C&D TECHNOLOGIES

BB agm gel BROADBAND

BROADBAND SOLUTIONS

POWER YOU CAN DEPEND ON.

C&D Technologies delivers world-class power solutions for mission-critical industrial applications around the world. As a trusted power solutions provider for more than 100 years, C&D is committed to providing high quality, reliable and cost-effective products and services.

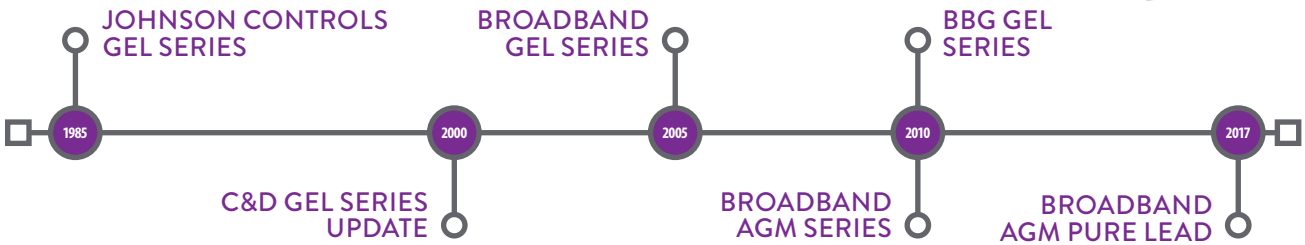
Since 2002, C&D has sold over 5 million batteries into the broadband cable market. The Broadband Series including VRLA AGM and Gel batteries has been specifically designed and manufactured to deliver outstanding performance – even in harsh environments and extreme temperatures.

Uptime is critical in the broadband market. C&D's Broadband Series delivers a highly reliable, yet cost-effective solution for power you can depend on.

APPLICATIONS

- Broadband
- Wi-Fi
- Wireless
- Medical
- Security
- Reverse Power Systems
- Traffic Management
- Industrial UPS

TIMELINE OF THE BROADBAND SERIES



BBA | BROADBAND AGM

BBA Pure Lead AGM batteries offer a longer service life for use in broadband applications. These versatile batteries can be used in upright, side or end-mounted orientations.

- Industry leading capacity - up to 255 runtime minutes
- Proproprietary MSE Pure Lead Plus Technology provides extended service life in elevated temperature applications
  - 7+ year service life in uncontrolled environments
- Proprietary high-density paste reduces float current
  - Increases battery life and reduces risk of thermal run-away
  - 20% better float current than standard AGM
- Efficient gas recombination decreases gassing/water loss
- Operating temperature range:
  - Discharge: -40˚F to 160˚F
  - Charge: -10˚F to 140˚F (with temperature compensation)

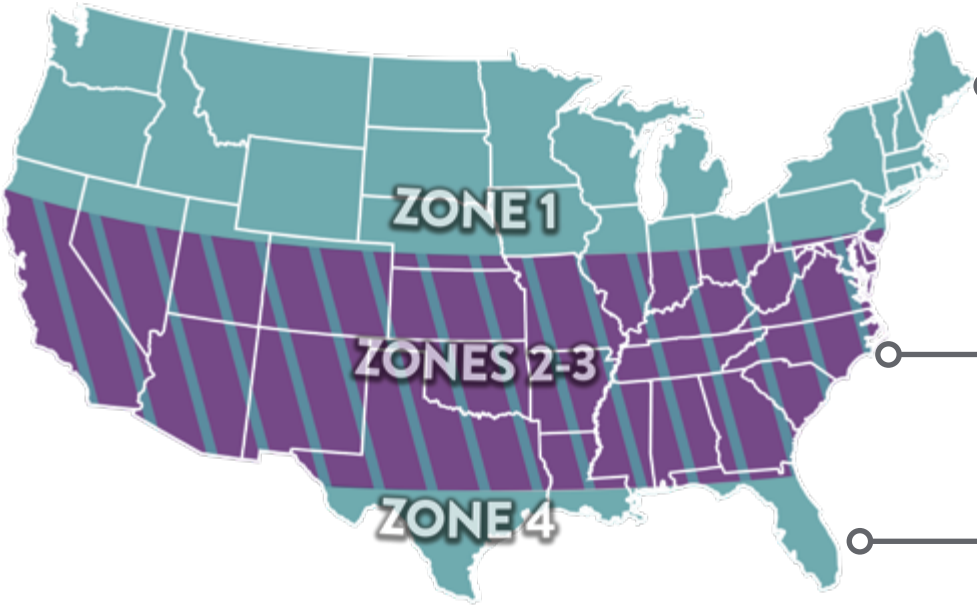
BBG | BROADBAND GEL

BBG Gel Technology extends battery life with superior heat-transfer capability, and has a proven float-life expectancy in extreme temperature environments. Its ideal design provides excellent stand-by times at critical rates.

- Gelled electrolyte for superior thermal management
  - Ideal for temperature extremes including high heat and low temperatures
  - 5+ year service life
- Up to 220 runtime minutes
- Operating temperature range:
  - Discharge: -40˚F to 160˚F
  - Charge: -10˚F to 140˚F (with temperature compensation)
- Proven Low Cost of Ownership
- Efficient gas recombination decreases gassing/water and extends battery life

CHOOSING THE RIGHT TECHNOLOGY FOR YOUR LOCATION: GEL VS. AGM

C&D's BBA and BBG series batteries are specifically designed for broadband applications, making them ideally suited to meet all CATV site requirements. The gelled electrolyte used in the BBG series is specially formulated for the broadband industry. BBG batteries are designed for superior performance in areas with extreme temperatures. Gel batteries more effectively dissipate internal heat, reducing the risk of thermal runaway. This is due to the thermal mass of the gelled electrolyte within the battery. In locations with moderate temperatures C&D's BBA series can provide a longer service life and increased runtimes. These benefits are achieved by incorporating C&D's proven MSE Pure Lead Plus Technology, which lowers the float current.



BBG GEL
Zone 1: 40° Latitude & Above

BBG GEL
OR
PURE LEAD AGM
Zones 2-3: 30° to 39° Latitude

BBG GEL
Zone 4: 30° Latitude & below

RUGGED DESIGN

In any application where the battery may face extreme temperatures, shock, or vibration conditions, a rugged case is key to maintaining battery performance over time. C&D's Broadband Series batteries are encased in a strong polypropylene case which has the lowest water permeability compared to other plastic resins typically used for standby batteries. Its ribbed jar walls sustain cell compression and provide cooling channels to dissipate heat. The case is designed to be able to operate in all environments, including extreme temperatures and rigorous applications.

SUPERIOR POSITIVE PLATE DESIGN AND ALLOY

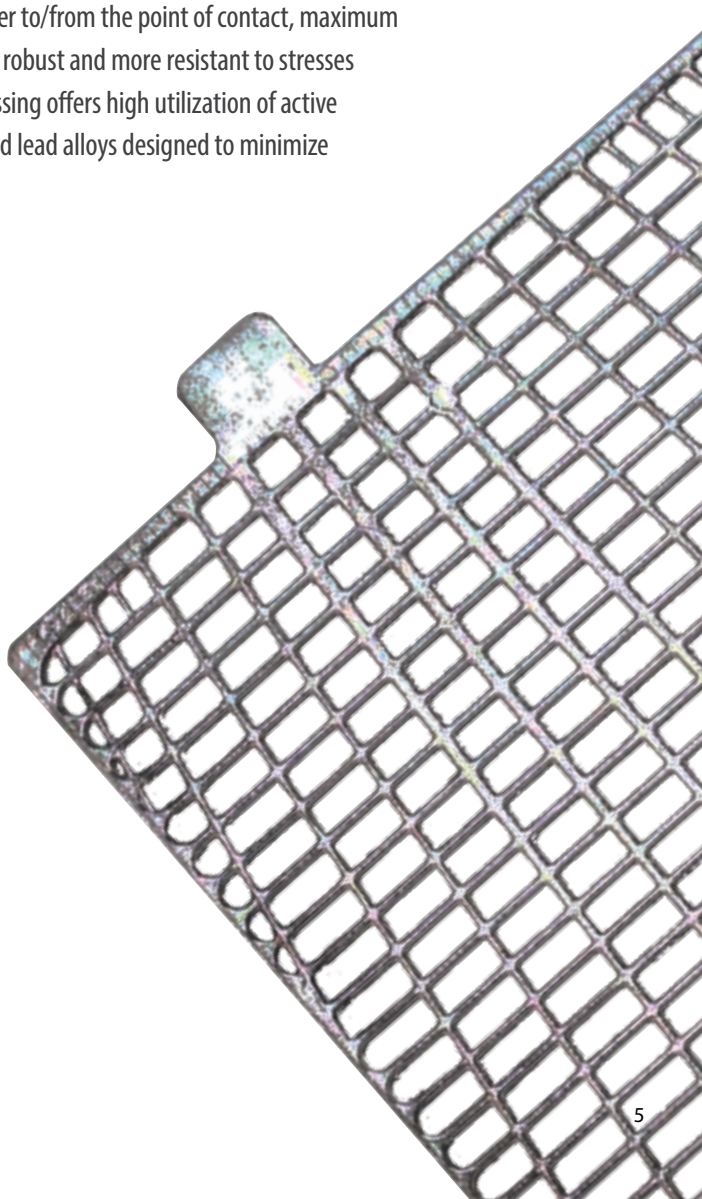
C&D Technologies' superior grid technology allows direct power transfer to/from the point of contact, maximum recharge efficiency, and low resistance. C&D's thick plate technology is robust and more resistant to stresses encountered in its service life. Highly efficient, proprietary plate processing offers high utilization of active material resulting in high energy density. BBG and BBA utilize advanced lead alloys designed to minimize positive grid corrosion and increase service life.

BBA

- Ultra high purity 99.99% pure lead used in advanced grid alloy for exceptional service life
- MSE pure lead paste using ultra-high purity 99.99% pure lead oxide
- Centered lug for improved performance
- Radial grid design for reduced resistance and enhanced moderate to high rate performance

BBG

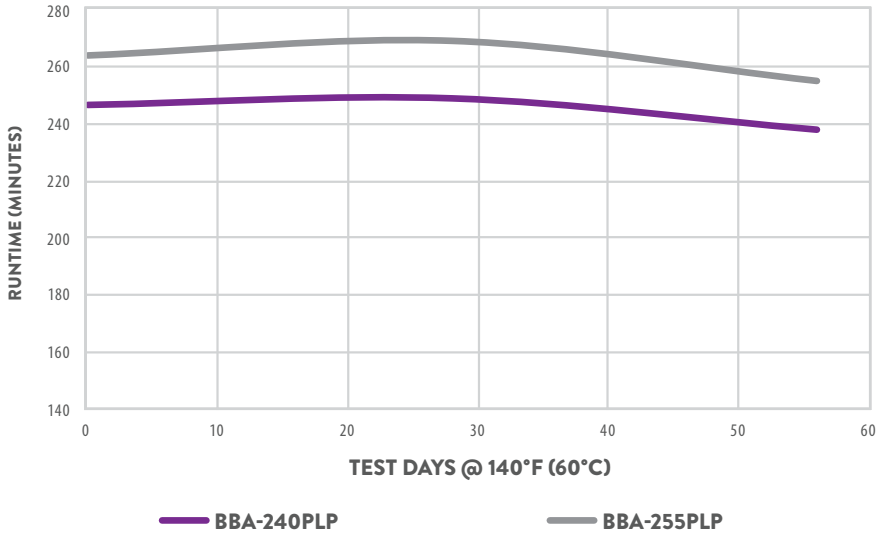
- Proprietary grain refiners extend life
- Centered lug for improved performance
- Large grid wires improve life



MSE PURE LEAD PLUS TECHNOLOGY

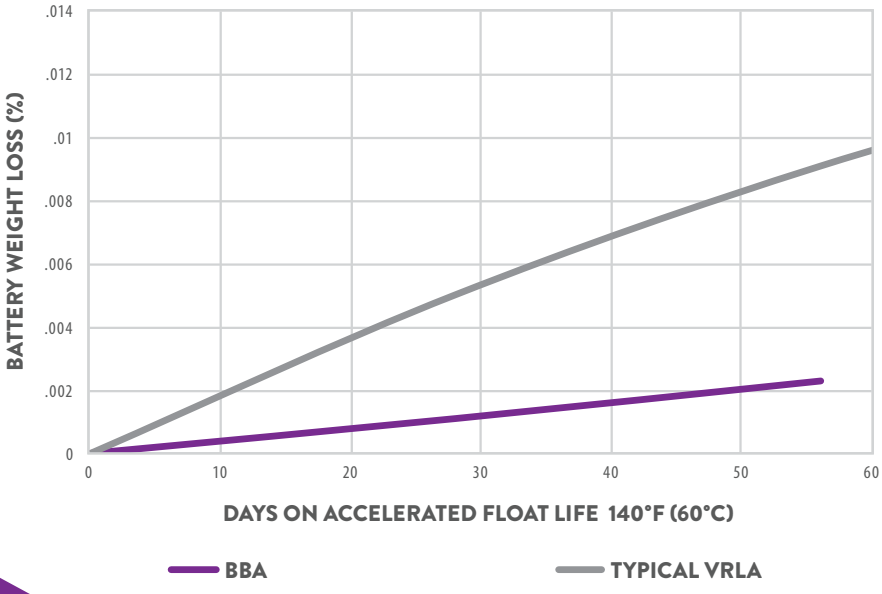
Historically AGM batteries were not well suited for uncontrolled environments due to a high risk of accelerated grid corrosion and dry-out. The BBA-PLP series is designed specifically to operate in uncontrolled environments found in CATV applications. The well-balanced VRLA battery design incorporates MSE Pure Lead Plus Technology resulting in lower float currents and minimized water loss. The outcome is the highest energy density AGM battery able to withstand uncontrollable environments in the CATV market.

BBA PURE LEAD SERIES CAPACITY RETENTION



- AGM Batteries are best suited in applications where high discharge currents are needed.
- MSE Pure Lead Plus Technology (BBA) slows aging reactions, resulting in longer service life.

WATER LOSS

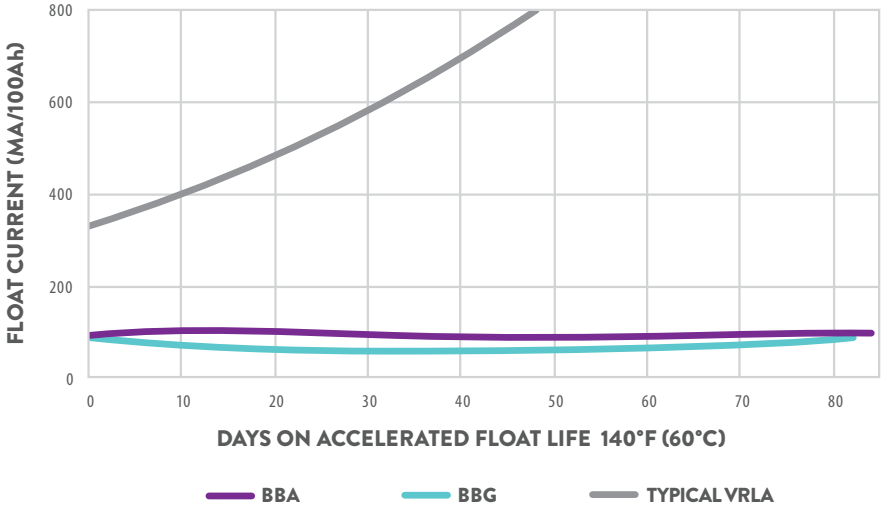


- The MSE Pure Lead Plus Technology in the BBA significantly reduces water loss, a critical component to long life at high temperatures.

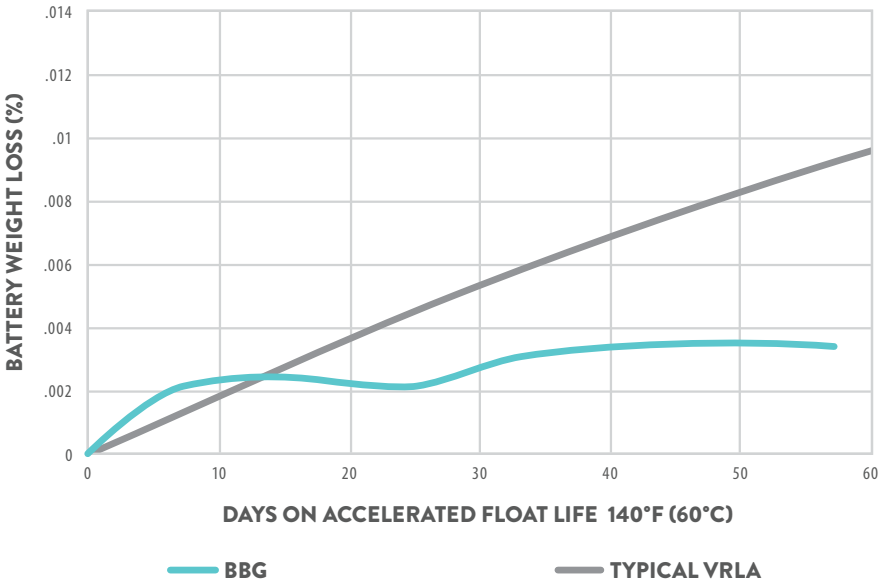
GEL TECHNOLOGY

The BBG series uses gel technology to achieve high temperature stability. A silica is used in the BBG series to create a gelled electrolyte. The thermal mass of this electrolyte allows it to dissipate heat more effectively than a traditional or pure lead AGM battery. Unlike AGM separators, the separators used in the BBG series are made of polyethylene which aids in maintaining low float current when operating in elevated temperatures.

CURRENT ACCEPTANCE



WATER LOSS



- The use of permeability plastics and a balanced cell in our BBG batteries significantly help reduce water loss, which contribute to long life at high temperatures and prevent dryout.

SPECIFICATIONS

RUNTIME @ 25 AMP CONSTANT CURRENT LOAD	**GEL**	BBG-180RT - 180 Minutes | BBG-195RT - 195 Minutes | BBG-220RT - 220 Minutes
	PURE LEAD AGM	BBA-210PLP - 210 Minutes | BBA-240PLP - 240 Minutes | BBA-255PLP - 255 Minutes
OPERATING TEMPERATURE RANGE	Discharge: -40°F (-40°C) to +160°F (+71°C) Charge: -10°F (-23°C) to +140°F (+60°C) with temperature compensation	
NOMINAL OPERATING TEMPERATURE RANGE	+74°F (23°C) to +80°F (27°C)	
FLOAT CHARGING VOLTAGE	13.5 to 13.8 VDC/unit Average at +77°F (+25°C)	
RECOMMENDED MAXIMUM CHARGING CURRENT LIMIT	C_{20}/5 Amperes (23.12 a)	
MAXIMUM AC RIPPLE (CHARGER)	0.5 % Rms or 1.5% P-P of Float Charge Voltage recommended for best results. Maximum AC ripple voltage allowed = 1.4% RMS (4% P-P) Maximum AC ripple current allowed = 4.6 amperes RMS (C_{20}/20)	
SELF DISCHARGE	**GEL**	18 Months at +77°F (+25°C) and then a freshening charge is required
	PURE LEAD AGM	24 Months at +77°F (+25°C) and then a freshening charge is required
	NOTE: For higher temperatures the time interval will be shorter for BBA & BBG	
ACCESSORIES	Inter unit connectors and racks are available	
TERMINAL	1/4-20 UNC bolt	
TERMINAL HARDWARE TORQUE	110 In.-lbs. (12.4 N-m)	

MODEL NAME	VOLTAGE	RUNTIME MINUTES TO 25 AMPS @ 77°F (25°C) TO 1.75 VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ 77°F (25°C) OPERATING TIME (Hr) TO 1.75 VOLTS PER CELL													MAXIMUM DISCHARGE CURRENT	SHORT CIRCUIT CURRENT	DIMENSIONS INCHES (mm)			WEIGHT LBS. (kg)
			0.5	0.75	1	2	3	4	5	8	10	12	20	48	100			LENGTH	WIDTH	HEIGHT	
BBA																					
BBA-210PLP	12 VOLT	210	110.40	82.60	66.15	37.24	27.31	21.67	18.01	11.99	9.82	8.32	5.16	2.22	1.14	800 AMPS	3200 AMPS	13.42 (341)	6.80 (173)	8.48 (215)	74 (33.6)
BBA-240PLP	12 VOLT	240	125.80	90.50	72.10	42.80	31.40	25.00	20.50	13.50	11.00	9.33	5.78	2.50	1.23	800 AMPS	4400 AMPS	13.42 (341)	6.80 (173)	8.48 (215)	75 (34)
BBA-255PLP	12 VOLT	255	133.7	96.9	77.0	45.20	32.90	25.80	21.20	13.90	11.40	9.61	6.08	2.57	1.27	800 AMPS	4800 AMPS	13.42 (341)	6.80 (173)	8.48 (215)	79 (36)

MODEL NAME	VOLTAGE	RUNTIME MINUTES TO 25 AMPS @ 77°F (25°C) TO 1.75 VPC	CONSTANT CURRENT DISCHARGE RATINGS - AMPERES @ 77°F (25°C) OPERATING TIME (Hr) TO 1.75 VOLTS PER CELL													MAXIMUM DISCHARGE CURRENT	SHORT CIRCUIT CURRENT	DIMENSIONS INCHES (mm)			WEIGHT LBS. (kg)
			1	2	3	4	6	8	10	12	20	24	48	72	100			LENGTH	WIDTH	HEIGHT	
BBG																					
BBG-180RT	12 VOLT	180	55.90	32.80	23.50	18.40	12.90	10.00	8.20	6.90	4.30	3.70	1.90	1.30	0.90	800 AMPS	2300 AMPS	12.50 (318)	6.83 (174)	8.05 (205)	63 (29)
BBG-195RT	12 VOLT	195	65.10	37.40	26.80	21.00	14.80	11.50	9.50	8.00	5.00	4.30	2.20	1.50	1.10	800 AMPS	2500 AMPS	13.42 (341)	6.80 (173)	8.48 (215)	66 (30)
BBG-220RT	12 VOLT	220	67.70	40.40	29.10	22.90	16.10	12.60	10.20	8.70	5.50	4.60	2.40	1.60	1.20	800 AMPS	2600 AMPS	13.42 (341)	6.80 (173)	8.48 (215)	73 (33)

Pb

LEAD RETURN RECYCLE

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200 Precision Drive, Horsham, Pennsylvania 19044 USA | +1-215-619-2700 | www.cdtechno.com

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