



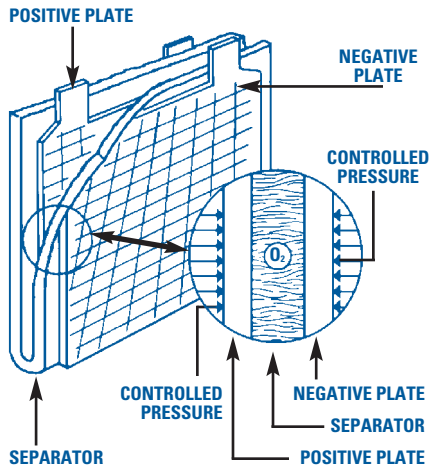
# Deka AGM Series (Absorbed Glass Mat) for longer and safer battery operation



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.
- Most AGM batteries are 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.

**"POWERED FOR PERFORMANCE"™**

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**ABSORBED GLASS MAT SERIES**



# ABSORBED GLASS MAT SERIES

GROUP NO.	PART NO.	FOOT NOTES	STANDARD/OPTIONAL TERMINAL (FOOTNOTE)	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.
<b>STARTING OR DEEP-CYCLE - EV - TROLLING MOTOR - WHEELCHAIR</b>																
U1	8AU1	12	Z / NA	10	20	54	98	200	340	110	75	60	50	39	23	16
	8AU1H	H12	Z / NA	10	20	54	98	200	340	110	75	60	50	39	23	16
22NF	8A22NF	12	G / NA	22	40	102	180	365	620	160	120	95	80	62	35.5	28
24	8A24	H12	G / NA	35	60	150	280	550	900	220	165	130	110	85	50.5	36
	8A24NH	12	G / B	35	60	150	280	550	900	220	165	130	110	85	50.5	36
27	8A27	H12	G / B	43	75	185	330	640	1080	270	200	153	130	98	59	44
31	8A31DT	H1	SX / NA	53	87.4	200	348	706	1265	305	226	174	147	114	68.2	49.0
4D	8A4D	H	S	106	180	413	745	1512	2507	508	408	318	266	200	115	85
8D	8A8D	H	S	138	230	517	953	1874	3040	600	475	386	325	256	151	106
GC2	8AGC2		G	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	
<b>STARTING OR DEEP-CYCLE - EV - TROLLING MOTOR - WHEELCHAIR</b>														
U1	8AU1	240	48	12	32.0	29.5	28.3	26.5	23.0	24.0 (10.9)	7 7/8 (197)	5 1/2 (130)	7 1/4 (184)	
	8AU1H	240	48	12	32.0	29.5	28.3	26.5	23.0	24.0 (10.9)	8 3/8 (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 (276)	6 3/8 (171)	9 3/4 (251)	
	8A24NH	470	140	12	79.0	72.0	70.5	65.0	50.5	53.0 (24.0)	10 1/2 (276)	6 3/8 (171)	9 3/4 (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 3/8 (171)	9 3/4 (251)	
31	8A31DT	650	190	12	105.0	90.0	87.4	81.5	68.2	69.0 (31.3)	12 5/8 (329)	6 3/8 (171)	9 3/4 (238)	
4D	8A4D	1110	380	12	198.2	176.0	167.4	150.0	115.0	129.0 (58.5)	20 3/8 (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 3/8 (527)	11 (279)	10 (254)	
GC2	8AGC2	690	380	6	187.0	173.7	167.8	144.8	102.6	69.5 (32.0)	10 1/4 (260)	7 1/2 (181)	10 3/4 (276)	

**FOOTNOTES:**

- B - Flag terminal w/ 3/8" diameter hole
- G - Offset post w/ horizontal hole, stainless steel 5/16" bolt & hex nut
- H - Includes handles
- S - SAE "automotive type" post
- X - 3/8" x 16 stainless steel stud posts
- Z - Terminals have round holes

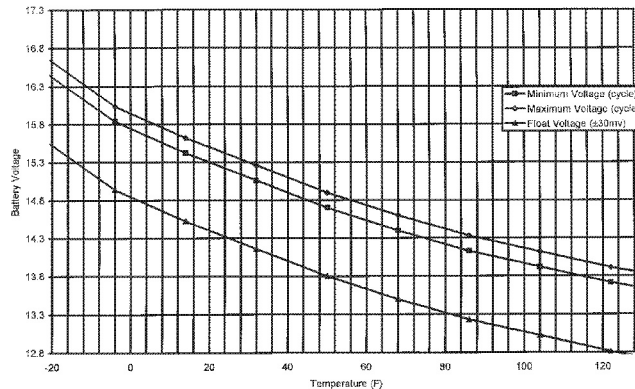
- 1 - "Non-Spillable" defined by DOT (Department of Transportation) definition
- 2 - "Non-Spillable" defined by ICAO (International Commercial Airline Organization) and IATA (International Airline Transportation Association) definitions

\* Nominal

All batteries are manufactured in polypropylene cases.  
All AGM batteries have a grey case and a black cover.

**Warning void if opened or improperly charged. Caution: Constant under- or overcharging 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). For 6-volt batteries, charge to at least 7.2 volts but not more than 7.3 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.

**Constant Voltage vs. Temperature**



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

**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

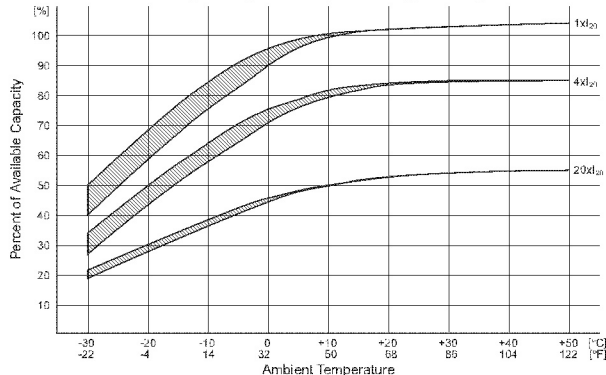
**Industrial**

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

**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.

