

# SLT Quality Batteries for Light Traction Applications



 **SUNLIGHT**  
Reliable Battery Solutions

# SLT OVERVIEW

## Quality Batteries for Light Traction Applications

SUNLIGHT's full line of vented and sealed light traction batteries provide reliable energy every day as they are engineered for optimum performance and durability. SLT and SLT GEL are ranges of deep-cycle batteries suitable for all applications in semitraction, from cleaning machines to hand pallet trucks and area lifting platforms, as well as golf cars and other electric vehicles.

SLT Vented Tubular Plate Batteries	SLT GEL Sealed Batteries
	
<p>SLT Vented Technology Batteries with liquid electrolyte and <b>tubular plate technology</b> are characterized by robust design with powerful tubular plates and a special alloy that offers long service life and high cyclical resistance of more than <b>1200 cycles</b> (60% DoD, 20°C).</p>	<p>SLT GEL Batteries are sealed, valve regulated lead batteries containing GEL electrolyte. These batteries are characterized by their robustness, versatility of application and maintenance free design. Other advantages include long service life and a high level of cyclical resistance.</p>

*Manufactured at European production facilities, certified with ISO 9001, ISO 14001*

### APPLICATIONS

- |   |   |
|---|---|
| <p><b>1. Battery driven electrical vehicles</b><br/>Golf carts<br/>Airport Ground Support Equipment<br/>Tow vehicles (tuggers)<br/>Unit load carriers</p> | <p><b>3. Mobility for the disabled</b><br/>Electric wheelchairs<br/>Pedestrian-operated stair climbers</p>  |
| <p><b>2. Cleaning Machines</b><br/>Floor cleaners<br/>Wet scrubbers<br/>Polishers<br/>Ice preparation machines</p>  | <p><b>4. Mobile lifting platforms</b><br/>Light cranes<br/>Aerial Work Platform /Access</p> <p><b>5. Marine</b><br/>Leisure and light industrial craft<br/>(inland waterways or seagoing)</p> |

### ADDED VALUE SERVICES

Design and implementation of turnkey solutions  
 Installation & maintenance services according to EN 50272-3 safety requirements (CE compliance)  
 360° Technical Support 24x7 through SUNLIGHT Global Partners Network  
 Training and consulting  
 Battery Collection and Recycling Services

### QUALITY FEATURES & PRODUCT BENEFITS

- Long Cycle Life**  
Exclusive use of high quality raw materials and sophisticated production processes in European manufacturing facilities ensure durability and reliability under the most demanding cycling conditions.
- Outstanding Performance**  
Proven tubular plates design with low antimony content for high absorption, reinforced grids and high-porosity separators with minimal internal resistance make SLT batteries sustain their high capacity for a remarkable number of deep cycles offering exceptional efficiency for daily deep cycling applications.
- Quality Assurance**  
The production process includes at least five quality controls for the SLT batteries: materials quality control, assembly quality control, pressurization check, charge level control and final testing. Quality materials, advanced manufacturing techniques of main components and accurate production processes ensure the high quality standards.
- Ease of Handling**  
SLT batteries are engineered for optimal space utilization, quick installation and minimal maintenance. Their GC2 standard design offers maximum compatibility for all applications, while battery types according to DIN standard for European vehicles are also available.
- Flexibility and Availability**  
Wide choice of amperage levels for any type of application and size is available, while the European production and stock offer ensures fast deliveries.
- Peace-of-mind**  
SUNLIGHT can offer 24x7 experienced pre-sales and after sales support through a Global Partners Network.
- Optimum Total Cost of Ownership (TCO)**  
Maximum lifetime value and excellent quality-price ratio.

...the ideal energy solution for light traction applications

### Tubular plate design is superior because of the following technical features

Features	Benefits
<ul style="list-style-type: none"> <li>• Higher active mass surface area than plain flat plates</li> <li>• No active material shedding</li> <li>• Reduced grid corrosion</li> <li>• Reduced self-discharge rate</li> <li>• Quality and homogeneity</li> </ul>	<ul style="list-style-type: none"> <li>✓ Long cycle life</li> <li>✓ Excellent cycling properties</li> <li>✓ High capacity performance</li> <li>✓ Increased endurance even in cases of poor charging conditions</li> </ul>

### WHY SUNLIGHT?

- 30 years of experience in battery design, manufacturing and marketing
- "One Stop Solution"
- Exceptional Customer Service
- Extensive Global Know How & Experience in Motive Power Batteries Business

# SLT

## Vented Tubular Plate Batteries

	DIN BCI Group Size			GC2 BCI Group Size		902 BCI Group Size		GC8 BCI Group Size			
Type	SLT 6-180	SLT 6-195	SLT 6-205	SLT 6-185	SLT 6-200	SLT 6-265	SLT 6-320	SLT 8-160	SLT 12-36 (SS)	SLT 12-36	SLT 12-54
Voltage (V):	6	6	6	6	6	6	6	8	12	12	12
Length (mm):	242	242	242	260	260	305	305	260	205	240	278
Width (mm):	190	190	190	180	180	180	180	180	175	175	175
Height* (mm):	275	275	275	275	275	365	365	275	190	190	190
Weight (kg):	30.3	31.6	31.7	29.9	32.5	47.9	50.5	32.8	13.9	15.3	19.3
Number of Batteries per Pallet:	57	57	57	48	48	28	28	48	96	76	64

\*includes poles

Type	SLT 12-56	SLT 12-72	SLT 12-75	SLT 12-80	SLT 12-85	SLT 12-90	SLT 12-118	SLT 12-126	SLT 12-150	SLT 12-160	SLT 12-180
Voltage (V):	12	12	12	12	12	12	12	12	12	12	12
Length (mm):	265	352	308	352	308	345	345	510	510	513	517
Width (mm):	175	175	174	174	175	170	170	175	222	218	270
Height* (mm):	210	190	220	215	225	235	285	225	225	215	240
Weight (kg):	19.9	24.7	25.7	28.0	27.2	28.4	38.4	39.6	47.3	55.1	64.0
Number of Batteries per Pallet:	48	48	56	48	56	36	36	32	28	28	18

\*includes poles

### Capacity (Ah at 20°C)

	SLT 6-180	SLT 6-195	SLT 6-205	SLT 6-185	SLT 6-200	SLT 6-265	SLT 6-320	SLT 8-160	SLT 12-36 (SS)	SLT 12-36	SLT 12-54	SLT 12-56	SLT 12-72	SLT 12-75	SLT 12-80	SLT 12-85	SLT 12-90	SLT 12-118	SLT 12-126	SLT 12-150	SLT 12-160	SLT 12-180
C20 1.80 Vpc	240	260	270	240	260	350	425	210	50	50	72	75	96	95	105	110	120	157	167	200	210	240
C5 1.75 Vpc	180	195	205	185	200	265	320	160	36	36	54	56	72	75	80	85	90	118	126	150	160	180
C2 1.70 Vpc	140	152	160	144	156	207	250	125	28	28	42	44	56	58	62	66	70	92	98	117	125	140

### Design

- Positive plates:** Tubular plates with optimized anticorrosion characteristics due to the use of special low antimony lead alloy. Tubes filled by injection with active material (mixture of lead oxide and red lead).
- Negative plates:** Plates composed of reinforced grids design pasted with optimized lead alloy.
- Separators:** High-porosity separators with minimal internal resistance. Secured insulation between positive and negative plates.
- Electrolyte:** Optimized electrolyte density (acid-water), for proper ionic exchange.
- Container, lid material:** Corrosion-resistant polypropylene material. Lids completely heat sealed.
- Terminals:** Automotive Post type. On the same side for 12V blocks and diagonally for 6V blocks.
- Valves:** Filler caps with vent valves for proper battery ventilation.

### Operation

- Number of cycles:** 1200 cycles (@60% DoD, 20°C)
- Maintenance:** Low topping up requirements.
- Operating temperature:** Min: -20°C / Max: 45°C. Recommended 15°C to 35°C.
- Self discharge rate:** Approx. 2% per month at 20°C.
- Storage Time:** Maximum shelf life up to 5 months at 20°C, 4 months at 30°C or 2 months at 40°C.
- Recommended Charging Voltage:** 2.25 to 2.30 V/cell (stand-by use at 20°C), 2.35 to 2.45 V/cell (cycle use at 20°C).
- Battery charging:** An initial ampere charge of 12 to 16% of the stated capacity for 5 hours of operation.

# SLT GEL

## Sealed GEL Batteries

	DIN BCI Group Size	902 BCI Group Size									
Type	SLT GEL 6-180	SLT GEL 6-250	SLT GEL 12-32	SLT GEL 12-42	SLT GEL 12-52	SLT GEL 12-63	SLT GEL 12-65	SLT GEL 12-85	SLT GEL 12-105	SLT GEL 12-137	SLT GEL 12-165
Voltage (V):	6	6	12	12	12	12	12	12	12	12	12
Length (mm):	244	305	205	240	278	352	308	345	345	513	517
Width (mm):	192	180	175	175	175	175	175	170	170	218	270
Height* (mm):	275	365	190	190	190	190	225	235	285	215	240
Weight (kg):	34.1	54.3	15.7	19.9	22.5	28.3	29.0	35.1	42.7	60.5	71.0
Number of Batteries per Pallet:	36	15	72	57	48	36	30	24	24	14	12

\*includes poles

### Capacity (Ah at 20°C)

	SLT GEL 6-180	SLT GEL 6-250	SLT GEL 12-32	SLT GEL 12-42	SLT GEL 12-52	SLT GEL 12-63	SLT GEL 12-65	SLT GEL 12-85	SLT GEL 12-105	SLT GEL 12-137	SLT GEL 12-165
C20 1.80 Vpc	240	335	44	57	70	84	86	100	140	170	200
C5 1.75 Vpc	180	250	32	42	52	63	65	85	105	137	165
C2 1.70 Vpc	140	195	25	33	41	49	51	67	82	107	129

### Design

- Positive plates:** Flat plates with lead calcium tin grid.
- Negative plates:** Plates of reinforced grids design pasted with optimized lead alloy.
- Separators:** High-porosity separators with minimal internal resistance. Secured insulation between positive and negative plates. Free flow of electrolyte throughout the cell.
- Electrolyte:** Sulphuric acid immobilised as GEL.
- Container, lid material:** Corrosion-resistant polypropylene material. Lids completely heat sealed.
- Terminals:** Automotive Post type. On the same side for 12V blocks and diagonally for 6V blocks.
- Pressure relief valve:** One way valve with flame arrestor.

### Operation

- Number of cycles:** 600 cycles (@60% DoD, 20°C).
- Maintenance:** Maintenance-free design without topping-up needs.
- Operating temperature:** Min: -20°C / Max: 45°C. Recommended 15°C to 35°C.
- Self discharge rate:** Approx. 2% per month at 20°C.
- Storage Time:** Maximum shelf life up to 6 months at 20°C, 4 months at 30°C or 2 months at 40°C.
- Recommended Charging Voltage:** Recommended Charging Voltage: 2.25 to 2.30 V/cell (stand-by use at 20°C), 2.35 to 2.45 V/cell (cycle use at 20°C).
- Battery charging:** An initial ampere charge of 12 to 16% of the stated capacity for 5 hours of operation.

### Storage / Installation / Maintenance

**Storage:** Batteries should be stored in dry areas, protected from direct sunlight and, if possible, not subject to considerable temperature changes. Despite a minimal self-discharge effect, charged batteries should better not be stored for long periods of time. If batteries are stored for a few months, before installing them, check their charge level and recharge them if the charge level is below 70%

**Installation:** Batteries should be installed following the instructions given by the manufacturers of the vehicle/system and the given polarity should be respected. Great care is recommended with connections to prevent short circuits.

**Maintenance (applicable only for SLT batteries):** Batteries should be kept clean and dry with a slightly damp cloth. Do not use any organic solution. Avoid operating batteries until completely discharged and leaving them discharged for long periods of time. During normal battery operation, the water in the solution gradually evaporates. Regular topping up with demineralised water is required. Pour water through the filler caps up to a constant level in each element or cell. Topping up is always recommended after a full recharge cycle. The level of electrolyte should always cover the internal plates to prevent sulphation, this level, however, should never be exceeded. Any solution overflow, which usually occurs during recharging, may involve electrolyte density loss and therefore lead to capacity drop. SLT batteries are characterised by low water consumption. For daily use, however, solution level check and topping up, if necessary, are recommended every 15 days. Regular maintenance of the SLT batteries ensures constant levels of performance and many years of operation.

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