



Battery system
of the
FUTURE

dr. Mészáros Tamás 2024



POWERFRAME OUTSIDE. TRUE STRENGTH INSIDE.

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POWERFRAME

TECHNOLOGY

COMPARE GRIDS

FAQ

WHERE TO BUY

A BATTERY IS ONLY AS GOOD AS ITS GRID.

When it comes to your car battery, chances are you don't want to think too hard about it. You just want it to work. Turn the key. Get on your way. Well, thanks to state-of-the-art engineering, strong, consistent starts are exactly what you get with PowerFrame® grid technology.

PowerFrame grid technology is the advanced science on the inside of the battery that gives it the strength to stand up to the elements outside. And the only way to know you've got True Strength on the inside is if your battery has the PowerFrame label on the outside. So you see, more robust performance over the life of your car's battery really can be a no brainer.

[COMPARE GRIDS ▶](#)



FIND POWERFRAME GRID TECHNOLOGY IN THESE LEADING BRANDS

Look for these brand names and make sure your next battery contains PowerFrame Grid Technology. Because a PowerFrame logo on the outside means True Strength™ on the inside.

[WHERE TO BUY ▶](#)

AUTOCRAFT

STORIED ENERGY SOLUTIONS
SYNERGY

FOR RETAILERS

Want to know more about PowerFrame Grid Technology? Get trained now, so you can give your customers the information and advice they're looking for.

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PowerFrame

Technology

Compare Grids

FAQ

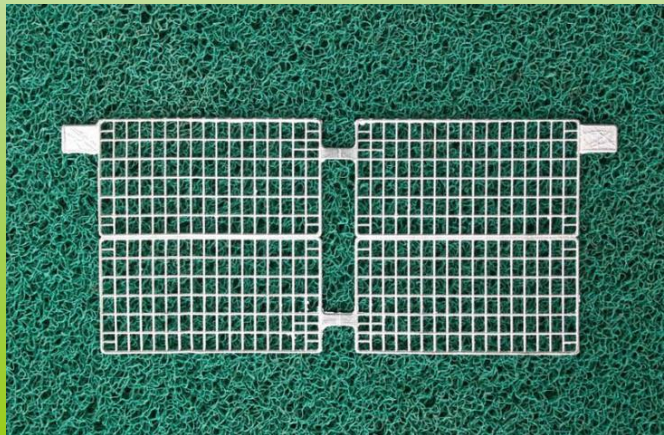
Where to buy

Contact Us

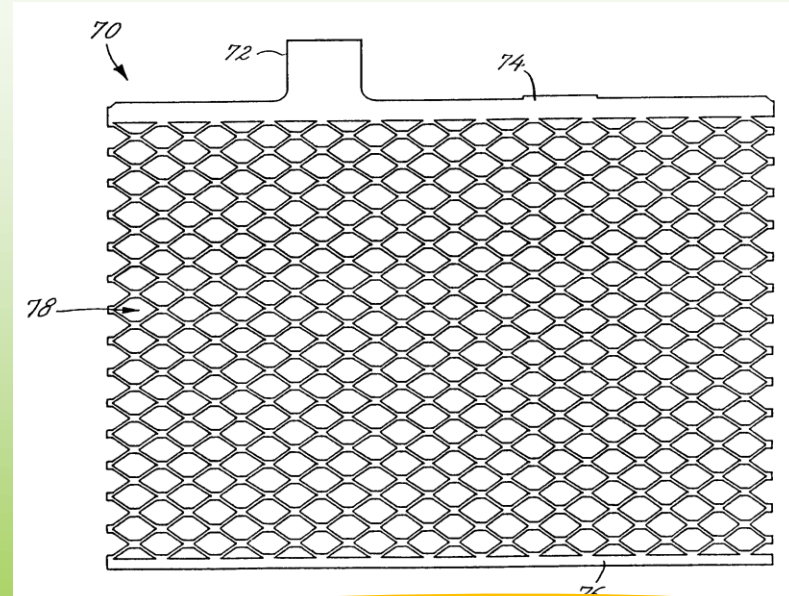
Training

Classic grids

Casted grids



Expanded grids



The grids are determined in form and materials by the used technologies

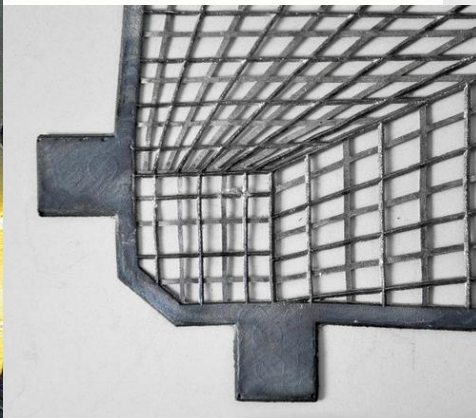


Photo by
dr. Mészáros Tamás



What is different?

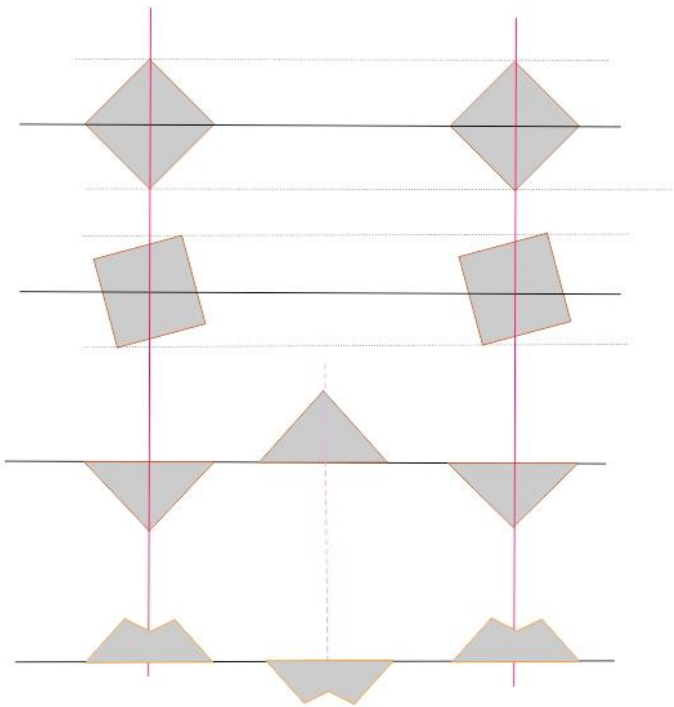
Physical evidence:

Electrochemically active surface	> cold resistance	+++	bigger
Resonance resistance		+++	better
Weight		---	lower
Mass retention		+++	better
Internal resistance	> faster charging	---	lower
Current paths		+++	optimal
Lead alloy of choice	- up to pure lead	+++	free

Production technology

Productivity	+++	higher
Efficiency (Energy!)	+++	better
Recyclability	+++	easier & cheaper
Value for money	+++	economical
Environmental-friendly	+++	top clean

Note: The product can be integrated into the production schedule of all battery factories

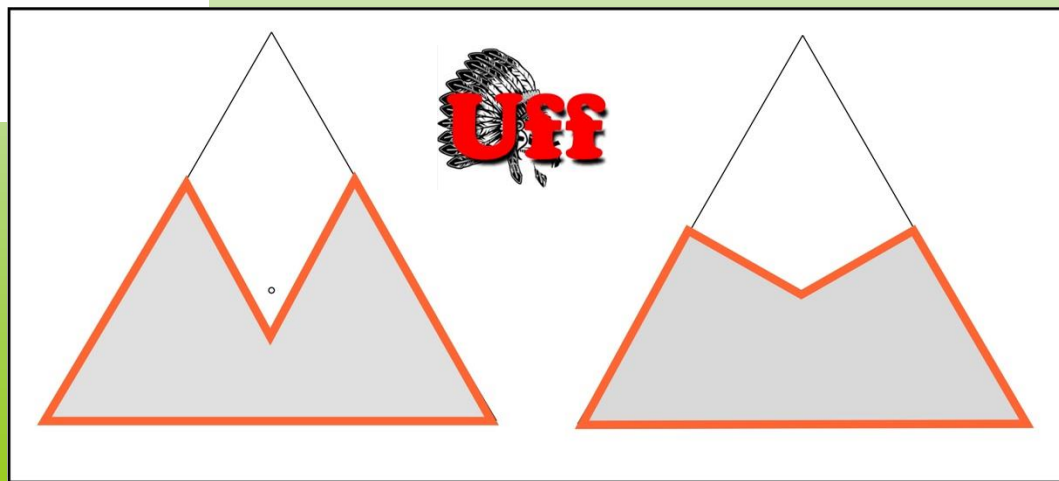


Klasszikus rácsok

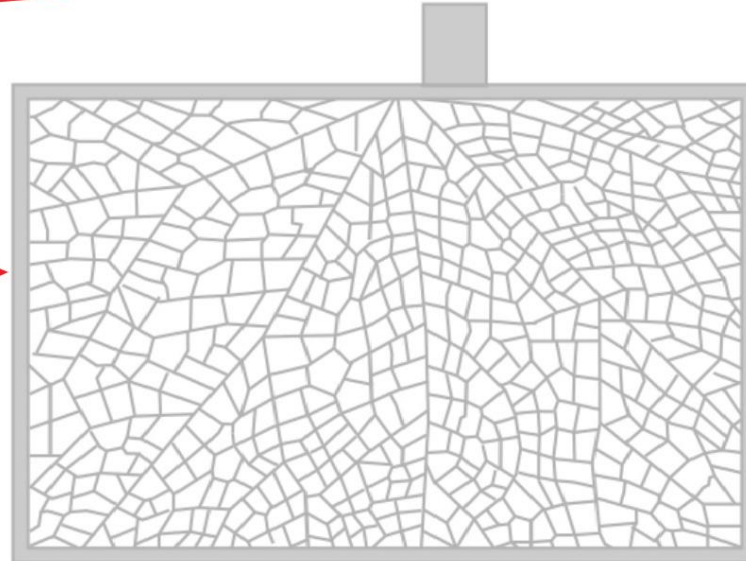
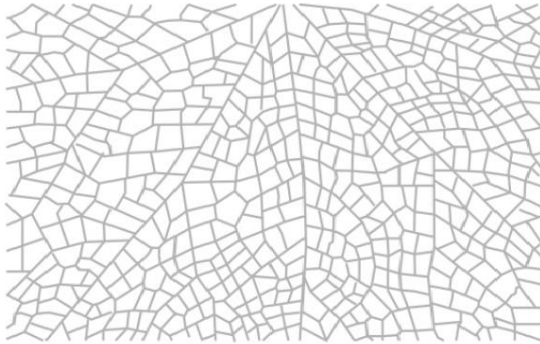
Cross-sections

Blewin rács

Uff rács



Uff 2.0



Let's look at interesting numbers and facts

Lead savings on an average battery	%	kg	\$
Blewin system	20 ~ 35	2,5 ~ 4,5	5,5 ~ 8
Uff Solution	35 ~ 45	4 ~ 6	5 ~ 11

Energy requirements for lead processing are 20-30 % lower

Minimal lead vapour emissions, radically less environmental impact

All other BESS have an initial investment value at least 30 % higher

Optimal energy source for MHEV mobility and BESS

XXI century

Uff 2.0

Uff



bipolar battery



Starter Battery



Traction battery

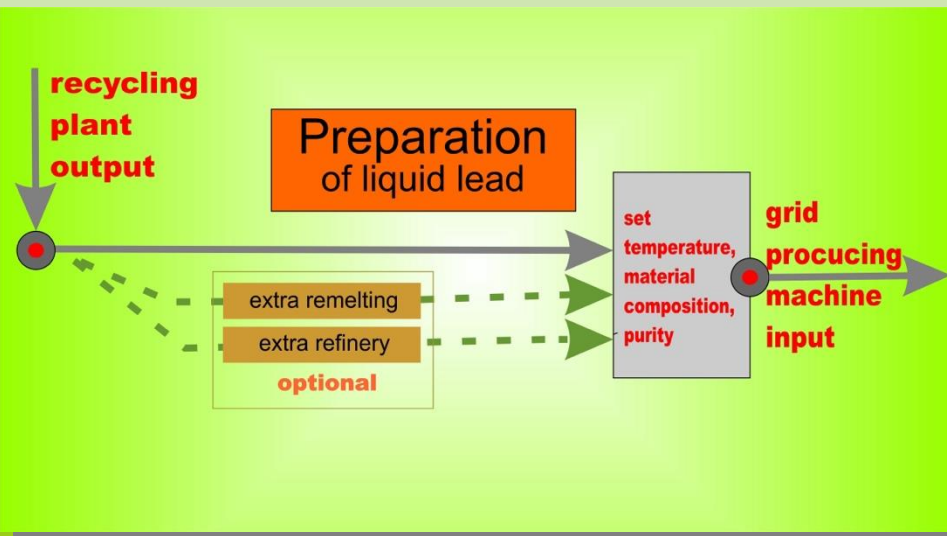
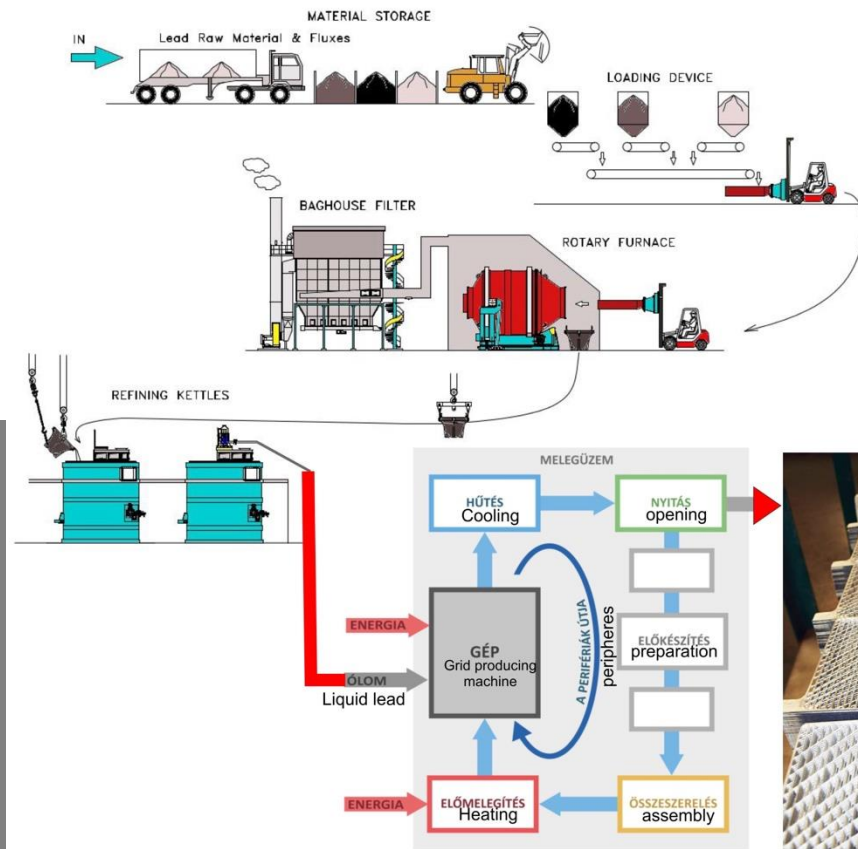
theoretical maximum

40 60 80 100 ~120 157

Specific power



Green Lead Project 2021



2022, USA 1,85 Mmt recycled lead > 1 Mmt ton lead for battery industry

25 ~ 40 million pieces lead-ingot > 100 483 200 000 kJ energy loss

~ 28 million kWh

Hoover Dam output power 2078,8 MW

sustainable development
circular economy
environmental awareness



