

Mining Locomotive Battery

**FIRST
NATIONAL** **battery**™
WORLD CLASS BATTERY MANUFACTURER



POSITIVE PLATE

The tubular plate construction incorporates low antimonial lead alloy spines in complete contact with the active material, which is retained by an outer gauntlet. This enables the electrolyte to penetrate freely, ensuring a high power output per unit volume.

NEGATIVE PLATE

The negative plate is of a highly porous paste on a lead alloy grid. This compliments the positive plate construction, providing a balanced performance and superior life.

THREADED BRASS INSERT

Maximises terminal connector conductivity.

MUD TRAP

Prevents possible shorting between plates due to active material shedding during the life of the cell.

CONTAINER AND LID

The lid is heat-sealed to the container ensuring an excellent bond. This is vital to mechanical strength and safety.

TOP UP LEVEL INDICATOR

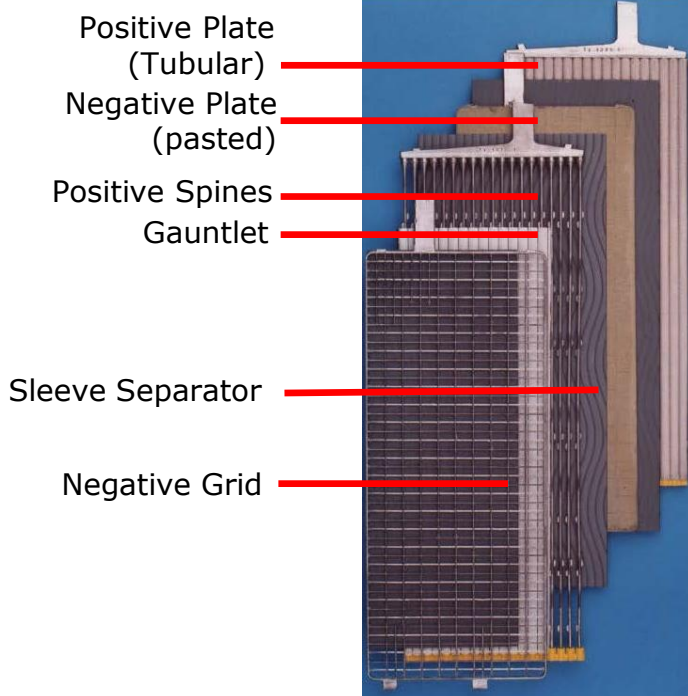
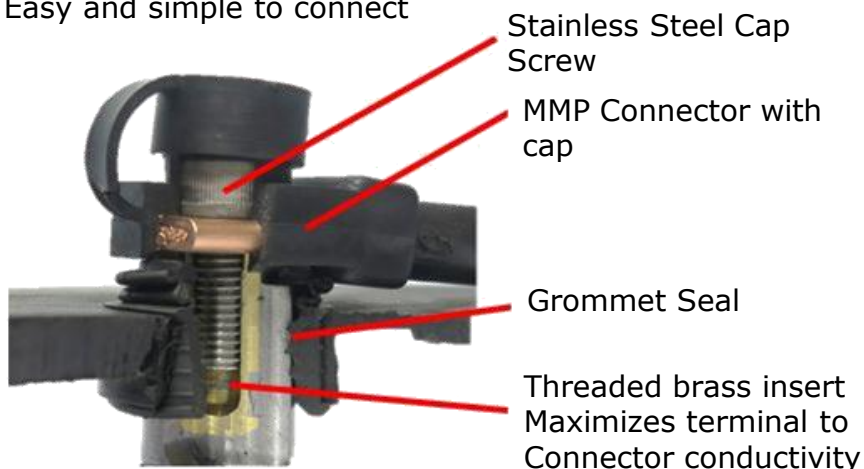
Two ribs on the separator guard serve both as level indicators, and to strengthen the guard.

TERMINAL SEAL

The new grommet style terminal assembly allows the terminal to slide upwards as the plate grows with age. The tight seal prevents electrolyte spillage.

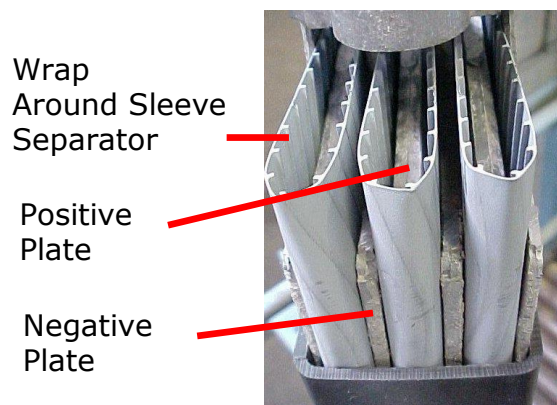
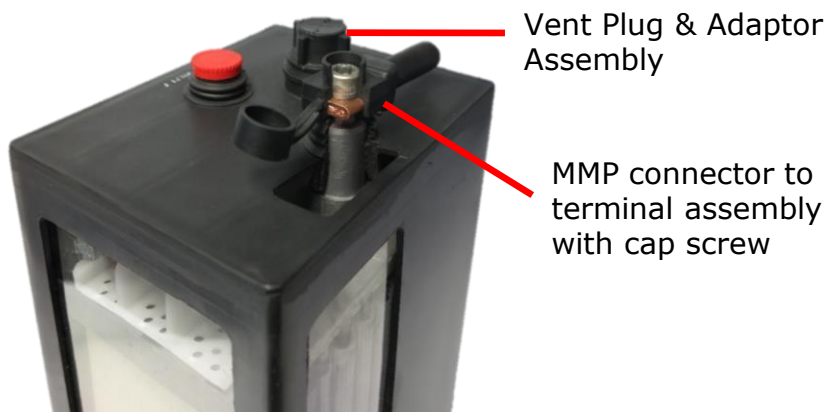
FORPRENE® CONNECTORS

- Made of thermoplastic rubber
- Acid resistant
- Abrasion resistant
- Fatigue resistant
- More flexible than PVC cable
- Exceptional moulding bond eliminates contamination
- Built in "O" rings
- Easy and simple to connect



WRAP-AROUND SLEEVE SEPARATORS

Separators are manufactured from microporous polyethylene. They are impervious to acid attack. The sleeve separator prevents short-circuiting caused by massing. Extended battery life is achieved using sleeved plates.



Battery Specifications

Cell Type	5hr Capacity @ 30°	Width (mm)	Length (mm)	Cover Height (mm)	Cell Installed Height (mm)	Weight (kg) ± 5%	
						Dry	Wet
58 Ampere hour positive plate							
MIL 15 F	406	158	157	402	432	18.5	25.6
MIL 17 F	464	158	173	402	432	20,0	27.8
MIL 17 XF	464	158	157	402	432	19,1	26.5
MIL 19 F	522	158	185	402	432	22,6	31.1
MIL 21 F	580	158	205	402	432	24.7	33.7
MIL 21 FD	580	158	205	402	432	25,5	34.6
MIL 23 F	638	158	221	402	432	26,3	35.7
MIL 23 FD	638	158	221	402	432	27,3	36.8
MIL 25 F	696	158	237	402	432	29,5	38.7
MIL 25 FD	696	158	237	402	432	31,9	42.2
MIL 25 EFD	696	158	205	402	432	28,6	37.3
65 Ampere hour positive plate							
MTL 19 F	585	158	185	454	484	23.2	32.1
MTL 19 XF	585	158	173	454	484	24,2	32.7
MTL 19 EF	585	158	157	454	484	23,5	31.7
MTL 21 F	650	158	205	454	484	27,8	37.7
MTL 21 FD	650	158	205	454	484	28,8	38,7
MTL 23 F	715	158	221	454	484	30,3	41.3
MTL 23 FD	715	158	221	454	484	31,3	42.3
MTL 25 F	780	158	237	454	484	32,9	46.1
MTL 27 XF	845	158	237	454	484	36,6	48.9
MTLA 27 XFD	845	158	237	454	484	38,6	50.9
76 Ampere hour positive plate							
MTH 21 XF	760	158	185	515	545	32.4	43.6
MTH 21 XFD	760	158	185	515	545	33.6	44.7
MTH 21 F	760	158	205	515	545	29.8	42.2
MTH 23 F	836	158	221	515	545	33.9	47.5
MTH 23 XF	836	158	205	515	545	31.9	44.5
MTH 23 EF	836	158	189	515	545	35.5	46.9
MTHA 23 EFD	836	158	189	515	545	38.0	49.4
MTH 25 F	912	158	237	515	545	41.4	56.1
MTH 25 XF	912	158	221	515	545	39.6	53.5
MTH 25 EFD	912	158	205	515	545	38.7	52.0
MTH 27 XF	988	158	237	515	545	42.7	56.6
MTH 27 XFA	988	158	237	515	545	42.0	56.0
MTH 29 EFD	1064	158	237	515	545	45.3	60.7
102 Ampere hour positive plate							
MTE 21	1020	158	205	692	722	42.2	58.2
MTE 21 ED	1020	158	173	692	722	43.7	57.1
MTE 25	1224	158	237	692	722	51.5	69.0
MTE 25 D	1224	158	237	692	722	56.5	73.8
MTE 25 ED	1224	158	205	692	722	53,2	70,7
MTE 25 XD	1224	158	221	692	722	57.2	73.4
MTE 27 X	1326	158	237	692	722	59.2	77.7
MTE 27 XA	1326	158	237	692	722	59,1	77.6
MTE 27 XD	1326	158	237	692	722	61,0	79.6
MTE 29 E	1428	158	237	692	722	55,8	74.7
MTE 29 ED	1428	158	237	692	722	56,9	75.5

F = FLAME RETARDANT POLYPROPYLENE CONTAINER & LID
E = STANDARD PITCH CONSTRUCTION
D = DOUBLE POST TERMINALS
X = EXPANDED PITCH CONSTRUCTION

Note: Operating S.G. = 1.290 ±0.010

MMP INTER-CELL CONNECTOR WITH CAP - SPECIFICATION SHEET

CELL TYPE	Connect or CSA (mm ²)	Length (mm) & Part Number						
		95	170	190	250	275	380	600
MIL 15 F	35		CB 615	CB 644	CB 620	CB 646		
MIL 17 F	35		CB 615	CB 644	CB 620	CB 646		
MIL 17 XF	35		CB 615	CB 644	CB 620	CB 646		
MIL 19 F	35		CB 615	CB 644	CB 620	CB 646	CB 653	CB 654
MIL 21 F	35		CB 615	CB 644	CB 620	CB 646	CB 653	CB 654
MIL 21 FD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MIL 23 F	35		CB 615	CB 644	CB 620	CB 646	CB 653	CB 654
MIL 23 FD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MIL 25 F	35		CB 615	CB 644	CB 620	CB 646	CB 653	CB 654
MIL 25 FD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MIL 25 EFD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTL 19 F	35		CB 615	CB 644	CB 620	CB 646	CB 653	CB 654
MTL 19 XF	35		CB 615	CB 644	CB 620	CB 646	CB 653	CB 654
MTL 19 EF	35		CB 615	CB 644	CB 620	CB 646	CB 653	CB 654
MTL 21 F	35		CB 615	CB 644	CB 620	CB 646	CB 653	CB 654
MTL 21 FD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTL 23 F	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTL 23 FD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTL 25 F	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTL 27 XF	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTLA 27 XFD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTH 21 XF	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTH 21 XFD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTH 21 F	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTH 23 F	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTH 23 XF	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTH 23 EF	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTHA 23 EFD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTH 25 F	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTH 25 XF	50		CB 616	CB 618	CB 621	CB 623	CB 628	CB 629
MTH 25 EFD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTH 27 XF	70		CB 617	CB 619	CB 622	CB 624	CB 660	CB 661
MTH 27 XFA	70		CB 617	CB 619	CB 622	CB 624	CB 660	CB 661
MTH 29 EFD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654

Inter-Cell Connectors / Inter-Block Connectors



MMP INTER-CELL CONNECTOR WITH CAP - SPECIFICATION SHEET

CELL TYPE	Connector CSA (mm ²)	Length (mm) & Part Number						
		95	170	190	250	275	380	600
MTE 21	35		CB 617	CB 619	CB 622	CB 624	CB 660	CB 661
MTE 21 ED	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTE 25	95		CB 655	CB 656	CB 647	CB 648	CB 662	CB 663
MTE 25 ED	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTE 25 D	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTE 25 XD	35	CB 642		CB 644	CB 620	CB 646	CB 653	CB 654
MTE 27 X	95		CB 655	CB 656	CB 647	CB 648	CB 622	CB 663
MTE 27 XA	95		CB 655	CB 656	CB 647	CB 648	CB 622	CB 663
MTE 27 XD (Gold)	50	CB 613		CB 618	CB 621	CB 623	CB 628	CB 629
MTE 27 XD (Coal)								
MTE 29 E	95		CB 655	CB 656	CB 647	CB 648	CB 662	CB 663
MTE 29 ED (Gold)	50	CB 613		CB 618	CB 621	CB 623	CB 628	CB 629
MTE 29 ED (Coal)								

CELL LIFTERS

To facilitate easy removal of cells from tanks, or shipping crates, this cell lifter is designed to ensure no damage occurs.

CELLS	CAT. NO
Single Post	R 12



SINGLE POST CELLS - APPLICATION CHART

MMP CONNECTOR CROSS SECTIONAL AREA mm²

CELL TYPE	MIL	MTL	MTH	MTE
15 PLATE	35			
17 PLATE	35			
19 PLATE	35	35		
21 PLATE	35	35	50	70
23 PLATE	35	50	50	
25 PLATE	35	50	50	95
27 PLATE		50	70	95
29 PLATE				95

DOUBLE POST CELLS - APPLICATION CHART

GOLD AND COAL MINES

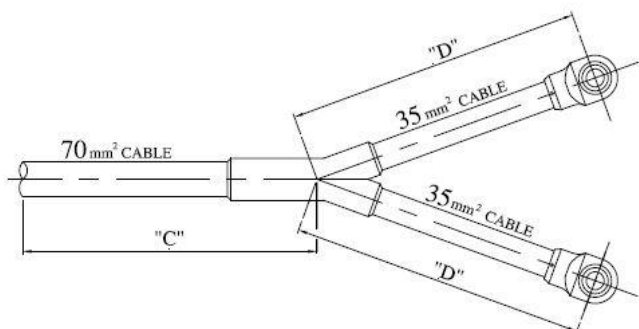
MMP CONNECTOR CROSS SECTIONAL AREA mm²

CELL TYPE	MIL	MTL	MTH	MTE
15 PLATE				
17 PLATE				
19 PLATE				
21 PLATE	35	35	35	35
23 PLATE	35	35	35	
25 PLATE	35		35	35
27 PLATE		35		50
29 PLATE			35	50

CABLE LENGTH 'B' mm	SINGLE END / TAKE OFF CONNECTORS			
	35 mm ²	50 mm ²	70 mm ²	95 mm ²
215 ± 2.0	CB 630		CB 631	
500 ± 5.0				CB 669
1200 ± 5.0		CB 632	CB 633	CB 670
1500 ± 5.0		CB 634		CB 671
2000 ± 5.0	CB 635			
2500 ± 5.0				
4800 ± 5.0				

MMP Y-CONNECTORS

CABLE LENGTH 70mm ²	CAT NUMBER
1000 ± 5.0	CB 556
4000 ± 5.0	CB 557



Single End Take-off Connectors





FIRST NATIONAL battery™

WORLD CLASS BATTERY MANUFACTURER

In the interests of continuing advancement we reserve the right to modify specifications without prior notice. Copyright subsists in this work. Any unauthorised reproduction, adaption and copying of this document are acts of copyright infringements and entitles First National Battery to take action.

- ISO 14001: 2015**
- ISO 9001: 2015**
- ISO 45001: 2018**
- ISO 50001: 2011**
- SANS IEC 60254-1: 2005**
- SANS IEC 60254-2: 2008**

For More Information Contact:
FIRST NATIONAL BATTERY
TOLL FREE: 0800 112600
www.battery.co.za



Mining Loco: June 2020