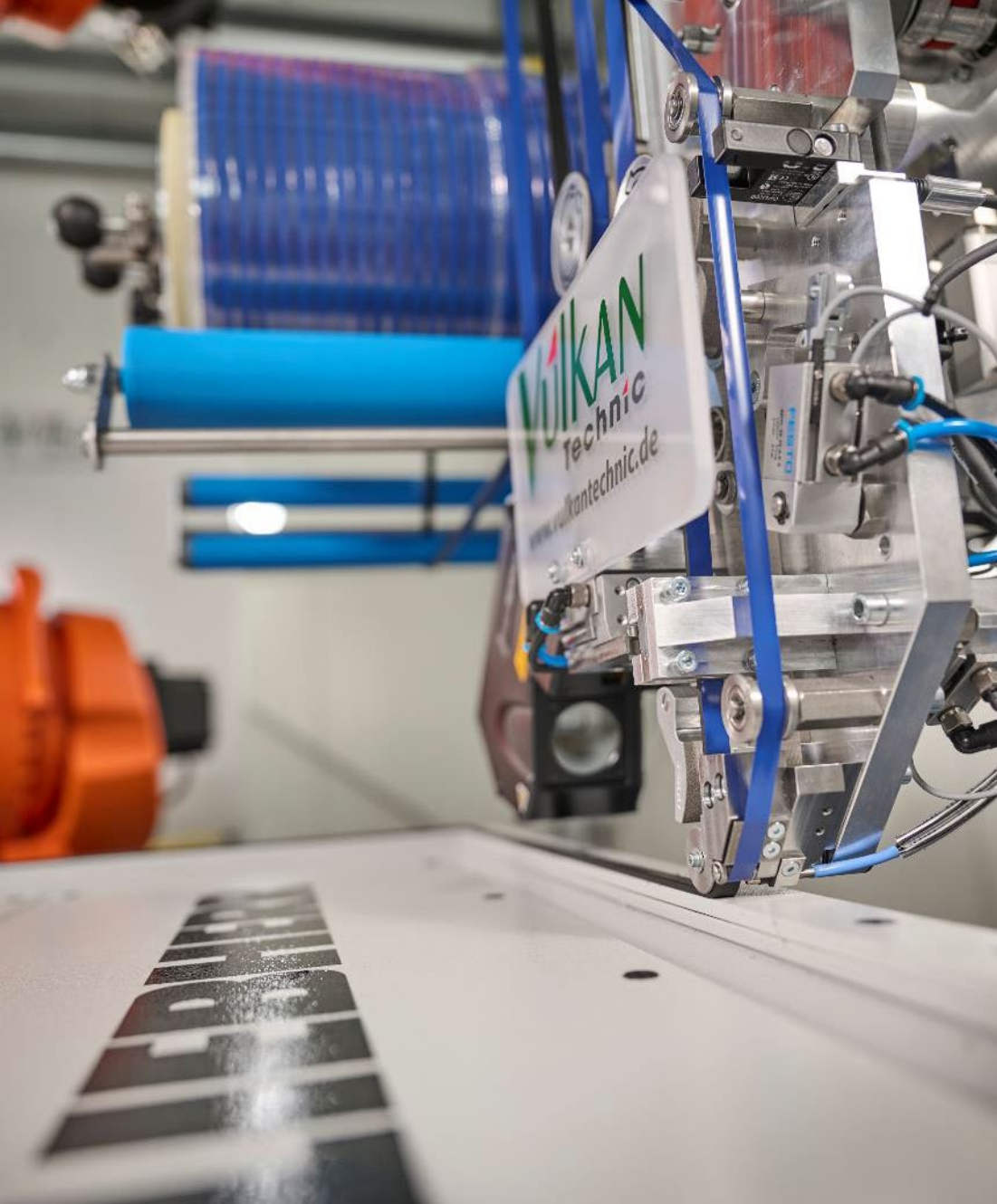




tesa® ACX^{plus} 76730 Box Seal

Customer Presentation

Automotive OEM



BOX SEAL TAPE 76730

- ✓ Reliable sealing of boxes and protection against corrosion
- ✓ Simple, clean and fast automated application in one step
- ✓ No curing time needed – move your part instantly after application
- ✓ Easy reopening for checks and rework

Key Application

Product Description

Automated Application

Reworking

Advantages of Box Seal



Key Application





Sealing of electric vehicle battery packs and Level 2 boxes

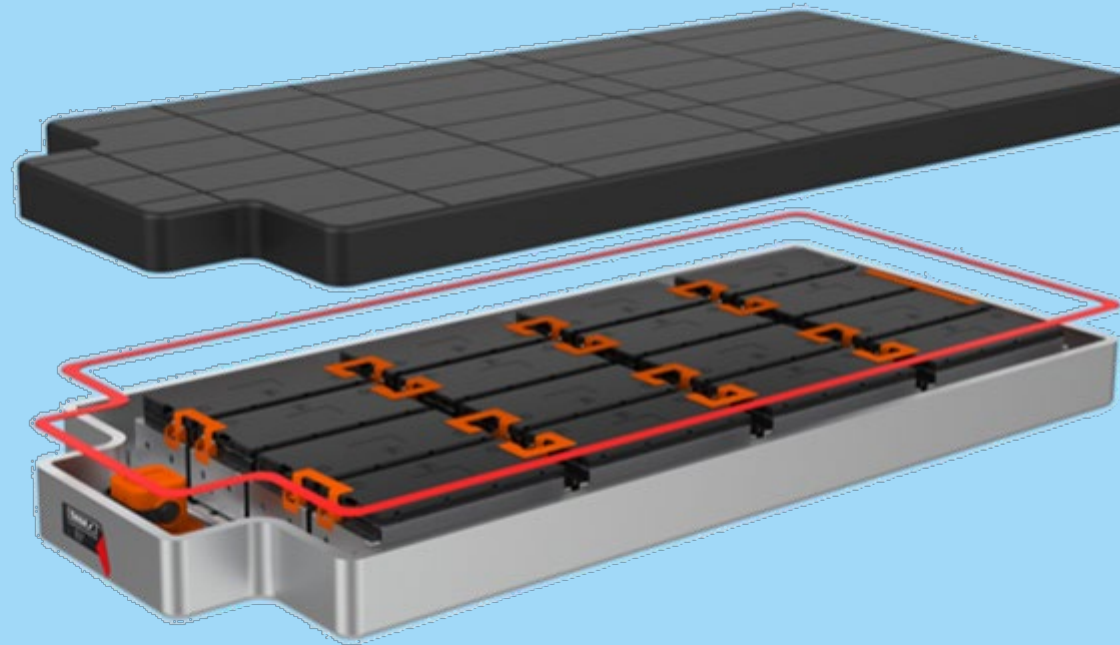
Provide a watertight seal between the box and lid to protect the interior against water ingress & corrosion

Functionalities & Requirements

- Water tightness
- Corrosion Protection
- Reopenable for Rework (& Service)
- Seamless integration into production process → Automation

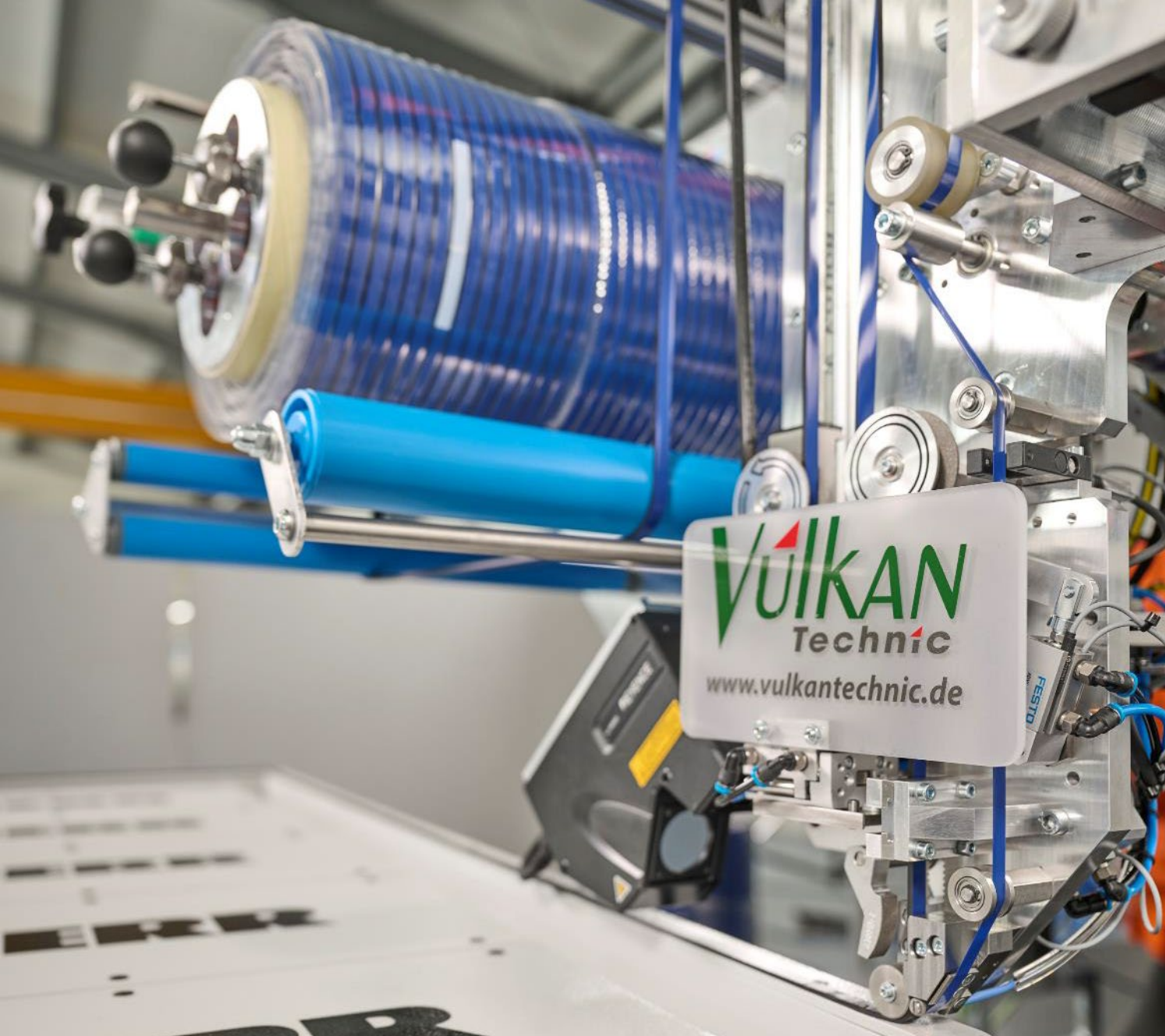
Electric vehicle battery packs

- Large packs ~1 x 2 m
- Containing battery cells
- Tape application from spool favored

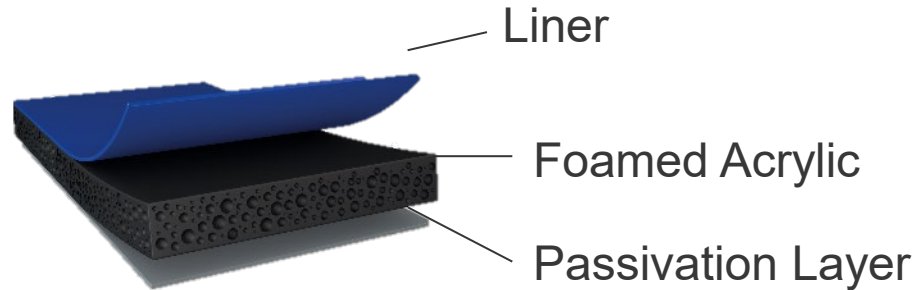


Level 2 boxes

- Smaller boxes some tens of centimeters
- Containing e.g. control electronics
- Can be applied as die cuts



Product Description



Foamed acrylic ACX^{plus}

- Extremely compressible for flexible gap filling
- Good adhesion to various substrates providing proper sealing
- Viscoelasticity tolerating thermal expansion differences of different materials
- Deep black for good optical appearance and detection

Passivation Layer

- Non-sticky at beginning of application allowing for reopening and reworking
- Adhesion builds up after application ensuring reliable sealing
- Highly flexible permitting narrow curve designs

Blue PE Liner PV29

- High tear resistance securing stable processes

tesa® ACX^{plus} 76730 Box Seal

Product Description



Test method	Performance ¹
Peel adhesion initial ² aluminum	4 N/cm
Peel adhesion 3d aluminum	5 N/cm
Peel adhesion initial ² steel	4 N/cm
Peel adhesion 3d steel	4 N/cm
Compression	20%-80%
Gap filling	2,2 mm – 0,6 mm
Sealing properties	IPX7 ²
Reopening possible	after up to 5d ³
Flame resistance	1050 °C ⁴
Air leakage test	50 mbar

¹ Displayed values are target values, values can differ by customer substrates, load and test method.

² proper compression must be ensured ³ storage at room temperature ⁴ for 5 minutes between two aluminum substrates



High flexibility to ensure perfect sealing as well as applicability in designs with narrow curves



Efficient and secure bonding of PSA layer and battery case or lid



Extremely high compressibility to enable gap filling and sealing



Allows for easy reopening during and shortly after production



PFAS / PFOS free product



Closed cell acrylic foam core for reliable sealing to prevent liquid penetration



High humidity resistance



High temperature resistance

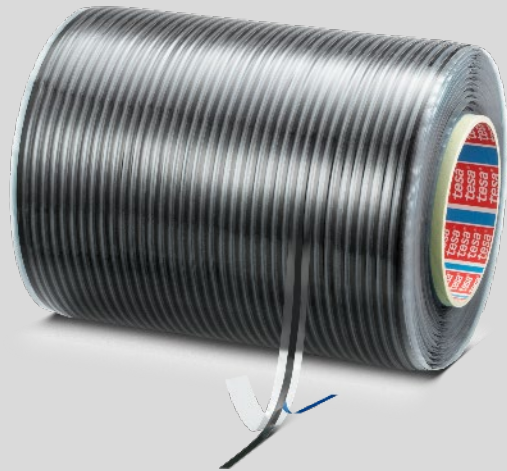


Flame resistant

tesa® ACX^{plus} Box Seal available as ...

Spools

For highly efficient and automated
endless application



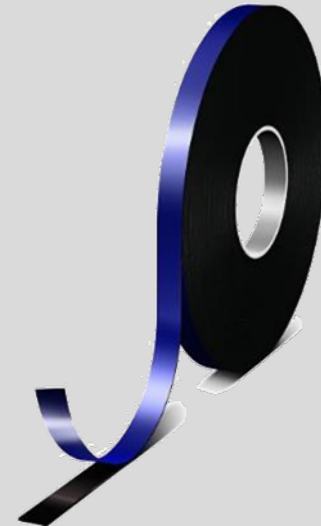
Log Rolls

For various die-cut designs



Cut Rolls

For flexible individual and
aftermarket applications



Automated Application



Process efficiency is the key → Automated application is the answer!

Tape



Application equipment



Complete line
integration



Spool Length 700 m sufficient for
about 100-150 battery packs



Our AProE Team is happy to support this in your region

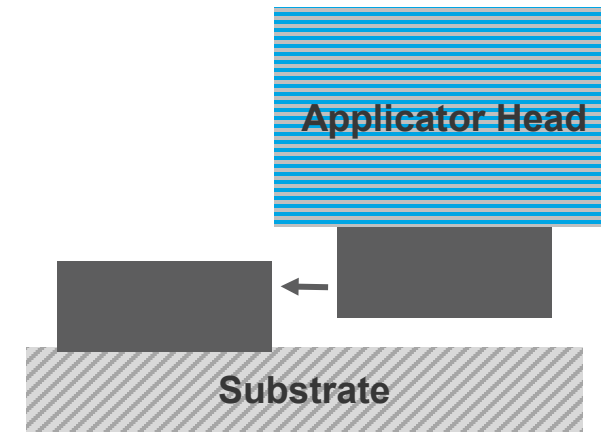
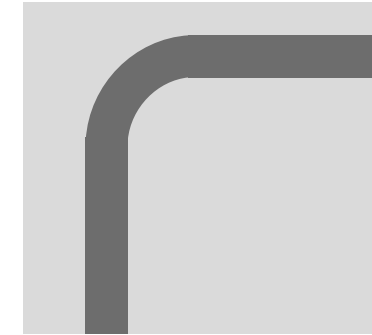
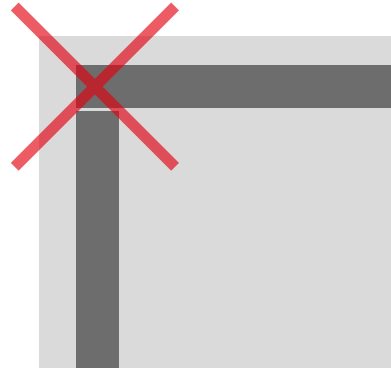
tesa® ACX^{plus} 76730 Box Seal

Automated Application



Endless Application:

- tesa® Box Seal provides extremely high flexibility allowing for curve application instead of cutting leaving no risk for leakage
- Liner removal before application
- Stretch-free dispensing
- Subsequent pressurization
- Sealing the gap with an overlapping line of sealing tape



Substrate

Side view

tesa® ACX^{plus} 76730 Box Seal

Automated Application

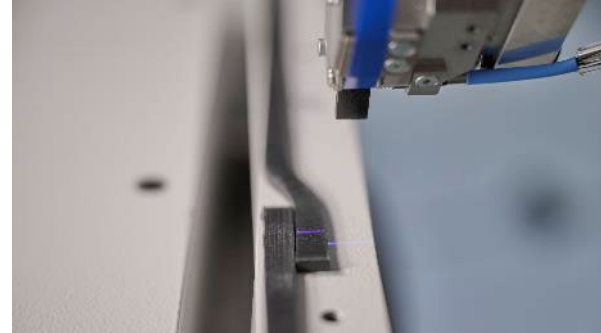


1.



Box Seal can be applied fully automatically

4.



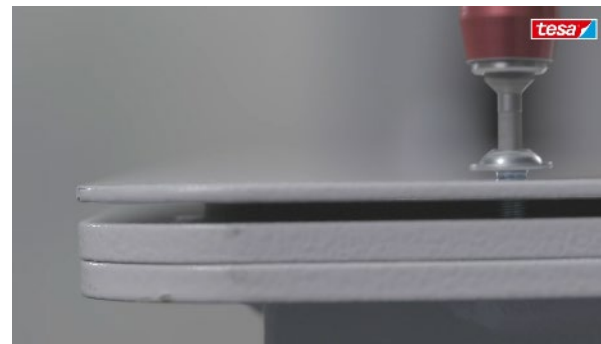
Overlapping ends yield perfect tightness

2.



On various types of battery packs

5.



High compressibility allows for gap filling and secure sealing

3.

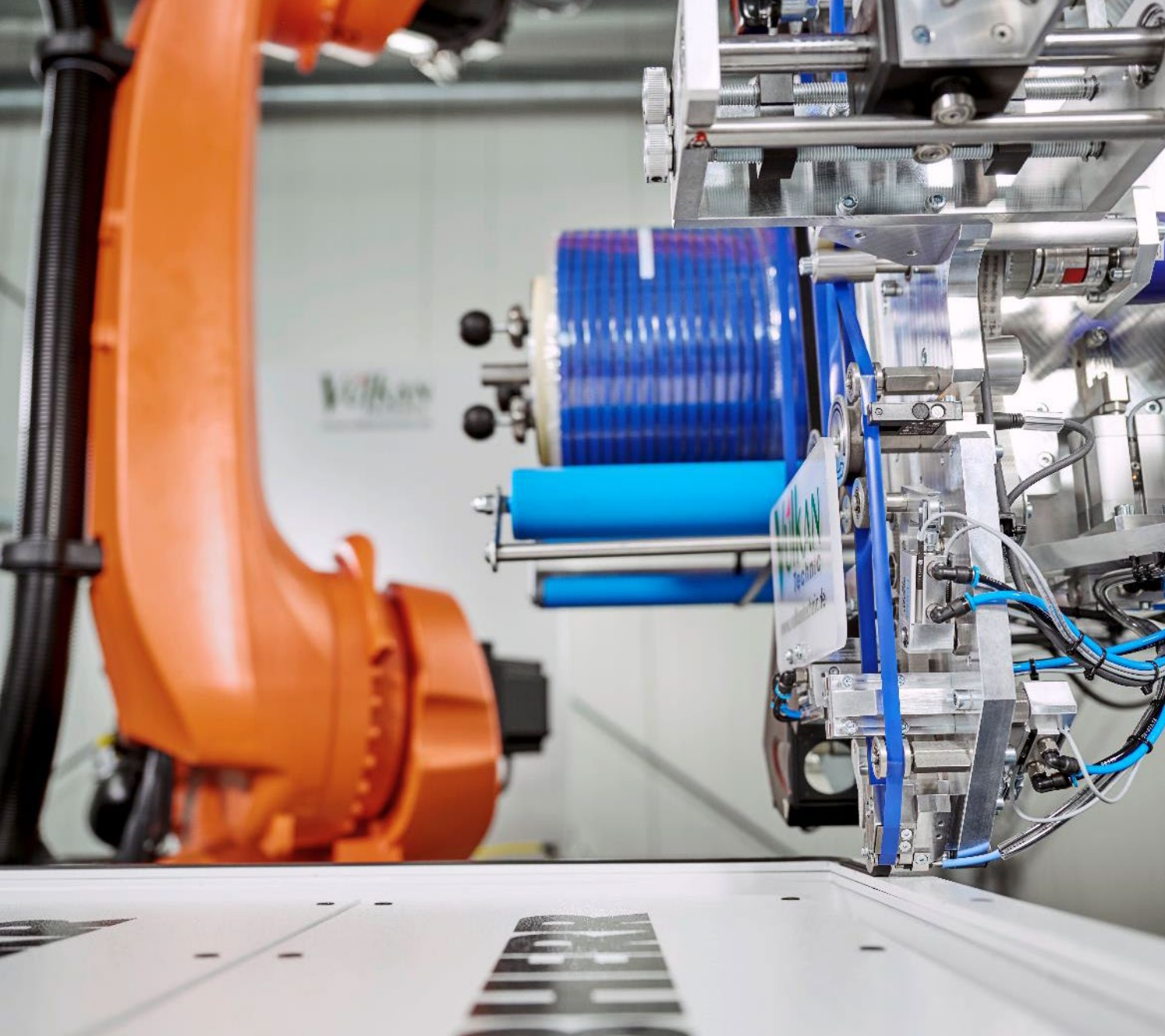


Even with challenging geometries and curves

6.



Easy reopening and residue-free removal in case of rework



Reworking



tesa® ACX^{plus} 76730 Box Seal

Reworking Concept for Service and Repair



1.



Cut one edge of seal with wire

2.



And use levers to ...

3.



...open the lid from one side first

4.



After separation of box and lid...

5.



...the tape can easily removed by stretching

6.



Manual stretch-free reapplication assisted by application device

Advantages of Box Seal



tesa® SOLUTIONS FOR BATTERY PACK SEALING

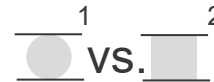
Performance Positioning

Process

- Clean
- Precise
- Automatable
- No curing time
- One step application process
- Fast process time (few minutes)
- Low risk for particle contamination
- Unlimited open time

Performance

- Reliable sealing
- Protection against corrosion
- High contact area for improved sealing at low compression



Rework / Repair

- Easy reopening
- Residue-free tape removal
- Very easy re-application



tesa® ACX^{plus} 76730 Box Seal

The new way
of sealing

