Energy Package

TPPL Energy Package comprises:

1. XFC battery according to requested specs
2. Modular Charger Life Speed IQ or Life IQ
3. Special Charging algorithm for TPPL Technology
4. WIIQ2 Data Logger
5. Plugs and Harness (eventual adapters to the truck)
6. LOW VOLTAGE ALARM (LVA)

XFC BATTERY

LVA

Wi-IQ XFC

IQ Charger
- **Life IQ**
- **LifeSpeed IQ**

Cell Range

XFC CELL RANGE

PzS equivalent	*cell*	Description	Part number	*C5*	*Lenght*	*Width*	*Height*	Weight±5%
2PzS250	*6XFC250*	N 6XFC250 FLEX CELL CHRG	4432000	*250*	*47*	*198*	*600*	15
3PzS375	*9XFC375*	N 9XFC375 FLEX CELL CHRG	4432001	*375*	*65*	*198*	*600*	21,2
4PzS500	*12XFC500*	N 12XFC500 FLEX CELL CHRG	4432002	*500*	*83*	*198*	*600*	27,4
5PzS625	*15XFC625*	N 15XFC625 FLEX CELL CHRG	4432003	*625*	*101*	*198*	*600*	33,9
6PzS750	*18XFC750*	N 18XFC750 FLEX CELL CHRG	4432004	*750*	*119*	*198*	*600*	40,3

Truck fitments

EnerSys
Power/Full Solutions

Class 1 Counterbalance

48V – 72V – 80V
375Ah – 750Ah

Class 2 Order Pickers

24V
250Ah – 500Ah

Class 2 Reach Trucks

48V
375Ah – 750Ah

Class 3 Pallet trucks

24V
250Ah – 375Ah

Note
XFC has typically 20% more power than PzS, particularly at high discharge currents!

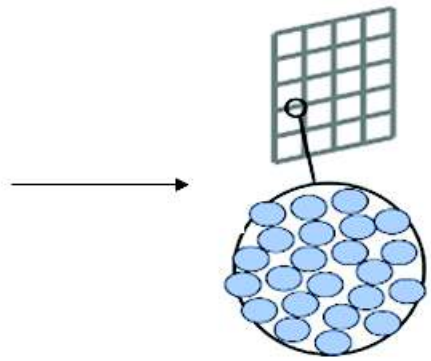
Technolgies PzS & PzV Vs XFC

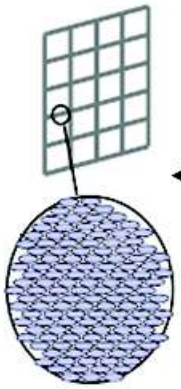
PzV-PzS

Positive grid alloy is Pb-Ca-Sn or Pb-Sb

Corrosion at the grain boundaries leads to:

- *Grid corrosion*
- *Grid growth*
- *Reduction in current carrying capacity*
- *Loss of contact between grid and active material*
- *Internal short circuit*





TPPL (Thin Plate Pure Lead)

Pure lead crystallography

- *The very fine grain structure makes the grid far more resistant to corrosion*
- *Pure lead grids with the same design life can be much thinner than Pb – Ca or Pb-Sb grids*
- *Very low internal resistance*

XFC Pure Lead Advantage

XFC Technology

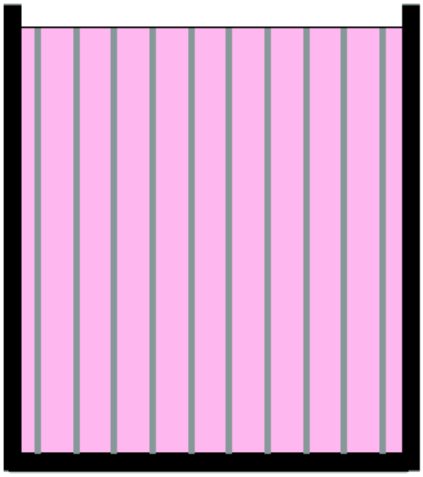
Continuous strip manufacturing allows processing of pure lead grid

Result : 0.7 - 1mm thick

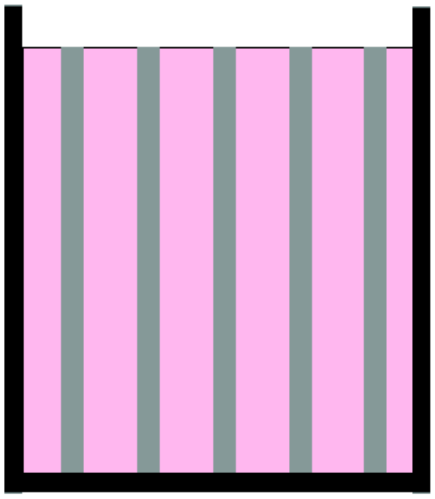
Typical VRLA Technology

Bookmold casting requires artificial hardeners to process grid

Result : 2 – 4 mm thick



More plates in each 2 volt cell



TPPL Technical features

- VRLA battery - no maintenance
- Very low internal resistance
- Very high energy and power density (especially at high discharging rates)
- Capability to accept fast charge
- Partial state of charge operations are accepted
- High energy daily throughput
- Higher Voltage in discharge and lower Voltage increase in recharge
- Very good regenerative braking charge acceptance.
- Less sensitive to high discharge rates