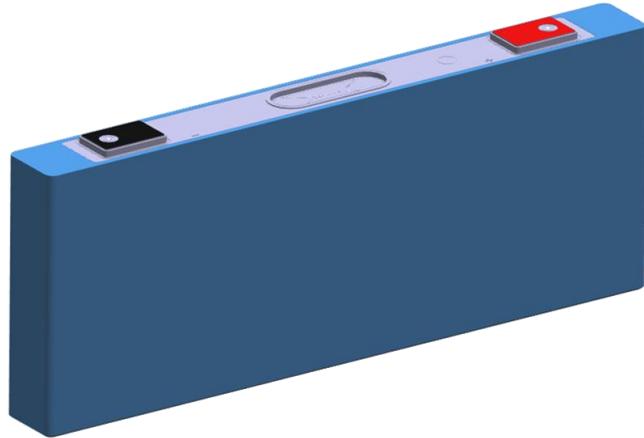


Challenges of painting high volumes of battery cells



Cell coating, Simon Palm, Volvo cars, Security Class: Proprietary

2024-06-12

Ambitions

We stand firm on our strategy around electrification and technological leadership, one of the most ambitious in the industry.

By clarifying our ambitions that were set out when we listed our company in 2021, with sharpened metrics, it improves transparency and allows us to better follow up on our progress.

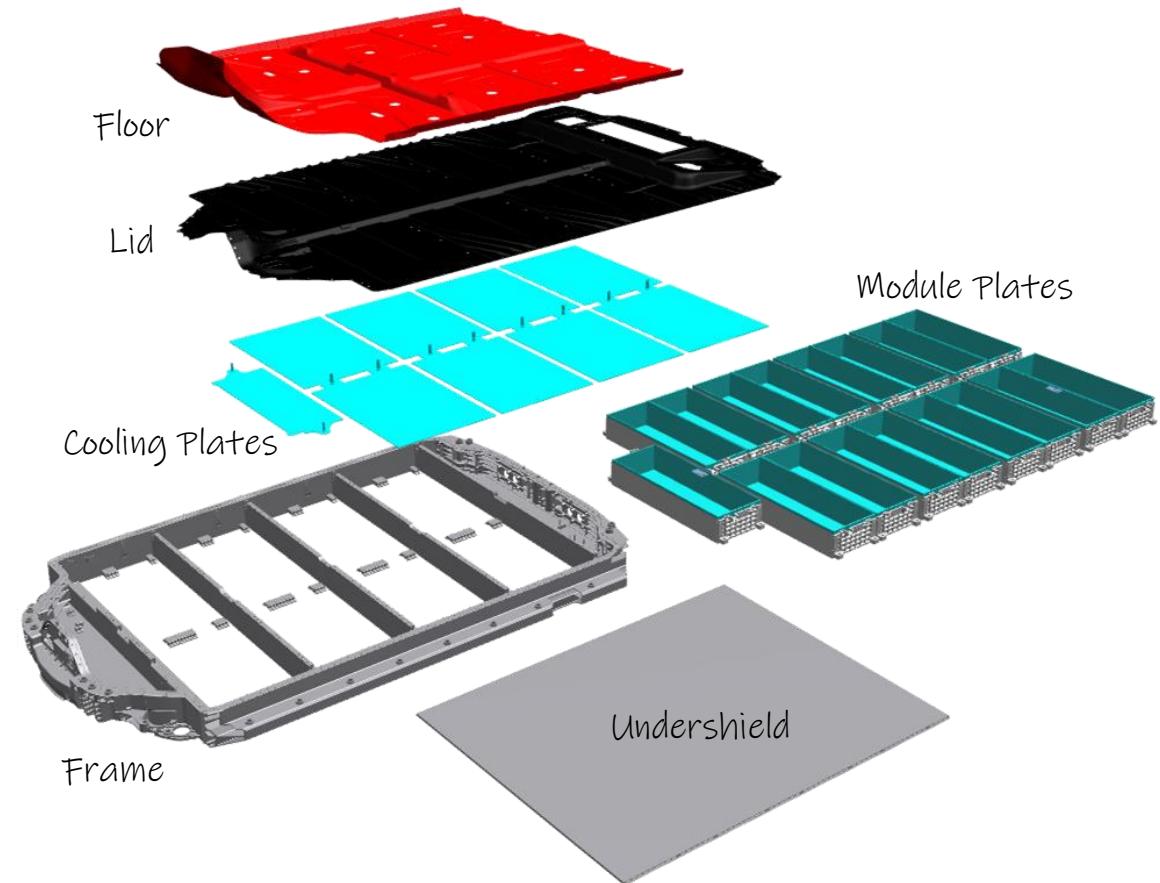


1) excl. share of income in JVs & associates

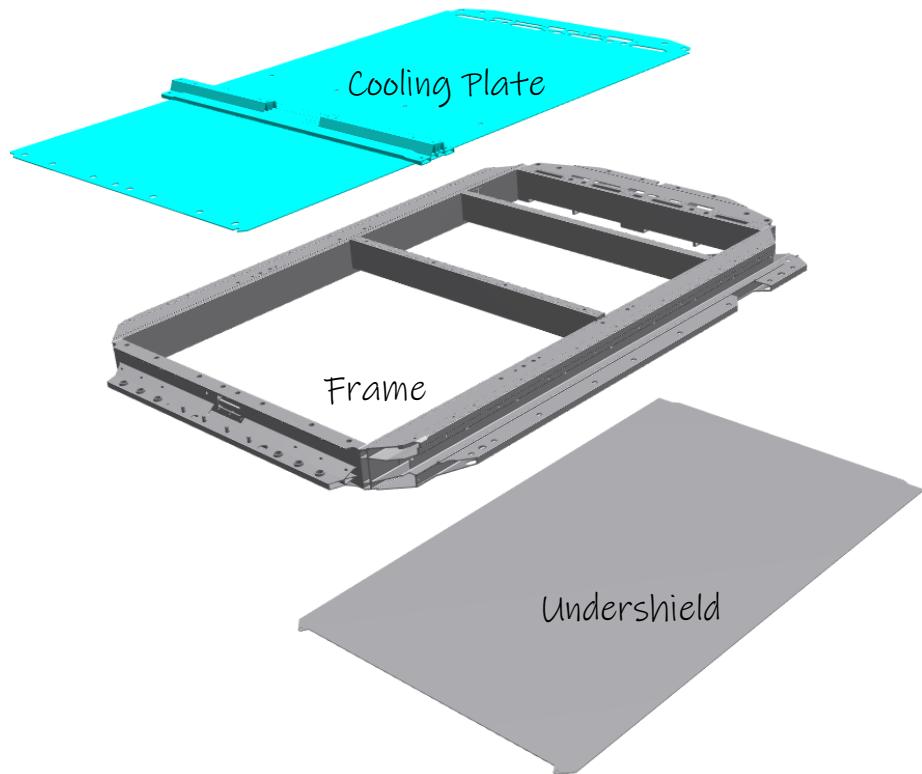


V O L V O

“Conventional”



“New architecture”



We want to:

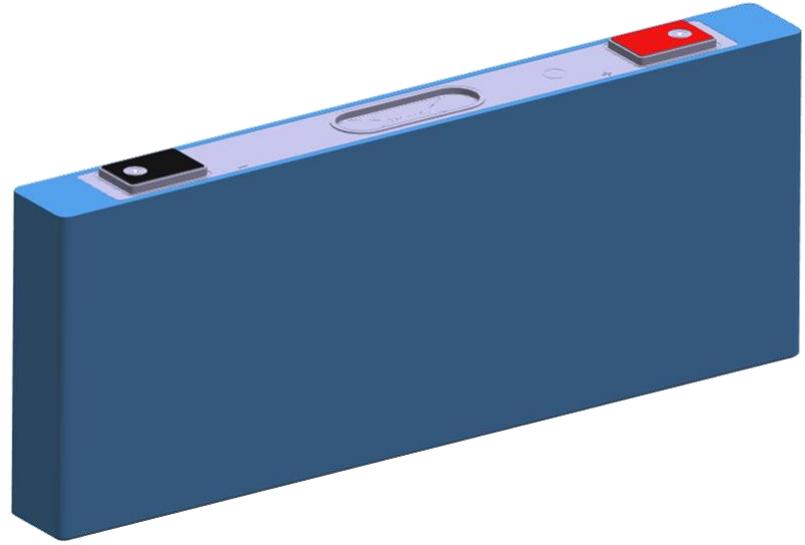
Connect the cells to each other and
the chassis **mechanically**

Disconnect the cells from each other
and the chassis **electrically**

V O L V O



Cell with isolating PET-film

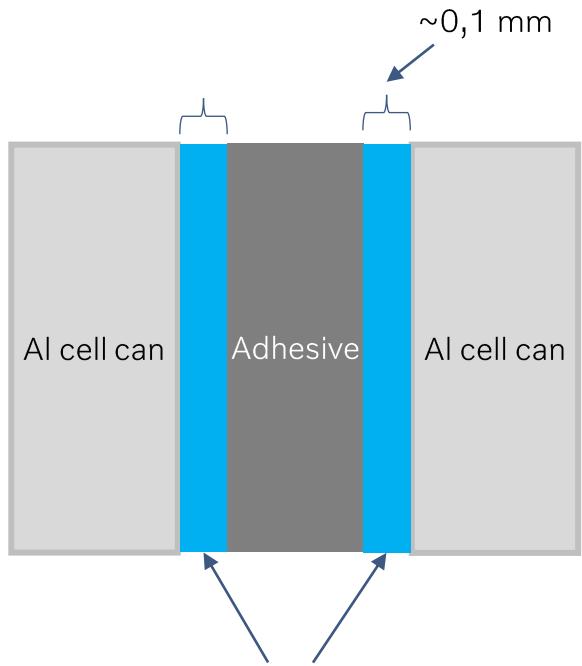


Cell with isolating coating

V O L V O

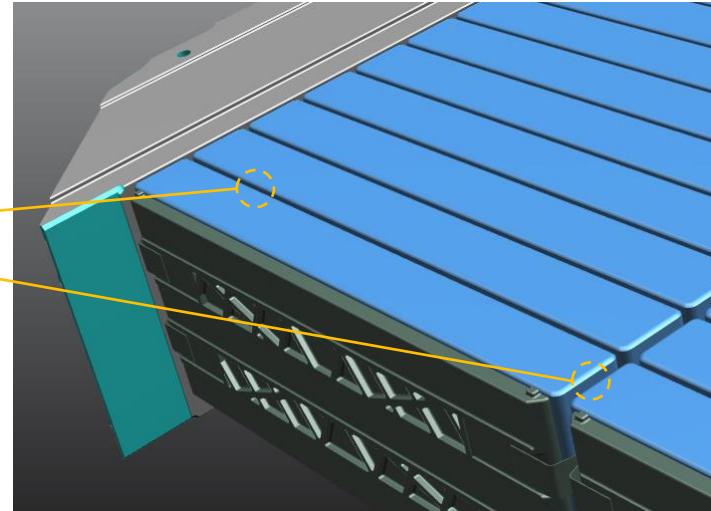


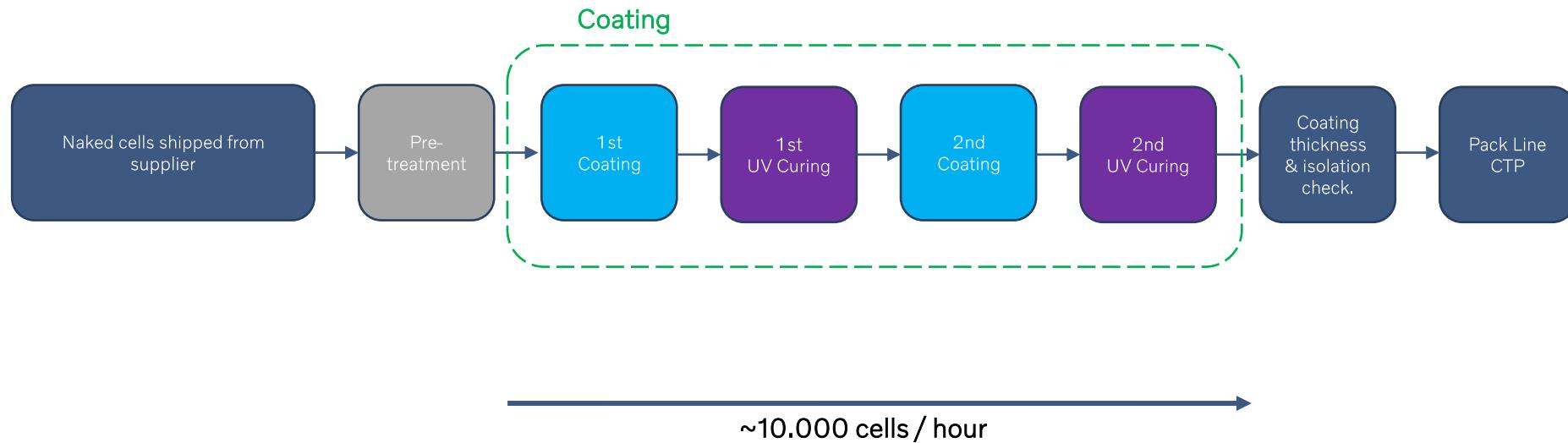
Source: Youtube



1K Acrylic Coating:

- 100% solids
 - UV-cured
 - Heated during application ($\sim 50^\circ\text{C}$)
 - Recycling of paint





Volvo Cars investerar 10 miljarder kronor i Torslanda-fabriken för tillverkning av nästa generations elbilar



08 feb, 2022 | ID: 294360

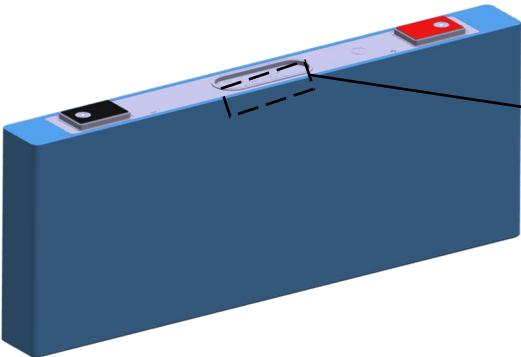
”... Dessa inkluderar införandet av megajutning av karosssdelar i aluminium, en ny batterimonteringsanläggning och en helrenoverad målnings- och slutmonteringsverkstad.”

”... En ny batterimonteringsanläggning kommer att integrera battericeller och -moduler i bilens golvkonstruktion, ...”

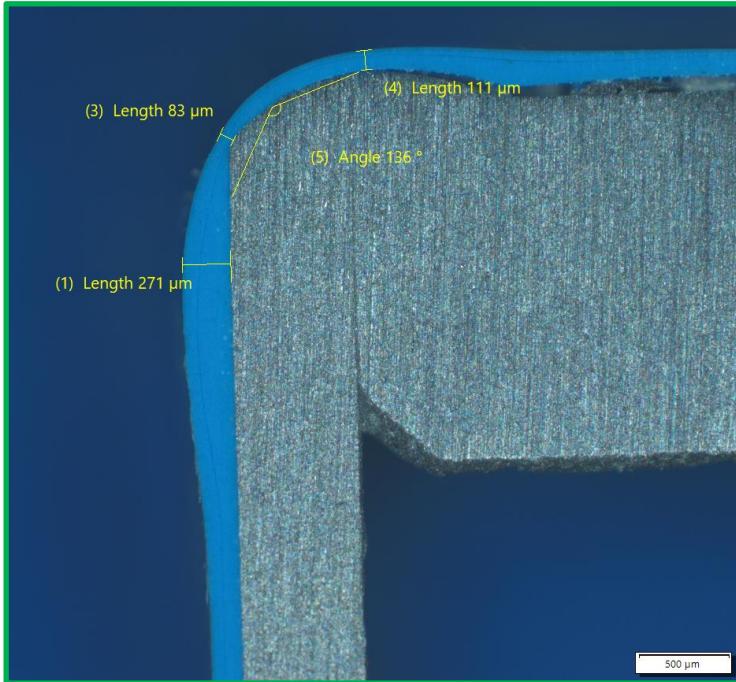
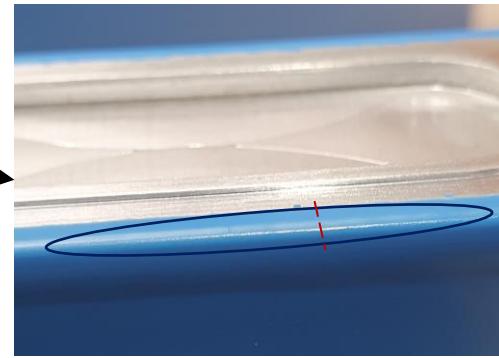


<https://www.media.volvocars.com/se/sv-se/media/pressreleases/294360/volvo-cars-investerar-10-miljarder-kronor-i-torslanda-fabriken-for-tillverkning-av-nasta-generations>

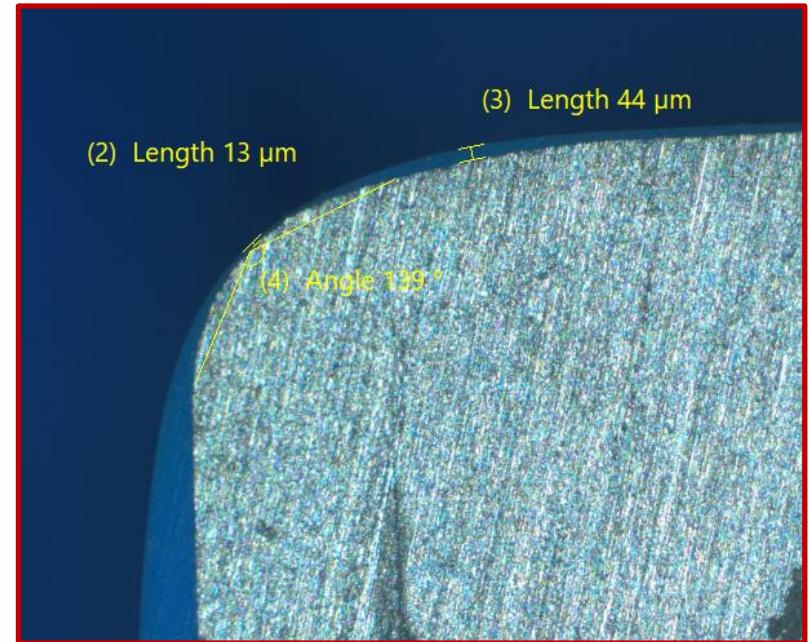
v o l v o



V O L V O



Approved edge isolation



Disapproved edge isolation

Insufficient gelling,
worse edge coverage,
→ electrical isolation
issues on edge

Pre-curing

Too high surface cure (UV-C):
→ adhesion failure between
layers

Insufficient cure:
→ adhesion /
cohesion failure

Final cure

Low risk, unless too
high temperature /
peak

Dose requirement [mJ/cm²]



CLIMATE ACTION

We aim to reach net zero greenhouse gas (ghg) emissions by 2040

AMBITIONS	CO ₂ PER AVERAGE CAR	TRANSFORM TO PURE ELECTRIFICATION	MINIMISE EMISSIONS FROM MATERIALS	MINIMISE OPERATIONAL EMISSIONS
2025	-40%	-50% 50% fully electric vehicles.	-25% Sourcing of low-emission steel, aluminium and batteries.	-25% Climate neutral energy in own operations. Reduce GHG emissions from retail partners' operations and facilities by 50%.
2030	-75%	-100% Pure electrification. Reduce Scope 3 GHG emissions from use of sold products by 52% per vehicle km.	-30% 10% of primary aluminum near zero.	-30% 40% reduced energy use in own operations per average car. Reduce absolute Scope 1&2 GHG emissions by 60%.
2040	-90-95%		Net zero greenhouse gas emissions by 2040	



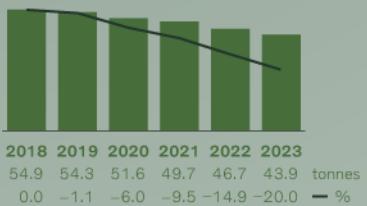
CLIMATE ACTION

CO₂ EMISSION REDUCTION PER AVERAGE VEHICLE

-75% IN 2030

-20%

Reduction since 2018



FULLY ELECTRIC VEHICLES (BEVS) SHARE OF TOTAL SALES

100% IN 2030

16.0%

2023 (10.9% 2022)



CLIMATE NEUTRAL ENERGY IN OWN OPERATIONS

100% IN 2025

73.6%

2023 (68.7% 2022)

