



# SOLAR™

## PHOTOVOLTAIC BATTERIES



Made in U.S.A.

## Renewable Energy Storage Solutions

Deka batteries are engineered and tested to provide reliable, long-lasting back-up power for Photovoltaic (PV) and renewable energy applications where frequent deep cycles are required and minimum maintenance is desirable:

- Water Pumping
- Residential/Small Village
- Communications
- Cathodic Protection
- Remote Monitoring
- Refrigeration
- Lighting
- Aids to Navigation
- Wind Generation
- Road Repair Work
- Railway Signal Applications
- Missile Tracking
- Solar Panel Electricity Collection
- Uninterruptible Power Supply (U.P.S.)

QUALITY SYSTEM  
CERTIFIED  
**ISO 9001**  
ENVIRONMENTAL  
SYSTEM CERTIFIED  
**ISO 14001**



## FLOODED MONOBLOC / 6V & 12V

Deka Solar Flooded Monobloc batteries are designed to offer reliable, low-maintenance power for renewable energy applications where frequent deep cycles are required and minimum maintenance is desirable. The Deka Solar Flooded Monobloc series include 3 cell (6 volt) and 6 cell (12 volt) batteries.

### FEATURES AND BENEFITS

Case and Cover	Molded high impact polypropylene
Separators	Microporous polyethylene envelopes/separators
Retainers	20 mil glass mat (DC27- 10 mil)
Positive and Negative Plate	Antimony
Specific Gravity (fully charged)	1.275 @ 25°C (77°F)
Self Discharge	4% per month
Plates Formed using IPF™ Technology	Ensures voltage matching between cells



## GEL MONOBLOC / 6V & 12V

The Deka Solar Valve-Regulated Gel Monobloc series offers reliable, versatile, maintenance-free power. The thixotropic gel enables these batteries to be completely spillproof providing many available options for installation. The gelled electrolyte gives more protection to the battery plates, and is better suited for deep cycle discharge. With longer discharge and less charging time, these batteries are ideal for many renewable energy applications.

### FEATURES AND BENEFITS

Valve-Regulated	Sealed construction eliminates periodic watering, corrosive acid fumes, and spills
Gelled Electrolyte	Electrolyte will not stratify
Positive and Negative Plate	Lead calcium
Self-Discharge	Less than 2% per month stand loss means little deterioration during transport and storage
Plates Formed using IPF™ Technology	Ensures voltage matching between cells
Rated Non-Spillable by ICAO, IATA, and DOT	Transports easily and safely by air, no special containers needed



## FLOODED SYSTEM / 2V

Higher voltage systems naturally have greater power requirements. The Deka Solar Maintenance Saver® Flooded battery is available as a single cell or system. It is designed to offer reliable, low maintenance power for renewable energy applications where frequent deep cycles are required and minimum maintenance is desirable.

### FEATURES AND BENEFITS

Jar and Cover	Molded high impact polypropylene
Separators	Microporous polyethylene material
Retainers	Vertically and horizontally wrapped glass mat, folded perforated envelope, molded plastic bottom shield
Positive and Negative Plate	Antimony
Specific Gravity (fully charged)	1.250 @ 25°C (77°F)
Self-Discharge	4% per month
Plates Formed using IPF™ Technology	Ensures voltage matching between cells
Large Reservoir	Allows an increased volume of electrolyte, enabling the batteries to work longer without needing watering



## GEL SYSTEM / 2V

The Deka Solar Dominator® Valve-Regulated Gel electrolyte battery is designed to offer reliable, maintenance-free power. It is available as a single cell or system. The gelled electrolyte protects the battery plates and is completely spillproof making it ideal for renewable energy deep cycle applications.

### FEATURES AND BENEFITS

Valve-Regulated	Sealed construction eliminates periodic watering, corrosive acid fumes, and spills
Gelled Electrolyte	Electrolyte will not stratify
Positive and Negative Plate	Lead calcium
Self-Discharge	Less than 2% per month stand loss means little deterioration during transport and storage
Plates Formed using IPF™ Technology	Ensures voltage matching between cells

## AGM MODULES / 2V



The Deka Unigy® II line, available in single cell or system designs, includes a wide range of capacities and sizes to fit the requirements of renewable energy applications. The Deka Unigy® II STANDARD DESIGN allows modules to be stacked horizontally and connected by only four bolts (two in front - two in back), for quick and safe battery installation. The cell terminals are solid copper with lead plating, and are designed for maximum conductivity.

The Deka Unigy® II INTERLOCK™ SYSTEM utilizes interlocking modules to maximize convenience with front access bolting. This system delivers more power in less space while maintaining cooling requirements. Advanced features provide easy and safe installation such as “two way” post, and easy on/off front shields. Equipped with a standard one-piece INTERLOCK™ base, the system meets Zone 4 seismic specifications and is certified up to 8 modules high.

### FEATURES AND BENEFITS

Valve-Regulated	Sealed construction eliminates periodic watering, corrosive acid fumes, and spills
Case and Cover	Molded high impact flame retardant polypropylene, UL 94 V-0, 28% L.O.I.
Separators	Microporous glass mat
Positive and Negative Plate	Lead tin
MICROCAT™ Catalyst	Lowers float current, decreases internal temps, and the risk of dryout
Self-Discharge	Less than 2% per month stand loss means little deterioration during transport and storage
Plates Formed using IPF™ Technology	Ensures voltage matching between cells
Rated Non-Spillable by ICAO, IATA, and DOT	Transports easily and safely by air, no special containers needed

# SOLAR PRODUCT COMPARISON CHART

		Monobloc (6-volt & 12-volt)			2-volt		
		Flooded	Gel	AGM	Flooded	Gel	AGM
Cycle Life	High	*	*		*	*	
	Moderate			*			*
Capacity	High				*	*	*
	Moderate	*	*	*			
Temperature (Tolerance)	High Temp.	*	*		*	*	*
	Low Temp.		*	*		*	*
Maintenance	Reg. Schedule	*			*		
	Minimal		*	*		*	*
Electrolyte	Free Flowing	*			*		
	Suspended		*	*		*	*
Special Ventilation	Required	*			*		
	Not Required		*	*		*	*
Installation	Upright	*			*	*	
	Other		*	*			*
Weight	Heavy				*	*	*
	Moderate	*	*	*			

## ENVIRONMENTAL PROTECTION PROGRAM

East Penn is committed to implementing the highest environmental standards, and has labeled this sixty-year plus tradition as it's "Environmental Protection Program." Through state-of-the-art recycling facilities and a company wide dedication to environmental health and safety, the company has made safe recycling and environmental stewardship an everyday practice.

Its lead smelter and refinery is a model for the industry recycling virtually 100% of every used lead-acid battery component brought to the facility. East Penn built the battery industry's first acid reclamation plant, avoiding potentially hazardous acid disposal.

The company also treats and reuses wastewater from its manufacturing plants in our modern Wastewater



Distillation and Treatment Plant reducing the use of precious ground-water by over 100,000 gallons per day. Companywide sustainability initiatives are spread throughout its facilities such as collections to recycle paper, cardboard, plastic, used aluminum cans, and glass bottles.

East Penn was one of the first in the nation to install a scrubber unit, which eliminates sulfur dioxide emis-

sions. The company continually monitors the ambient emissions around its plant site, which continues to decline even with a steady increase in production.

The company's modern facilities as well as its long-standing "green" culture has made East Penn the most environmentally conscious proactive battery manufacturer, and recycler in the world.



Wastewater treatment



CENTRAL SERVICES



KELLER TECHNICAL CENTER



AUTOMOTIVE BATTERY PLANT A-3

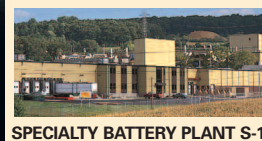
QUALITY SYSTEM  
CERTIFIED  
**ISO 9001**  
**ISO/TS 16949**  
ENVIRONMENTAL  
SYSTEM CERTIFIED  
**ISO 14001**



SMELTER AND REFINERY



DISTRIBUTION CENTER



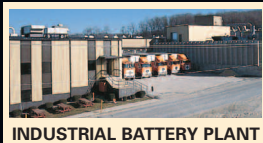
SPECIALTY BATTERY PLANT S-1



AUTOMOTIVE BATTERY PLANT A-4



CABLE AND WIRE PLANT



INDUSTRIAL BATTERY PLANT



INJECTION MOLDING /  
FLEET MAINTENANCE



CORYDON, IOWA  
BATTERY PLANT A-5



OXIDE / RAIL SIDING

## World's Largest and Most Modern Single-Site Battery Manufacturing Facility

Since 1946, East Penn has been producing high quality batteries and battery accessories for the automotive, commercial, marine, industrial, stationary, and specialty markets.

Facilities at its 520-acre manufacturing complex at Lyon Station, PA include four automotive battery plants, an industrial battery plant, a specialty battery plant, a state-of-the-art oxide facility, an innovative recycling infrastructure, and dozens of vertically integrated capabilities and other support facilities. An additional manufacturing facility in Corydon, IA helps accommodate widespread growth. East Penn owns and operates a wire, cable, and battery accessory plant and a multiple facility distribution center just miles away from its Lyon Station complex.

New high-tech facilities and computer monitoring and control systems have made the company an industry leader in advanced battery manufacturing.

East Penn's quality manufacturing is recognized worldwide and has met the global requirements of ISO 9001 and ISO/TS 16949 certification standards. East Penn is also a leader in innovative recycling and has met global environmental requirements of ISO 14001 certification standards.

Staffed with a long-term management team, East Penn is an independent company committed to the future and dedicated to producing high-class products and service to assure complete satisfaction, above and beyond the industry standard, to our partners and customers worldwide.



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