



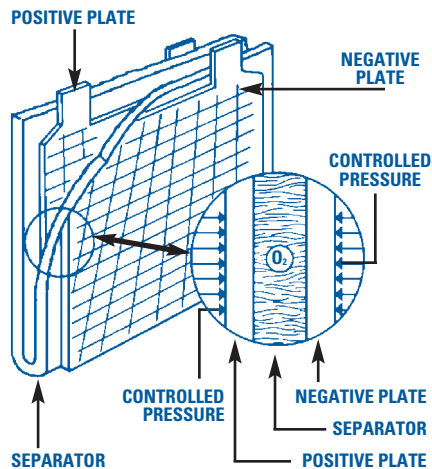
Deka AGM Series (Absorbed Glass Mat) for longer and safer battery operation



Deka's AGM (Absorbed Glass Mat) Series uses a special absorbed electrolyte technology that is superior to conventional lead-acid batteries. This completely sealed valve-regulated battery line eliminates gas emissions and acid leakage for longer and safer battery operation.

How AGM Works

Unlike conventional "flooded" lead-acid batteries, AGM sealed valve-regulated technology eliminates the need to add water because the oxygen and hydrogen gases react to maintain the necessary amounts of moisture. Highly porous microfiber separators wrapped around the positive plates completely absorb and trap the electrolyte, so there is no excess to spill or leak out of the battery. Oxygen formed from the positive plates during charging passes horizontally through the separator pores to the negative plates, where it reacts with hydrogen and changes back to water to replenish the electrolyte.



Oxygen diffuses through the horizontal separator pores to the negative plate as this is the only available path.



AGM Features – The extremely efficient design includes several unique features.

- Specially-engineered safety relief valve system effectively **controls critical internal gas pressure**, preventing capacity loss from excessive gas seepage. This one-way valve also prevents outside air from entering the battery—a common cause of failure in most sealed valve-regulated battery designs.
- Fine microfiber **glass separators are highly porous** to hold electrolyte more efficiently and have extremely low electrical resistance for higher capacity.
- Power path grids are **computer-cast and pasted** to uniform thickness, allowing for the exact degree of compression needed for optimum oxygen flow between the plates and separators. (Plates compressed too tightly will impede oxygen flow, while plates packed too loosely allow valuable oxygen to escape to the top of the battery. Both conditions seriously impair performance and shorten battery life.)
- Exclusive **individual tank formed plates** provide the highest quality and most consistent performance.
- Rated non-spillable by ICAO (International Commercial Airline Organization), IATA (International Airline Transport Association) and DOT (Department of Transportation) definitions.

AGM Benefits – The AGM Series offers all the advantages of conventional "flooded" batteries without the disadvantages.

- **Maintenance-free** construction eliminates the need to add water.
- **Completely sealed** valve-regulated design eliminates acid spills and terminal corrosion.
- **Safer operation** substantially minimizes chance of acid spray, fumes and explosion hazards when charged correctly.
- **Flexible design** can be installed in almost any position. (However, upside-down installation is not recommended.)
- **State-of-charge easily determined** by open circuit voltage.
- **Lower electrical resistance** provides higher discharge rates.
- **High freeze-resistance** offers longer battery life.
- **Resists vibration** damage for longer operating time.
- **Lightweight construction** for easy installation.
- **Requires less charging time** than conventional batteries.

EAST PENN manufacturing co., inc.

Lyon Station, PA 19536-0147 • Phone: 610-682-6361 • Fax: 610-682-4781

Order Department Hotline: 610-682-4231

WWW: <http://www.eastpenn-deka.com> • E-mail: eastpenn@eastpenn-deka.com

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ABSORBED GLASS MAT SERIES



ABSORBED GLASS MAT SERIES

| GROUP NO. | PART NO. | COLOR CODE | FOOT NOTES | STANDARD/OPTIONAL TERMINAL | MINUTES DISCHARGED AT* | | | | | | DISCHARGE AMPS PER 12-VOLT BATTERY TO 1.75 VPC @ 80°F (27°C)* | | | | | | |
|--|----------|------------|------------|----------------------------|------------------------|---------|---------|---------|--------|--------|---|----------|----------|----------|----------|----------|----------|
| | | | | | 75 AMPS | 50 AMPS | 25 AMPS | 15 AMPS | 8 AMPS | 5 AMPS | 5 MINS. | 10 MINS. | 15 MINS. | 20 MINS. | 30 MINS. | 60 MINS. | 90 MINS. |
| STARTING OR DEEP-CYCLE - EV - TROLLING MOTOR - WHEELCHAIR | | | | | | | | | | | | | | | | | |
| U1 | 8AU1 | BG | | T874 / NA | 10 | 20 | 54 | 98 | 200 | 340 | 110 | 75 | 60 | 50 | 39 | 23 | 16 |
| | 8AU1H | BG | H | T874 / NA | 10 | 20 | 54 | 98 | 200 | 340 | 110 | 75 | 60 | 50 | 39 | 23 | 16 |
| 22NF | 8A22NF | BG | | T881 / NA | 22 | 40 | 102 | 180 | 365 | 620 | 160 | 120 | 95 | 80 | 62 | 35.5 | 28 |
| 24 | 8A24 | BG | HQ | T881 / NA | 35 | 60 | 150 | 280 | 550 | 900 | 220 | 165 | 130 | 110 | 85 | 50.5 | 36 |
| | 8A24NH | BG | Q | T881 / T876 | 35 | 60 | 150 | 280 | 550 | 900 | 220 | 165 | 130 | 110 | 85 | 50.5 | 36 |
| 27 | 8A27 | BG | HQ | T881 / T876 | 43 | 75 | 185 | 330 | 640 | 1080 | 270 | 200 | 153 | 130 | 98 | 59 | 44 |
| 31 | 8A31DT | BG | HT | SAE STUD / NA | 53 | 87.4 | 200 | 348 | 706 | 1265 | 305 | 226 | 174 | 147 | 114 | 68.2 | 49.0 |
| 4D | 8A4D | BG | H | SAE | 106 | 180 | 413 | 745 | 1512 | 2507 | 508 | 408 | 318 | 266 | 200 | 115 | 85 |
| 8D | 8A8D | BG | H | SAE | 138 | 230 | 517 | 953 | 1874 | 3040 | 600 | 475 | 386 | 325 | 256 | 151 | 106 |
| GC-2 | 8AGC2 | BG | | T881 | 94 | 171 | 409 | 718 | 1409 | 2304 | — | — | — | — | — | — | — |

| GROUP NO. | PART NO. | CCA @ 0°F (-18°C) | RES. CAP. | VOLTS | AMPERE HOUR CAPACITY* | | | | | APPROX. WEIGHT LBS. (KGS.) | MAXIMUM OVERALL DIMENSIONS INCHES (MM) | | | STANDARD/OPTIONAL TERMINALS |
|--|----------|-------------------|-----------|-------|-----------------------|-------|-------|-------|-------|----------------------------|--|-------------|--------------|-----------------------------|
| | | | | | 20 HR. | 8 HR. | 6 HR. | 3 HR. | 1 HR. | | LENGTH | WIDTH | HEIGHT | |
| STARTING OR DEEP-CYCLE - EV - TROLLING MOTOR - WHEELCHAIR | | | | | | | | | | | | | | |
| U1 | 8AU1 | 240 | 48 | 12 | 32.5 | 29.5 | 28.3 | 26.5 | 23.0 | 24.0 (10.9) | 7 3/4 (197) | 5 1/2 (130) | 7 1/4 (184) | |
| | 8AU1H | 240 | 48 | 12 | 32.5 | 29.5 | 28.3 | 26.5 | 23.0 | 24.0 (10.9) | 8 5/16 (211) | 5 1/2 (130) | 7 1/4 (184) | |
| 22NF | 8A22NF | 280 | 90 | 12 | 55.0 | 50.0 | 49.0 | 45.0 | 35.5 | 38.5 (17.5) | 9 3/8 (238) | 5 1/2 (140) | 9 1/4 (235) | |
| 24 | 8A24 | 470 | 140 | 12 | 79.0 | 72.0 | 70.5 | 65.0 | 50.5 | 53.0 (24.0) | 10 1/2 (266) | 6 3/4 (171) | 9 1/4 (251) | |
| | 8A24NH | 470 | 140 | 12 | 79.0 | 72.0 | 70.5 | 65.0 | 50.5 | 53.0 (24.0) | 10 1/2 (266) | 6 3/4 (171) | 9 1/4 (251) | |
| 27 | 8A27 | 580 | 175 | 12 | 92.0 | 84.0 | 82.5 | 75.0 | 59.0 | 63.0 (28.6) | 12 1/2 (324) | 6 3/4 (171) | 9 1/4 (251) | |
| 31 | 8A31DT | 650 | 190 | 12 | 105.0 | 90.0 | 87.4 | 81.5 | 68.2 | 69.0 (31.3) | 12 5/16 (329) | 6 3/4 (171) | 9 1/4 (238) | |
| 4D | 8A4D | 1110 | 380 | 12 | 198.2 | 176.0 | 167.4 | 150.0 | 115.0 | 129.0 (58.5) | 20 1/2 (527) | 8 1/2 (216) | 10 (254) | |
| 8D | 8A8D | 1350 | 480 | 12 | 245.0 | 212.0 | 202.8 | 182.1 | 151.1 | 158.0 (71.7) | 20 1/2 (527) | 11 (279) | 10 (254) | |
| GC-2 | 8AGC2 | 690 | 380 | 6 | 187.0 | 174.0 | 167.8 | 144.8 | 102.6 | 69.5 (32.0) | 10 1/2 (260) | 7 1/2 (181) | 10 1/2 (276) | |

FOOTNOTES:

- H - Includes handles
- Q - Combination terminals, offset with 5/16" stainless stud and wing nuts
- T - Dual terminals with SAE posts and 3/8" POS., 5/16" NEG., stainless steel studs and wing nuts

- * Nominal
- ** Preliminary ratings

All batteries are manufactured in polypropylene cases.

COLOR CODE:

First letter indicates COVER, second letter indicates CASE.
B - Black **G** - Grey

Warranty void if opened or improperly charged. Caution: Constant under- or over-charging will damage any battery and shorten its life. Use a good constant potential, voltage-regulated charger. For 12-volt batteries, charge to at least 14.4 volts but no more than 14.6 volts at 68°F (20°C). Do not charge in a sealed container. The SAT Series has more capacity at high discharge rates than conventional deep cycle batteries.

Potential Applications of AGM

Starting, Lighting and Ignition

Cars • Trucks • Marine • Snowmobiles
 Lawn & Garden Tractors

Traction

Wheelchairs • Floor Sweepers • Guided Vehicles
 Small Fork Lifts • Trolling Motors

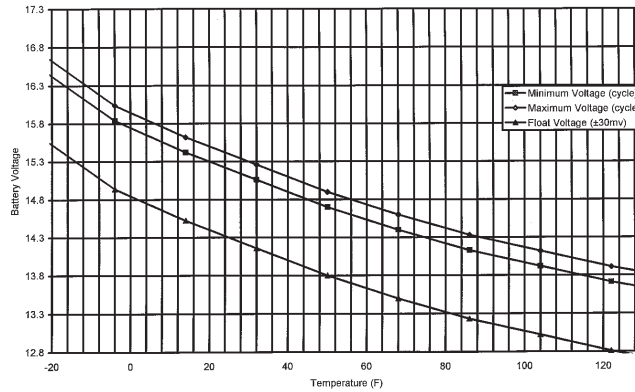
Industrial

Cable TV • Emergency Lighting • Exit Lighting
 Alarm and Security Systems • PBX Systems • Utility Control
 Switching Equipment • Medical Equipment
 Recreational Vehicles • Electronic Cash Registers

Portable Devices

Construction Equipment • Portable Pumps and Generators
 Portable Test and Measuring Equipment
 Portable Tools • Mobile TV, VCR, VTR

Constant Voltage vs. Temperature



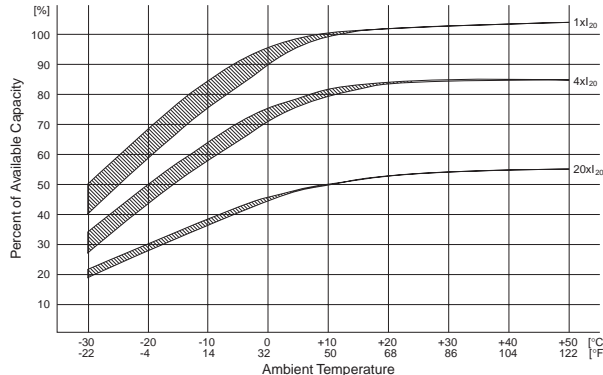
Shown is the constant charging voltage in relation to the ambient temperature for cyclic and float use.

AGM Specifications—Rated Non-spillable by ICAO/IATA/DOT Definitions

The AGM Series—Backed by 50 years of battery experience

The Deka AGM Series is made by East Penn Manufacturing Company, Inc., the country's leading independent battery manufacturer. East Penn makes over 200 different types of batteries for the automotive, commercial, industrial, stationary and specialty markets, as well as a full line of battery accessory products. Since 1946, we have developed a solid reputation for providing world-class quality products with state-of-the-art manufacturing methods. Our experienced engineers have used the most advanced research methods and computer-controlled production techniques to bring you the AGM Series. No one makes a more reliable sealed valve-regulated battery.

Capacity vs. Operating Temperature



Shown are the changes in capacity for a wider ambient temperature range, giving the available capacity as a percentage of the rated capacity at different ambient temperatures, for three different load examples, with uninterrupted discharge to the appropriate discharge cut-off voltage. The values for the upper edge of the curve were obtained from charging at an ambient temperature of +20°C (68°F) with a voltage limit of 2.3 V/cell. For the lower edge, charging was carried out at the specified ambient temperature. The curves show the behavior of the battery after a number of cycles.