

# the power of tomorrow

CLEAN ENERGY DEFINES THE WORLD THAT WE LIVE IN TODAY AND TOMORROW.  
LEAD CRYSTAL® TECHNOLOGY CREATES POWER THAT IS CLEAN SAFE AND  
HIGH PERFORMING FOR A BETTER FUTURE

**LEAD  
CRYSTAL®**  
BATTERIES

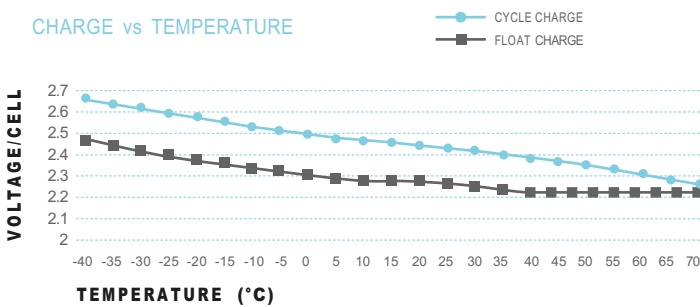
# LEAD CRYSTAL<sup>®</sup> BATTERIES



## DISCHARGE CURRENT AND END VOLTAGE

Discharge current (A)	End voltage (V)
0.05C or below or Intermittent discharge	1.9
0.05C of current close to it	1.85
0.1C of current close to it	1.8
0.2C of current close to it	1.75
From 0.2C to 0.5C	1.7
From 0.5C to 1C	1.6
From 1C to 3C	1.5
Current in excess of 3C	1.3

## CHARGE vs TEMPERATURE



## CHARGE vs TEMPERATURE CHART

temperature	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	
Cycle Charge	2.66	2.64	2.62	2.60	2.58	2.56	2.54	2.52	2.50	2.48	2.47	2.47	2.45	2.45	2.43	2.41	2.39	2.37	2.35	2.33	2.31	2.29	2.27	
Float Charge (voltage/cell)	2.46	2.44	2.42	2.40	2.38	2.36	2.34	2.32	2.31	2.30	2.29	2.29	2.29	2.27	2.26	2.24	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.23

## CONSTANT CURRENT DISCHARGE CHARACTERISTICS: UNITS AMPERES (25°C)

End Voltage per cell	5min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.60V	540.48	344.80	227.20	171.00	139.80	83.40	60.60	47.10	40.00	34.40	26.00	21.00	17.70	11.06	9.27
1.67V	465.19	312.60	210.60	162.00	135.40	79.60	57.60	46.60	38.00	34.00	25.60	20.60	17.70	11.06	9.27
1.70V	444.41	303.00	204.00	160.00	130.80	78.40	56.40	46.20	37.80	33.80	25.40	20.40	17.70	11.04	9.24
1.75V	403.99	283.60	196.00	153.80	126.60	75.40	54.80	45.00	36.60	33.00	25.00	20.20	17.54	11.04	9.22
1.80V	357.19	259.80	188.60	148.20	121.20	72.80	54.00	44.20	35.80	32.20	24.40	20.00	17.16	11.00	9.18
1.83V	311.81	237.40	174.20	137.73	114.60	69.60	52.00	42.40	34.20	31.00	23.60	19.40	16.70	10.96	8.92
1.85V	266.59	215.00	160.00	127.40	108.20	66.60	50.00	40.80	32.80	30.00	22.80	18.86	16.22	10.94	8.66

## DISCHARGE DATA WITH CONSTANT POWER UNITS: WATTS PER CELL (25°C)

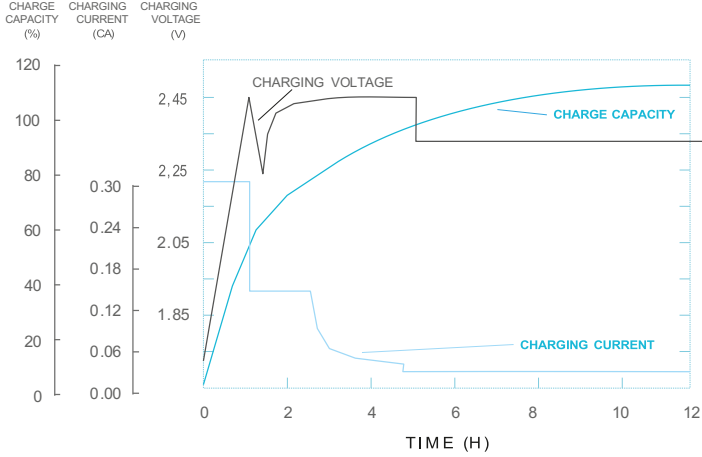
End Voltage per cell	5min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.60V	896.19	603.40	413.00	314.80	260.80	159.20	116.00	90.20	76.80	67.40	51.00	41.57	34.80	21.60	18.12
1.67V	800.59	562.60	386.60	301.20	254.00	154.24	113.20	89.80	74.40	66.60	49.99	40.60	34.80	21.60	18.12
1.70V	774.78	547.99	376.00	298.00	246.80	150.20	108.60	89.20	73.00	66.20	49.83	40.20	34.80	21.60	18.10
1.75V	715.20	515.19	363.60	288.80	240.00	145.21	106.00	87.80	71.20	65.20	48.80	39.79	34.80	21.60	18.08
1.80V	648.40	474.80	351.20	279.60	231.00	140.40	104.80	86.20	69.40	64.20	48.00	39.40	33.80	21.40	18.04
1.83V	572.61	439.59	328.00	262.00	219.40	135.20	101.20	83.40	67.00	62.40	46.40	38.40	33.00	21.40	17.58
1.85V	496.80	404.39	304.80	244.40	208.00	130.00	97.60	80.40	64.40	60.60	44.80	37.40	32.20	21.20	17.14

## SPECIFICATION

Nominal Voltage	2V		
Rated Capacity (10 hour rate)	200 AH		
Dimension	Total Height (top of terminal)	335 mm	13.18"
	Height	330 mm	12.99"
	Length	175 mm	6.89"
	Width	110 mm	4.33"
Weight	Approximately 13.5 kg / 29.76lbs		
Capacity	120 hour rate (2A)	240 AH	
25°C	20 hour rate (21A)	220 AH	
	10 hour rate (20A)	200 AH	
Internal Resistance	Fully charged Battery (25°C)	0.5mO	
Self-Discharge 25°C	Capacity after 3 month storage	95%	
	Capacity after 6 month storage	85%	
	Capacity after 12 month storage	80%	
Max Discharge Current 25°C	2000A (5S)		
Terminal	Standard	F4	
	Optional		
Charging (Constant Voltage)	Cycle	Initial Charging Current 60A 2.45V/ (25°C)	
	Float	2.27V/ (25°C)	

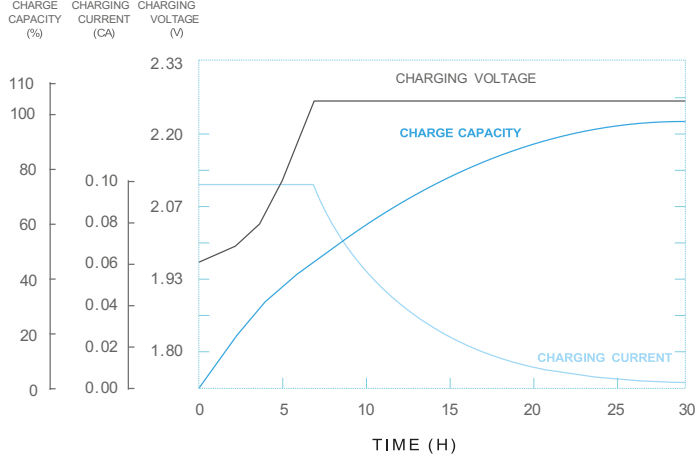
**CYCLE CHARGE CHARACTERISTIC (25°C)**

REGULAR CYCLE CHARGE CHARACTERISTICS 77°F (25°C)



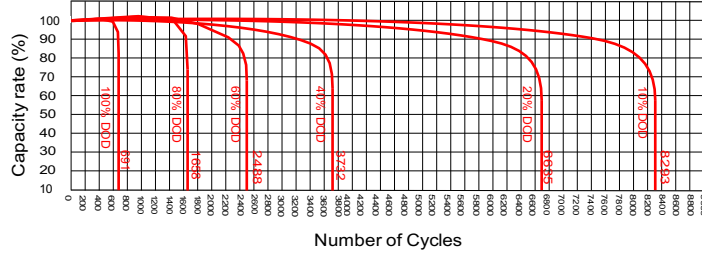
**FLOATING CHARGE CHARACTERISTIC (25°C)**

FLOATING CHARGE CHARACTERISTICS 77°F (25°C)

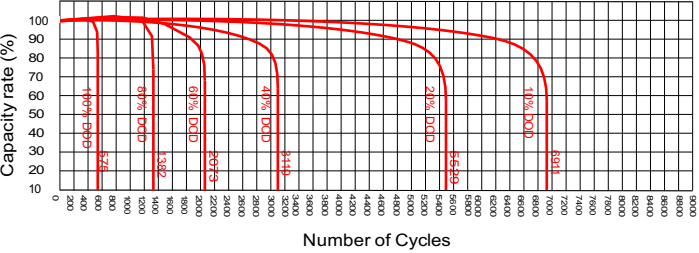


**CYCLE LIFE CURVE GRAPH**

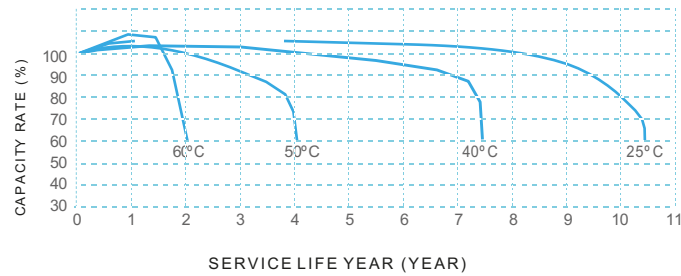
Cycle life curve graph (25°C) 2V



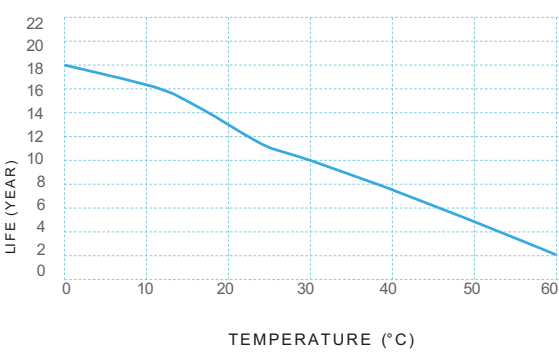
Cycle life curve graph (40°C) 2V



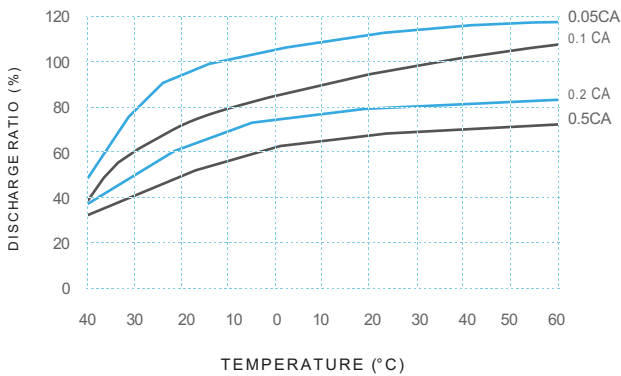
**TEMPERATURE & FLOAT SERVICE LIFE**



**FLOAT SERVICE LIFE CURVE GRAPH**



**TEMPERATURE & DISCHARGE CAPACITY**



# CNFJ-200 2V/200Ah

## LEAD CRYSTAL®: CHANGING THE FUTURE

**Performance** Robust, resilient, high performing. Lead Crystal® batteries can be discharged deeper, cycled more often (also in extreme temperatures) and have a longer service life. They recover to full rated capacity over and over again.

**Technology** A unique micro-porous high absorbent mat (AGM), high-purity lead calcium selenium plates, safe SiO<sub>2</sub> electrolyte solution that solidifies into a white crystalline powder when charged/discharged.

**Cleaner & safe** Less acid, no cadmium, no antimony. Lead Crystal® batteries are up to 99% recyclable and are classified as non-hazardous goods for transport.

**Markets** Lead Crystal® batteries are being used in telecoms, ups, petrochem/marine, defence, renewable energy, health care, manufacturing, transportation and electric motion (wheelchairs, golf carts & trolleys).



<https://leadcrystaltechnologies.com>