

EnerSys®

Power/Full Solutions

PowerSafe® SBS 210F

Advanced TPPL Battery Solutions
For Demanding Applications



October 2023
EnerSys USA

SBS 210F Features & Benefits

- Thin Plate Pure Lead (TPPL), VRLA AGM technology
- Use of high grade acid & superior quality materials
- UL94 V-0 flame retardant container and lid
- 12+ year design life at 25°C (77°F) (float application)
 - Eurobat’s “Very Long Life” classification
- Maximum volumetric and gravimetric energy density
- Ideal for a wide range of applications
- Wide operating temperature range: -40°C to +50°C (-40°F - 122°F)
- Up to 2 year shelf life
- State-of-the-art manufacturing process
- Designed to comply with international IEC 60896-21/22 standard

Advantages of TPPL Grid Technology

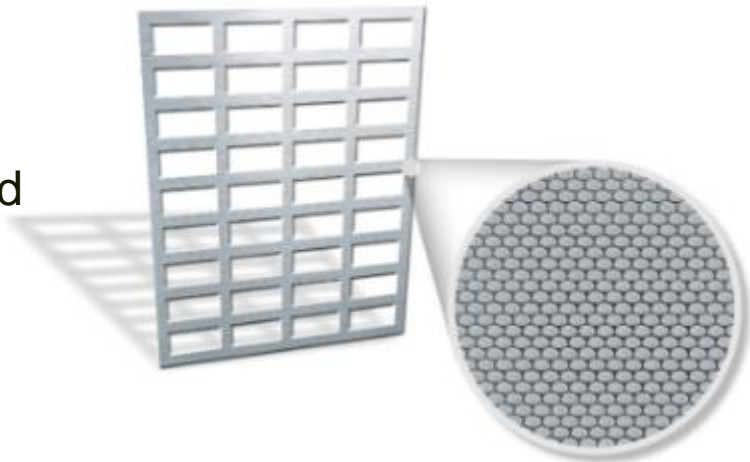
- **Standard AGM Battery's Positive Grid**

- Positive grid alloy is Lead-calcium (PbCa) or Lead-Tin-Calcium (Pb-Ca-Sn)
- Corrosion at the grain boundaries leads to:
 - Grid corrosion
 - Grid growth
 - Reduction in current carrying capacity
 - Loss of contact between grid and active material



- **PowerSafe SBS Positive Grid**

- 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 lead calcium grids



Thin Plate Design's Advantages

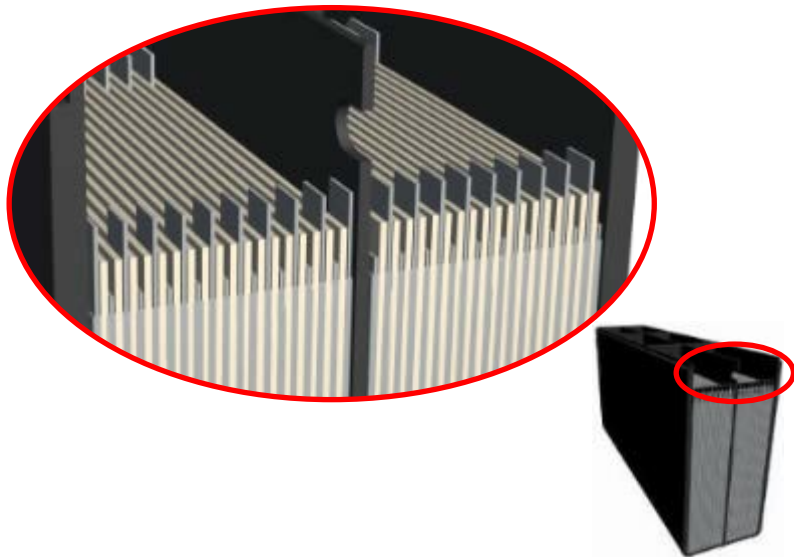
EnerSys manufacturing process allows processing of pure lead grid

Result: 1mm **THIN**

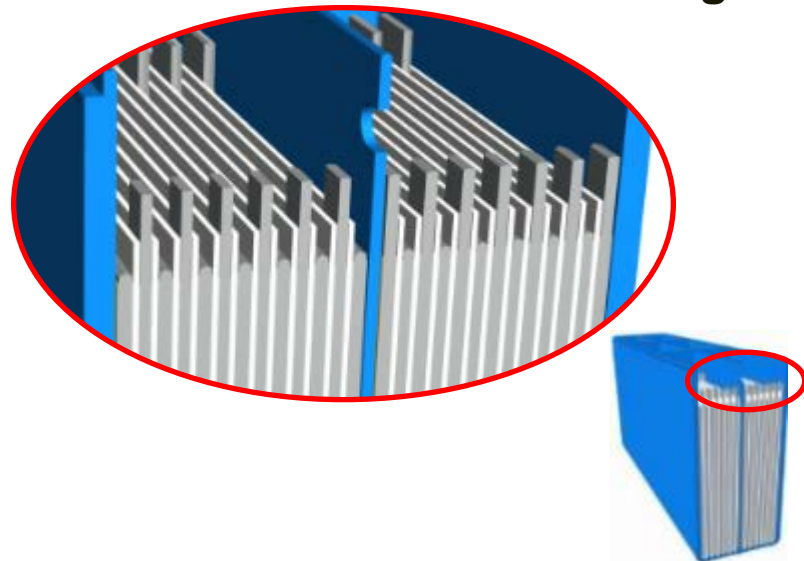
Conventional battery bookmold casting requires artificial hardeners to process grid

Result: 2 - 4 mm **THICK**

PowerSafe SBS



Standard AGM book-mold casting



SBS Thin Plate Technology = More plates in each 2 volt cell
Result = more cranking amps and superior power & energy density

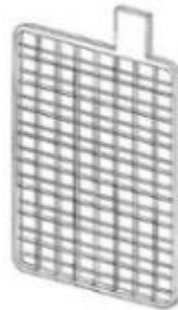
High Purity Materials

The combined materials in PowerSafe SBS batteries make them far superior to standard AGM batteries

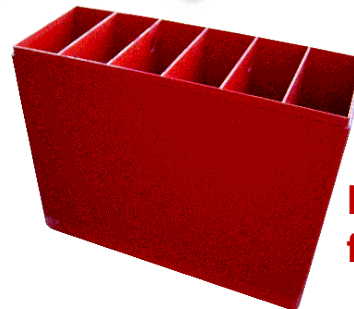
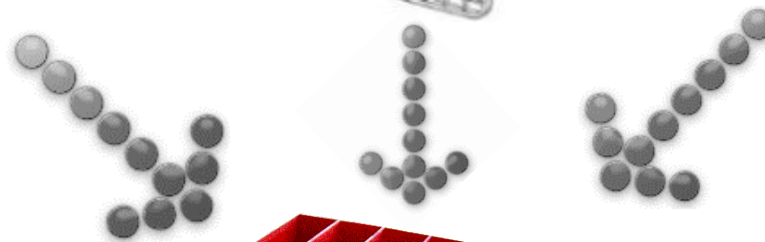
**Pure Lead Oxide
(99.99%)**



**Pure Lead Grid
(not alloy)**

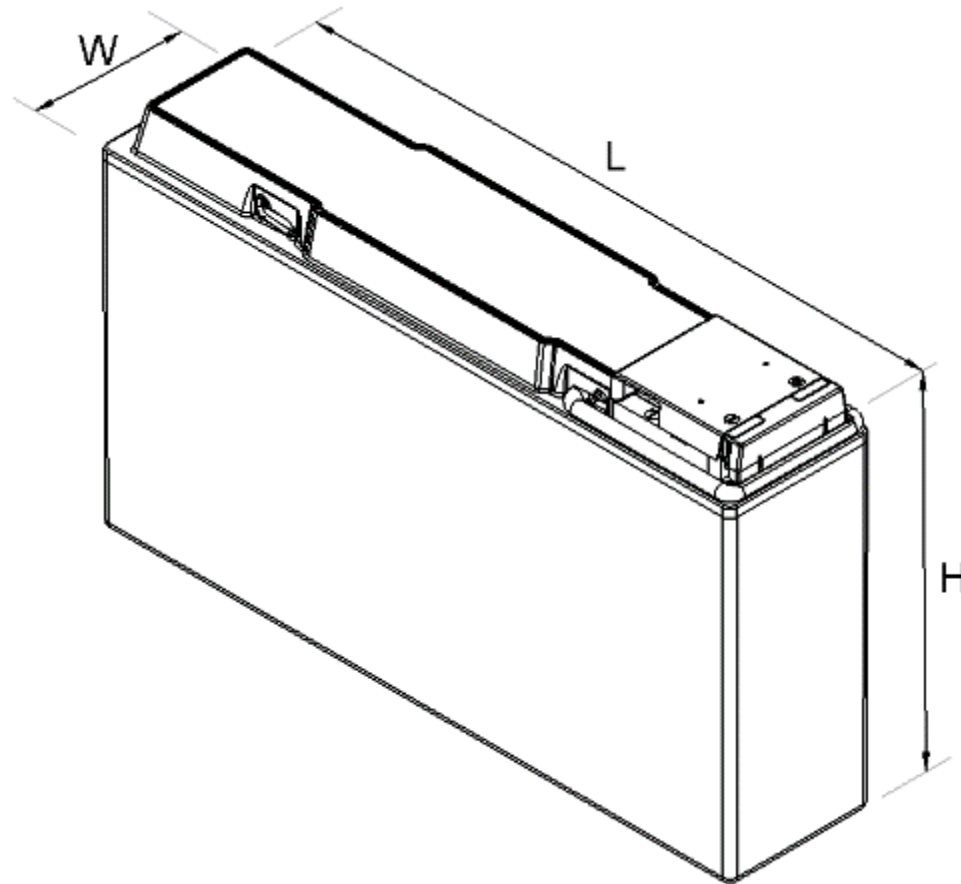


**High Grade Acid
(not commercial grade acid)**



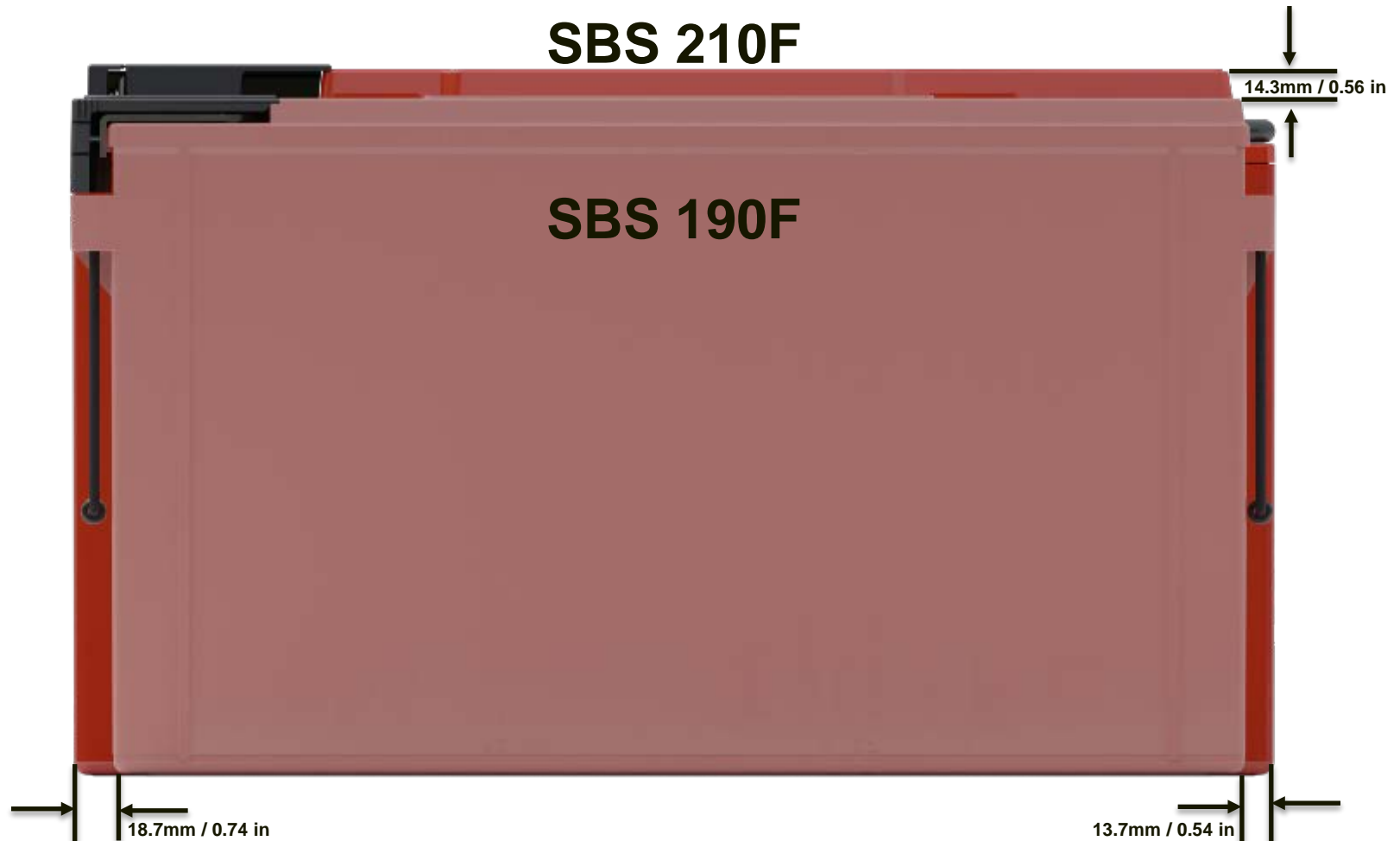
**High resistance UL94 V-0
flame retardant polymer**

SBS 210F DIMS



Product	Length	Width	Height	Weight
SBS 210F	22.0"	4.9"	13.0"	139 lbs

SBS 210F Physical Comparison vs SBS 190F (Against Wall)



Construction

Tough flame retardant box & lid

Thick-wall V-0 rated plastic, highly resistant to shock and vibration

Manifold

With integral flame arrestor and fitted as standard for remote venting

High integrity terminal

Patented dual seal terminal design for long life and leak resistance

Self-regulating pressure relief valve

Low pressure non-return valve prevents ingress of atmospheric oxygen

Easy clip terminal insulating cover

Fitted as standard for added safety. Provides spacing for voltage readings, connectors and optional remote venting

High performance pure lead positive plates

Grids designed to resist corrosion and prolong active life

Separators

Superior quality microporous glass mat separator with high absorption and stability

Handles (selected models)

For ease of handling during transport and installation



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