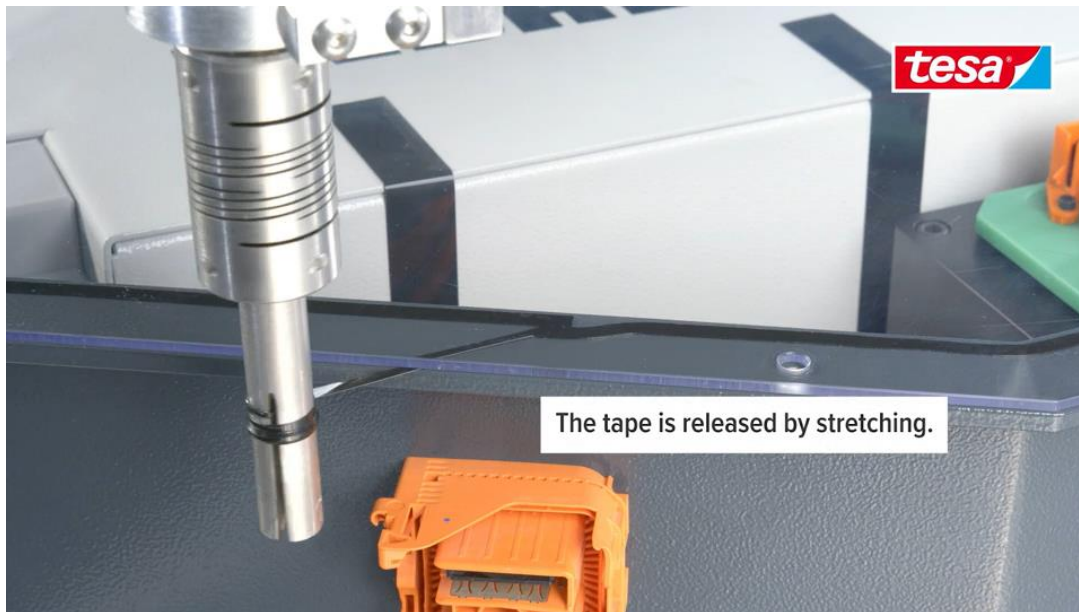
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Innovations for sustainability tesa® Bond and Detach

Mounting of components with tesa® Bond and Detach



The tape is released by stretching.

Bond



Temperature resistant
Durable up to
120 °C



High bonding power
>1.5 MPa shear strength



Aging resistant
Performs during
automotive aging cycles

& Detach



Simple & fast
Debondable even after
automotive aging cycles



Residue free
No cleaning
required after
debonding



Damage free
No solvents or
temperature
required for
detaching



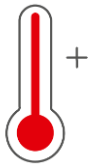
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Innovations for sustainability: Structural bonding with debonding feature

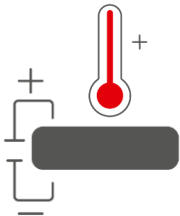
In Development with OEMs



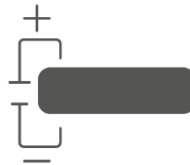
Direct heat
debonding



Electro-magnetic
induction debonding



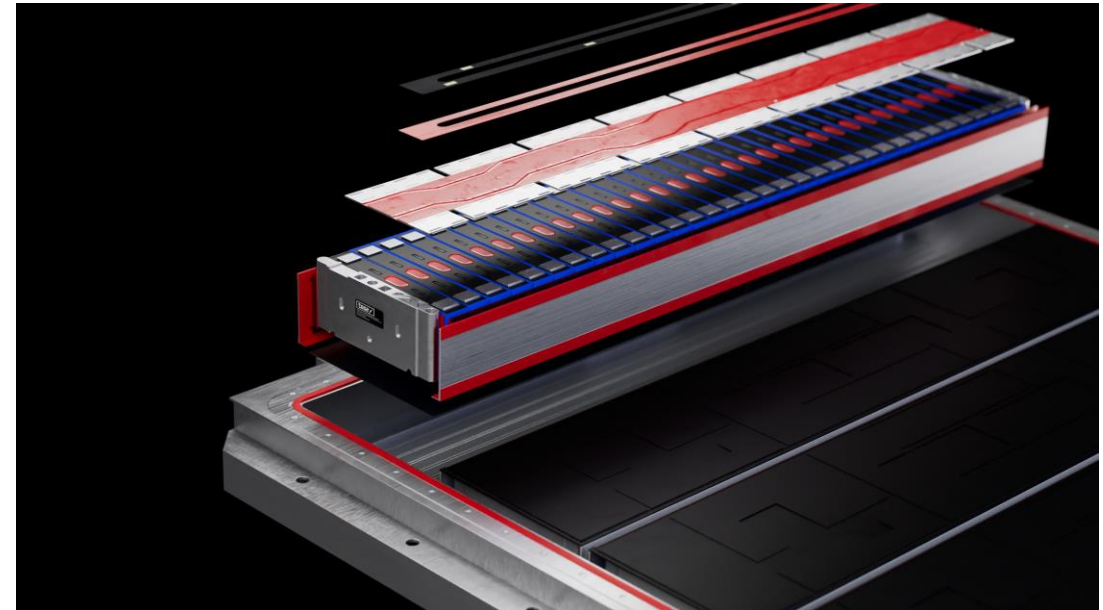
Joule heating
debonding



Electrically
debonding tapes

- > 6 MPa Structural Bonding Strength
- < 0.2 MPa after Debonding is Triggered

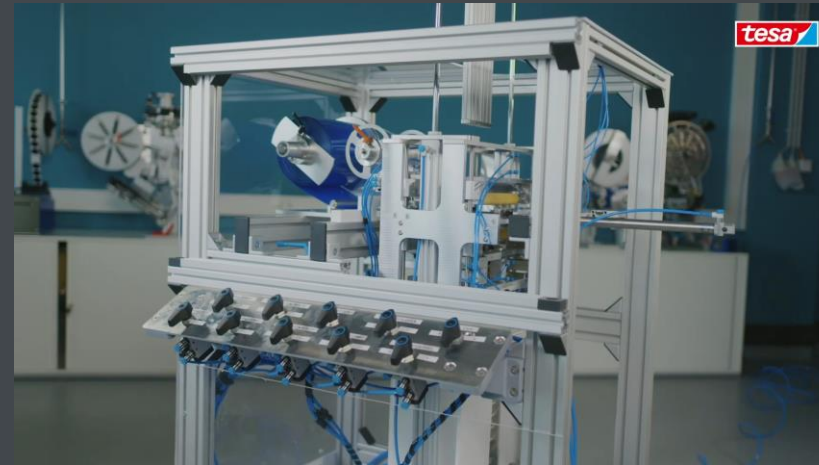
Structural Bonding with Debonding feature



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Innovations for cost reduction

by tape application process development



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Testing and application process support

We engineer tape application processes

Process automation concepts tailored to your needs



A close-up photograph of a complex industrial machine used for applying tape. The machine is made of polished metal and features various rollers, guides, and a cutting mechanism. A blue tape is being fed through the machine. The background is a blurred industrial setting.

We engineer tape application processes

Dedicated application support for your needs; in Europe, in Asia and in North America.

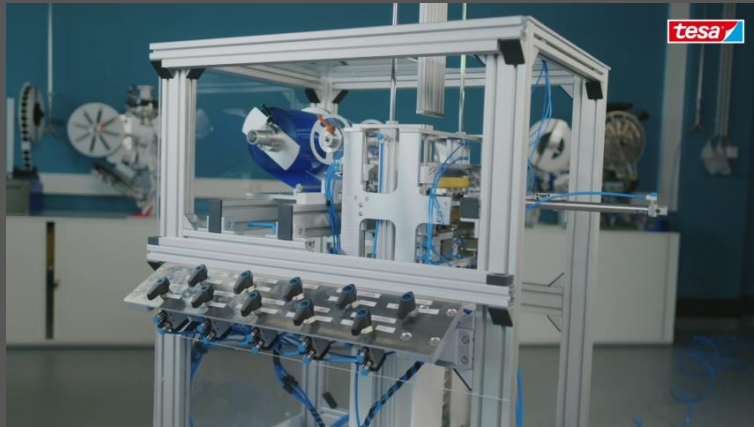
- We develop state-of-the-art tape application processes with full automation to be integrated for mass production in EV Battery industry. We develop shortest cycle times and highest efficiency rates.
- We support our customers with tape integration in existing industrial installations, as well as in ramp-up process with brand new equipment.
- We support our customers with a dedicated team of technical experts from product and process perspectives.



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Process automation concepts tailored to your needs

Cell wrapping



Battery pack sealing



Battery venting



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More sustainable products

Our commitment to innovation

How tesa® products can create added
value in sustainability (1)

How tesa® products can create added
value in sustainability (2)



Our commitment to innovation

tesa is increasingly employing its expertise for more sustainable adhesive solutions and products

because we are convinced that the quality of modern adhesive applications is being defined by their sustainability to an ever more significant degree.



We invest in forward-looking innovations in the field of research into and the development of

- Recycled,
- recyclable,
- and bio-based raw materials,
- solvent-free processes and opportunities for the complete recovery of solvents.



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How tesa® products can create added value in sustainability

1. Production

We ensure that energy and resource consumption in our factories is as efficient as possible. We want production to be completely climate-neutral by 2030 (Scope 1 and 2)*.

2. Procurement

We strive for complete transparency in our supply chains and are increasingly selecting our suppliers based on whether they share our high sustainability standards.

3. Development

When selecting elements for products, we are always on the lookout for more sustainable solutions, though never at the expense of high product quality. **This is the most important factor at tesa.**

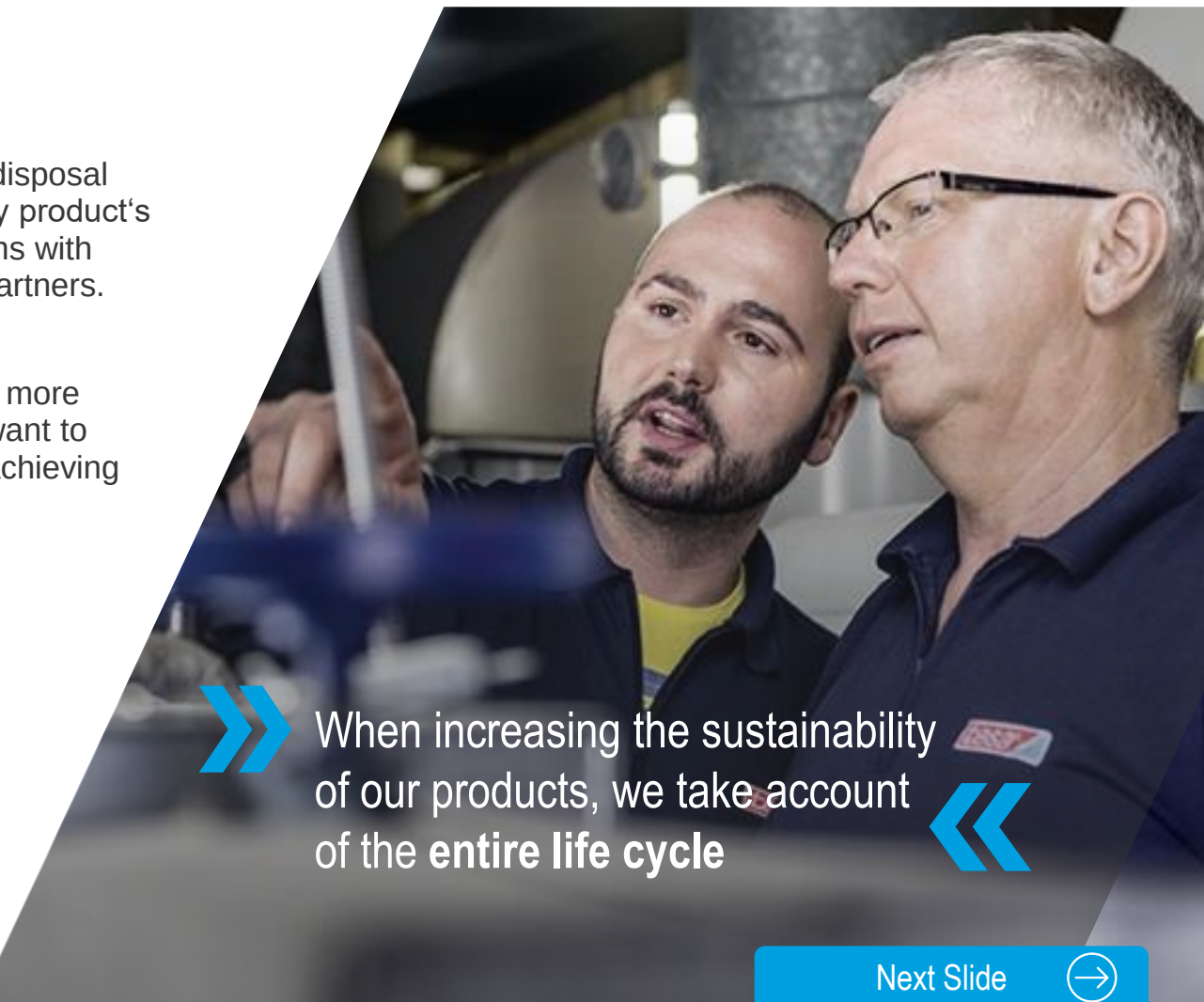
4. Disposal

We look for recycling and disposal options for the end of every product's life and create joint solutions with industrial customers and partners.

5. Product use

By expanding our range of more sustainable products, we want to support our customers in achieving their sustainability targets.

* Scope 1 emissions are emissions from sources for which the company is directly responsible or which it controls directly; Scope 2 emissions are indirect greenhouse gas emissions from purchased energy.



» When increasing the sustainability of our products, we take account of the entire life cycle «



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How tesa® products can create added value in sustainability

Rework: tesa® technologies enable rework at our customers, improving efficiency and reducing scrap rates. This helps to reduce costs.

Repairs: tesa® products that can be used to repair things, ensure that these things can be used for longer. This helps to reduce waste.

Recyclability: Many of our solutions enable components to be separated from one another again so that they can be recycled. This helps our customers to save resources.

Energy efficiency: Adhesive solutions can replace the screw and welded connectors and so reduce the weight of products like cars, which then require less energy to power them.



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Who are we?

Why work with tesa?

Strong partner of the automotive industry

Various tape applications for automotive

With us, e-mobility drives forward

Our competencies



We are a strong partner of the automotive industry

With our global network and deep technical expertise, we help our automotive customers improve quality and safety, reduce weight, and generate new efficiencies across the entire production process. We provide our expertise and solutions in key automotive areas.



Attachment part mounting

Automation

Batteries for electric vehicles

Cable mounting

Displays

Design masking

Glass

Hole covering

Mirrors

Paint protection

Seals

Seam sealing

Security labels

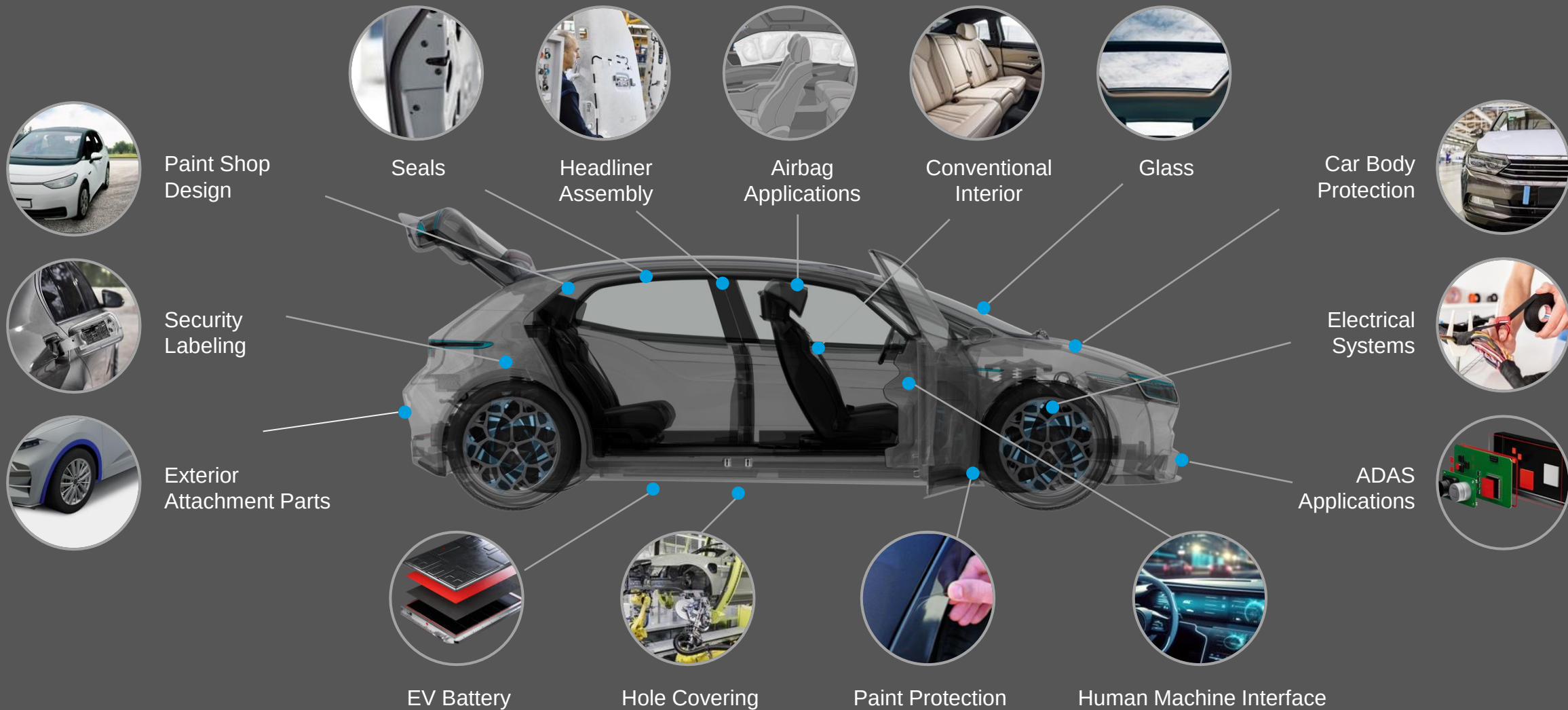
Surface protection

Wire harnessing



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Various tape applications for automotive



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A close-up photograph of a white electric vehicle (EV) charging cable plugged into a charging station. The station's circular port is illuminated with a bright blue light. The cable has a black handle with "EV" written on it. The background is a blurred view of the car's side.

With us, e-mobility drives forward

We support the automotive industry in its transformation

- **Higher performing:** we enable CTP and CTC designs with structural adhesive technology
- **Saver:** we provide innovative solutions for emergency venting of cell and pack
- **More sustainable:** we enable rework, repair and recycle with our Debond on Demand (DoD) technology



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Why work with us?

Local for local

We provide global support with full continental footprint.

We have regional R&D, production and customer solution centers, close to your locations.

In North America, Europe, Asia Pacific and China.



Real innovation for the EV Battery

We continuously develop new tape solutions and deliver innovations for increased battery performance, safety and sustainability.

And of course, also for lower battery cost.



Experienced in EV battery applications

We have worked with most of OES and OEMs globally on battery projects and can help our customers to take design decisions.

We co-develop to bring innovation to the EV Battery and we offer technical support to bring new applications to life.



Engineering tape application processes

We don't stop with the tape. We develop state-of-the-art tape application processes with full automation to be integrated for mass production in EV Battery industry.

We support you with your industrial ramp-up on site.



Pioneer in sustainability

We commit to a sustainable transformation through innovation.

We develop solutions to make batteries more sustainable by enabling rework, repair & recycling.

We develop recycled, recyclable and bio-based raw materials.



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In the region, for the region

Local for local - tesa EV Battery footprint



For customer proximity

For faster development and optimal availability

For shorter supply chain and reduced CO₂ emission

For global programs to be rolled out in every region

For geo-political and supply chain risk mitigation

North
America

Europe

China

Asia
Pacific

Plant Sparta, USA
since 1982



Plant Hamburg, Germany
since 1971



Plant Concagno, Italy
since 1990



Plant Suzhou, China
since 2005



Plant Haiphong, Vietnam
start 2023



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125 years of Innovation. Experts in adhesive technology

We invest more than 5% of our turnover into development of new products and technologies

More than 500 tesa chemists, physicists, and engineers in Germany, China, and the USA – are driven by the challenge to convert ideas into new products and system solutions.

We use our knowledge about adhesive solutions and expertise in application processes to bring innovation to EV battery manufacturing.



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We bring innovation to the EV Battery

Improving Battery PERFORMANCE

CTP and CTC battery architectures enabled by Structural UV Epoxy Cell Wrapping tape technology

Improving Battery SUSTAINABILITY

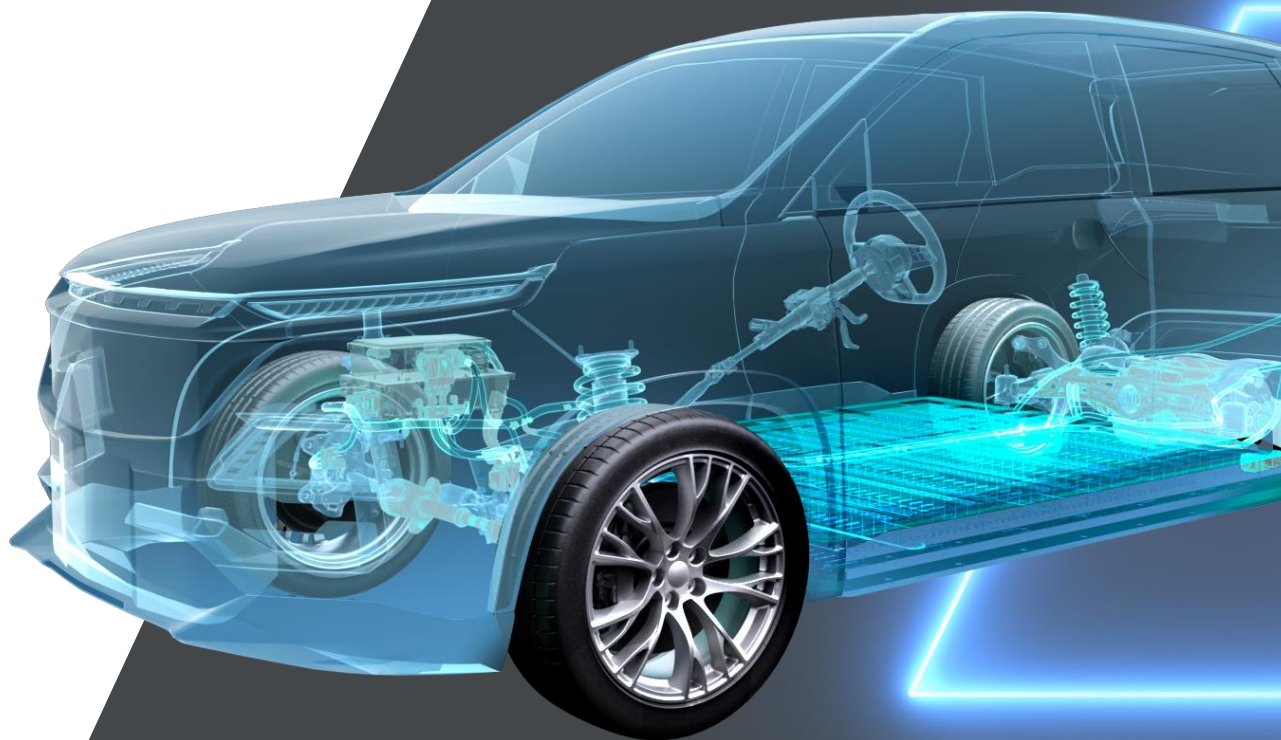
Rework, Repair and Recycling enabled by Debond-on-Demand (DoD) technology

Improving Battery SAFETY

Improved cost, volume and process for emergency venting solutions with tesa® VentGuard technology

Reducing Battery COST

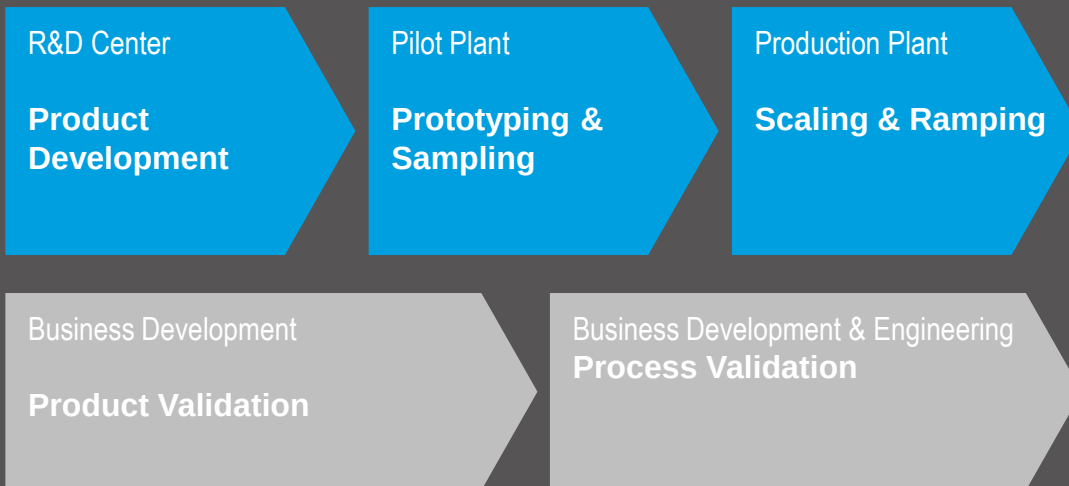
Improving automation processes, design-to-cost engineering



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We master adhesive tape applications in EV Battery
through a world-class ecosystem in the industry

SOP Management



We work closely with most of top global players in EV Battery industry

- OEMs, cell manufacturers, and battery component manufacturers.
- We know the relevant tape application requirements globally and we keep close and frequent technical discussions with all our customers.
- We have established technology building blocks that enable us to rapidly develop any tailored solution for your application.
- We built a world-class ecosystem thanks to technical collaboration with top leading players in the EVB industry, such as: Fraunhofer FFB, University of Münster, Plasmatreat, Sejong, Kuka, Liebherr, Vulkan Technic, Siscodata, etc. This ensures our tape will work on your process.



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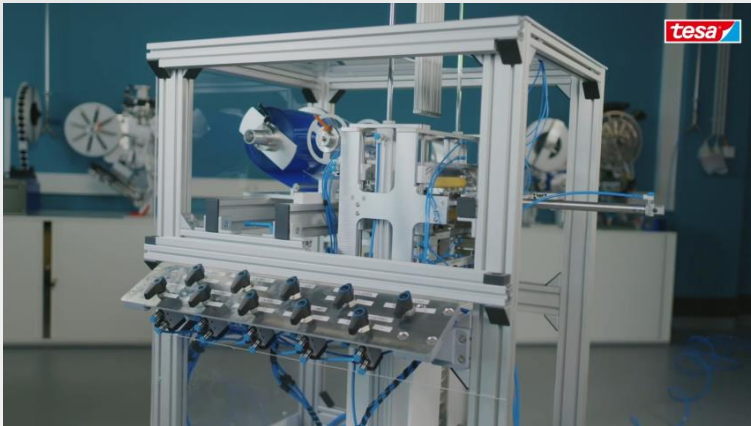
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Battery application engineering center

Cell wrapping



Battery pack sealing



Battery venting



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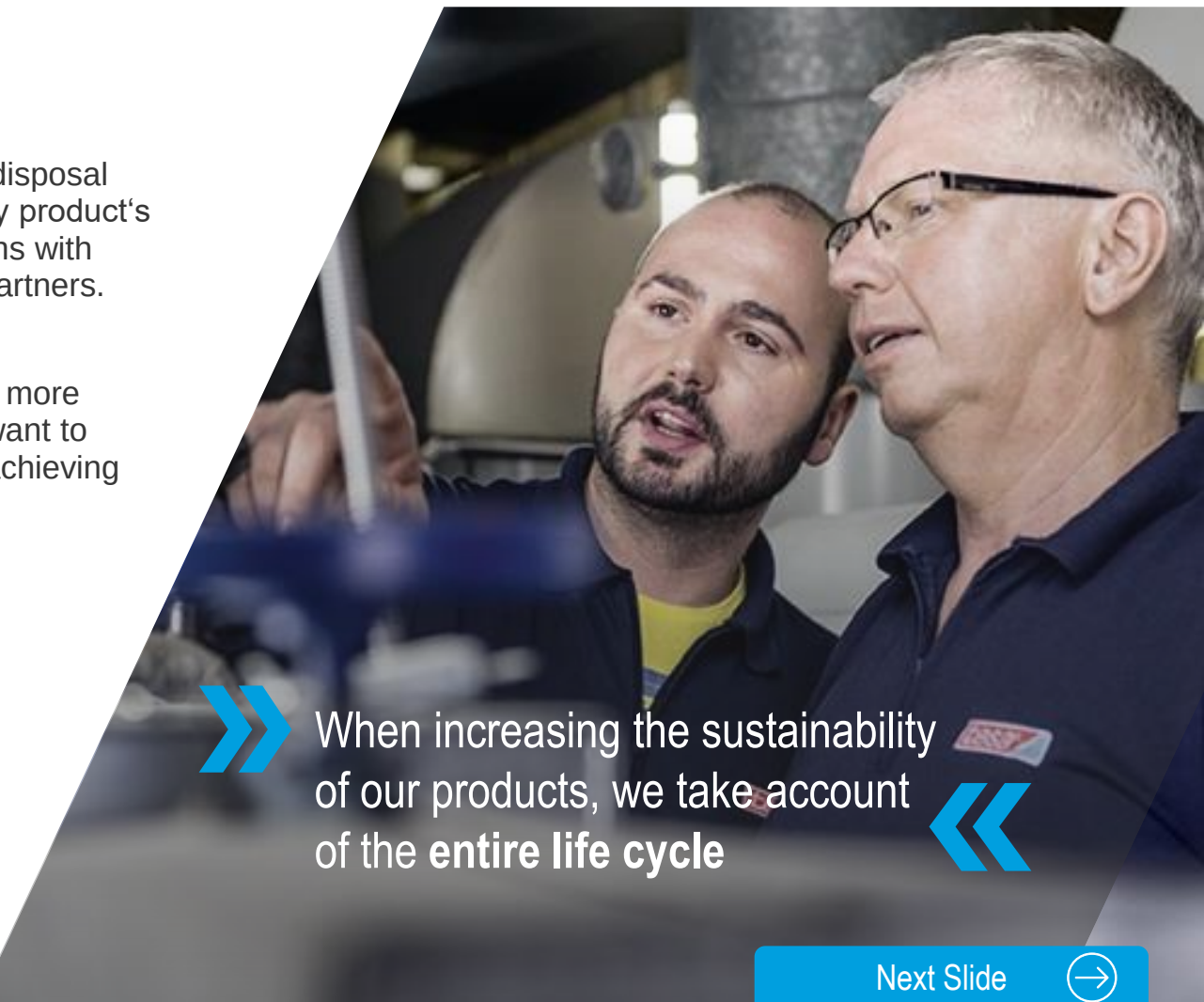
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