

Congratulations on your choice of a new Deka industrial battery. The complete line of Deka industrial batteries incorporates every feature required by today's user of electric industrial trucks. Designed with East Penn engineering technology and **built by master battery craftsmen** according to strict quality assurance guidelines, Deka industrial batteries are the **finest available** to meet today's material handling requirements. Deka precision construction provides new equipment performance throughout a long life. This battery has been inspected prior to shipment to insure that it meets your specifications as ordered. By following the operating and maintenance instructions, you will be insuring optimum life and performance of your new Deka industrial battery.

OPERATING INSTRUCTIONS

4-1014

DANGER Contains: **Lead, Sulfuric Acid (Electrolyte), Lead Compounds.**

Harmful if swallowed, inhaled, or in contact with skin. Acid causes severe skin burns and eye damage. May damage fertility or the unborn child if ingested or inhaled.

May cause harm to breast-fed children. May cause cancer if ingested or inhaled. Causes skin irritation, serious eye damage. Contact with internal components may cause irritation or severe burns.

Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure if ingested or inhaled. Irritating to eyes, respiratory system, and skin. May form explosive air/gas mixture during charging. Extremely flammable gas (hydrogen). Explosive, fire, blast or projection hazard.

PROPOSITION 65 WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. **WASH HANDS AFTER HANDLING.**

WARNING: Risk of fire, explosion or burns. Do not disassemble or incinerate. Not recommended for inverted use. Follow product charging instructions. **High Voltage:** Risk of shock. Do not touch uninsulated terminals or connectors. **Keep Vent Caps Tightly in Place**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Do not eat drink or smoke when using this product. Avoid contact during pregnancy/while nursing. Wear protective gloves/protective clothing, eye protection/face protection. Use only outdoors or in a well-ventilated area. Avoid contact with internal acid. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat/sparks/open flames/hot surfaces. No smoking. **IF SWALLOWED OR CONSUMED:** rinse mouth. Do NOT induce vomiting. Call a poison center/doctor if you feel unwell.

IF ON CLOTHING OR SKIN (or hair): Remove/Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. **IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed/concerned, or if you feel unwell seek medical attention/advice. Store locked up, in a well-ventilated area, in accordance with local and national regulation. Dispose of contents/container in accordance with local and national regulation. Keep out of reach of children.

Lead Acid Battery Electrolyte (Sulfuric Acid)

Manufactured by: East Penn Manufacturing Co., 102 Deka Road, Lyon Station, PA 19536 USA 610-682-6361

BATTERIES AND RELATED PARTS CONTAIN LEAD

WASH HANDS AFTER HANDLING!

CALIFORNIA PROPOSITION 65 WARNING: Batteries, battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

California Proposition 65 Workplace Warning Sign 7/04
Must be posted in workplace near batteries.

1. Upon receipt of the battery, if there are signs of rough handling or of electrolyte leakage, file a claim with the carrier and advise your Deka representative.

The electrolyte level should normally be above the perforated separator protector, which can be seen in the cell when the vent caps are removed. However vibrations during shipping often shake enough gas out of the cell that the electrolyte level may drop below the separator protector, especially on taller cells. If the electrolyte level is still above the top of the plates and can be seen with a flashlight through the holes in the separator protector, the battery may be given its initial charge without adjusting the electrolyte level.

If the electrolyte level is not visible or is below the top of the plates, check again for leaking cells and call your Deka representative before charging the battery.

2. Check the nameplate of your charger against the nameplate of the battery to make sure they both show the same voltage and that the six-hour ampere hour capacity of the battery falls within the eight-hour recharge range of the charger.
3. The "Battery Type Identification" shown on the battery (E, EO, EE, EX) should match the "Battery Type Identification" specified on the truck nameplate.
4. Make sure that the battery "SERVICE WEIGHT," which is stamped below the lifting hole in the steel tray, falls within the battery weight range shown on the truck nameplate. East Penn Manufacturing Co. cannot be responsible for determining that the battery weight is sufficient to counter-balance your particular truck.

5. Prior to placing the battery in service, it should be given an equalizing charge. Near the end of the charge, check to make sure that the electrolyte levels of all cells are visible and above the separator protector. The full charge specific gravity is 1.320 to 1.330 when temperature corrected to 77°F (25°C).
6. Upon installation in the truck, battery restraints should be adjusted to restrict movement of the battery to no more than 1/2" in a horizontal direction. An insulated spreader bar should be used any time the battery is lifted or hoisted.
7. The battery has delivered its normal ampere hour capacity when it has been discharged to a specific gravity of between 1.155 and 1.175. Discharging below 1.155 specific gravity can shorten the battery's service life.
8. The battery should be placed on charge upon completion of the work shift and returned to full charge. If at the end of the work shift the specific gravity has not fallen below 1.260, it is advisable to use the battery for another shift. Normally, batteries should not be used for more than two successive shifts before recharging. All vent caps should be kept in place and the steel tray cover or the truck compartment cover kept open while charging.
9. After the daily charge and prior to the start of the workshift, a specific gravity reading should be taken with a hydrometer on at least one cell in order to insure full recharge. The specific gravity should be between 1.310 and 1.330 when temperature corrected to 77°F (25°C).
10. A copy of the DEKA INDUSTRIAL BATTERY SERVICE MANUAL, (0656) which gives more detailed information on the Operation and Maintenance of motive power batteries, can be obtained from your Deka representative or by visiting www.dekabatteries.com.

MAINTENANCE

1. Once each week the electrolyte level should be checked in every cell. It may be necessary to add water to the battery on a weekly to a monthly basis, depending on the type of battery and the type of service for which it is used.
2. Only distilled, deionized or approved water should be added to the battery. Water should be added only near the end of the charge to raise the electrolyte level to the bottom of the vent well. Water should be stored in a clean non-metallic container as impurities, even in small amounts, may be harmful to battery life.
3. Depending on the type of service, it will be necessary to give the battery an equalizing charge every one to four weeks. Set the charger to the equalize position.
4. Specific gravity readings should be recorded for all cells once each month immediately after an equalizing charge. If the readings average below 1.310 the charger output should be checked. If two successive monthly readings indicate more than 20 points deviation in any cell from the average specific gravity, you should contact your Deka representative.
5. The top of the battery should be kept clean and dry at all times. When required, the top of the battery should be neutralized, after removing the shrouds, with a non-corrosive water based neutralizing solution. Make sure vent caps are securely in place to prevent any solution from entering cells. After the battery has been neutralized, rinse thoroughly with clear water, dry and then reinstall the cleaned shrouds.
6. The cables and connectors should be inspected monthly for exposed copper wires, fraying or cracked insulation, loose connections, or pitted contacts, and repaired as required.
7. Be especially careful to keep metallic objects off the top of the battery, as any metal touching two or more connectors may cause a short circuit resulting in an arc or spark which could ignite battery gasses explosively.
8. The output rate of the charger should be checked periodically. The starting rate should correspond to the starting rate shown on the charger nameplate. The following chart shows the ampere hour capacity at the six-hour rate, as well as the recommended finish rate for every cell size in the "MAX POWER" line manufactured by East Penn Manufacturing Co.

| TYPE | PLATES PER CELL | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 |
|------|---------------------------------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| P38 | 6 HR. A.H. RATING FINISH RATE—AMPS | 76 | 114 | 152 | 190 | 228 | 266 | 304 | 342 | 380 | 418 | 456 | 494 | 532 | 570 | 608 |
| | | 4 | 6 | 8 | 10 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 28 | 30 |
| P49 | 6 HR. A.H. RATING FINISH RATE—AMPS | 98 | 147 | 196 | 245 | 294 | 343 | 392 | 441 | 490 | 539 | 588 | 637 | 686 | 735 | 784 |
| | | 5 | 7 | 10 | 12 | 15 | 17 | 20 | 22 | 24 | 27 | 29 | 32 | 34 | 37 | 39 |
| P60 | 6 HR. A.H. RATING FINISH RATE—AMPS | 120 | 180 | 240 | 300 | 360 | 420 | 480 | 540 | 600 | 660 | 720 | 780 | 840 | 900 | 960 |
| | | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 | 45 | 48 |
| P71 | 6 HR. A.H. RATING FINISH RATE—AMPS | 142 | 213 | 284 | 355 | 426 | 497 | 568 | 639 | 710 | 781 | 852 | 923 | 994 | 1065 | 1136 |
| | | 7 | 11 | 14 | 18 | 21 | 25 | 28 | 32 | 36 | 39 | 43 | 46 | 50 | 53 | 57 |
| P82 | 6 HR. A.H. RATING FINISH RATE—AMPS | 164 | 246 | 328 | 410 | 492 | 574 | 656 | 738 | 820 | 902 | 984 | 1066 | 1148 | 1230 | 1312 |
| | | 8 | 12 | 16 | 20 | 25 | 29 | 33 | 37 | 41 | 45 | 49 | 53 | 57 | 62 | 66 |
| P95 | 6 HR. A.H. RATING FINISH RATE—AMPS | 190 | 285 | 380 | 475 | 570 | 665 | 760 | 855 | 950 | 1045 | 1140 | 1235 | 1330 | 1425 | 1520 |
| | | 10 | 15 | 20 | 24 | 29 | 34 | 38 | 43 | 47 | 52 | 57 | 62 | 67 | 71 | 76 |
| P110 | 6 HR. A.H. RATING FINISH RATE—AMPS | 220 | 330 | 440 | 550 | 660 | 770 | 880 | 990 | 1100 | 1210 | 1320 | 1430 | 1540 | 1650 | 1760 |
| | | 11 | 16 | 22 | 28 | 33 | 38 | 44 | 50 | 55 | 60 | 66 | 72 | 77 | 82 | 88 |
| P121 | 6 HR. A.H. RATING FINISH RATE—AMPS | 242 | 363 | 484 | 605 | 726 | 847 | 968 | 1089 | 1210 | 1331 | 1452 | 1573 | 1694 | 1815 | 1936 |
| | | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 67 | 73 | 79 | 85 | 91 | 97 |
| P140 | 6 HR. A.H. RATING FINISH RATE—AMPS | 280 | 420 | 560 | 700 | 840 | 980 | 1120 | 1260 | 1400 | 1540 | 1680 | 1820 | 1960 | 2100 | 2240 |
| | | 15 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 | 91 | 98 | 105 | 112 |
| P165 | 6 HR. A.H. RATING FINISH RATE—AMPS | | | 660 | 825 | 990 | 1155 | 1320 | 1485 | 1650 | | | | | | |
| | | | | 33 | 41 | 50 | 58 | 66 | 74 | 82 | | | | | | |
| P170 | 6 HR. A.H. RATING FINISH RATE—AMPS | | | 680 | 850 | 1020 | 1190 | 1360 | 1530 | 1700 | | | | | | |
| | | | | 34 | 42 | 51 | 60 | 68 | 76 | 85 | | | | | | |



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