General Technical Particulars

	Units	
Type of Cell		YKP 7
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		PTSP - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.65 ecv		
Initial	AH	75
Rated	AH	75
End of Life	AH	75
Rated Capacity at minimum ambient temperature	Ah	As per formula: Ct=C27(1+0.009(t-27))
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27(1+0.009(t-27))
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	10.80
15 minutes	1.66	24.60
30 minutes	1.69	34.20
45 minutes	1.71	42.00
1 hour	1.75	45.00
2 hour	1.78	56.35
3 hour	1.80	60.83
4 hour	1.81	64.65
5 hour	1.82	67.50
6 hour	1.83	69.75
7 hour	1.83	71.33
8 hour	1.84	72.83
9 hour	1.84	74.10
10 Hour	1.85	75.00
Maximum momentary current for 1 min till 1.60 e.c.v		168
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	1.554
Loss in capacity in 28 days due to self discharge	%	<6%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	15
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	10.5
ii) Finishing current	A	5.25
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	65
ii) Maximum	mA	150
Equalising charge		
a) Voltage	V	2.3
b) Current	A	3.75
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L +/-3 x W +/-4 x H +/-5	mm	134 X 203 X 426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	4.5
Quantity of Electrolyte for battery (including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	10.3
with acid	kg	17.5
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		3
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		4
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offered		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	2.4
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After installation and filling of Electrolyte)		12 - 15 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs (with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 9
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P100P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	100
Rated	AH	100
End of Life	AH	100
Rated Capacity at mimimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	14.40
15 minutes	1.65	32.80
30 minutes	1.69	45.60
45 minutes	1.71	56.00
1 hour	1.75	60.00
2 hour	1.78	73.80
3 hour	1.80	81.10
4 hour	1.81	86.20
5 hour	1.82	90.00
6 hour	1.83	93.00
7 hour	1.83	95.10
8 hour	1.84	97.10
9 hour	1.84	98.80
10 Hour	1.85	100.00
Maximum momentary current for 1 min till 1.60 e.c.v		224
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	1.11
Loss in capacity in 28 days due to self discharge	%	<3%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	20
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	14
ii) Finishing current	A	7
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	80
ii) Maximum	mA	240
Equalising charge		
a) Voltage	V	2.3
b) Current	A	5
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L $^{+3}$ x W $^{+3}$ x H $^{+3}$	mm	134 X 203 X 429
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	4.3
Quantity of Electrolyte for battery (including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	12.5
with acid	kg	17.7
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.6
No. of positive plates per cell		4
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		5
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	3.2
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs.(with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 11
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P125P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	125
Rated	AH	125
End of Life	AH	125
Rated Capacity at mimimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	18.00
15 minutes	1.66	41.00
30 minutes	1.69	57.00
45 minutes	1.71	70.00
1 hour	1.75	75.00
2 hour	1.78	92.25
3 hour	1.80	101.38
4 hour	1.81	107.75
5 hour	1.82	112.50
6 hour	1.83	116.25
7 hour	1.83	118.88
8 hour	1.84	121.38
9 hour	1.84	123.50
10 Hour	1.85	125.00
Maximum momentary current for 1 min till 1.60 e.c.v		260
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	1.05
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	25
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	17.5
ii) Finishing current	A	8.75
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	100
ii) Maximum	mA	300
Equalising charge		
a) Voltage	V	2.3
b) Current	A	6.25
c) Duration	Hrs.	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H	mm	173*203*426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	5.8
Quantity of Electrolyte for battery (including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	15.6
with acid	kg	22.4
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		5
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		6
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		Steel/Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	4
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs (with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 13
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P150P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	150
Rated	AH	150
End of Life	AH	150
Rated Capacity at minimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	21.60
15 minutes	1.65	49.20
30 minutes	1.69	68.40
45 minutes	1.71	84.00
1 hour	1.75	90.00
2 hour	1.78	110.70
3 hour	1.80	121.65
4 hour	1.81	129.30
5 hour	1.82	135.00
6 hour	1.83	139.50
7 hour	1.83	142.65
8 hour	1.84	145.65
9 hour	1.84	148.20
10 Hour	1.85	150.00
Maximum momentary current for 1 min till 1.60 e.c.v		336
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.91
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	30
ii) Voltage	V	2.26 vpc
b) Boost charging		
i) Starting Current	A	21
ii) Finishing current	A	10.5
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	125
ii) Maximum	mA	375
Equalising charge		
a) Voltage	V	2.3
b) Current	A	7.5
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (tolerance of +/- 2 mm in each case)	mm	173*203*426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	5.4
Quantity of Electrolyte for battery (Including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	18
with acid	kg	24.4
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		6
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		7
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	39
Whether explosion vents are offered		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	4.8
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs (with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 15
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P175P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	175
Rated	AH	175
End of Life	AH	175
Rated Capacity at mimimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	25.20
15 minutes	1.65	57.40
30 minutes	1.69	79.80
45 minutes	1.71	98.00
1 hour	1.75	105.00
2 hour	1.78	129.15
3 hour	1.80	141.93
4 hour	1.81	150.85
5 hour	1.82	157.50
6 hour	1.83	162.75
7 hour	1.83	166.43
8 hour	1.84	169.93
9 hour	1.84	172.90
10 Hour	1.85	175.00
Maximum momentary current for 1 min till 1.60 e.c.v		392
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.78
Loss in capacity in 28 days due to self discharge	%	<6%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	35
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	24.5
ii) Finishing current	A	12.25
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	140
ii) Maximum	mA	420
Equalising charge		
a) Voltage	V	2.3
b) Current	A	8.75
c) Duration	Hrs.	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (tolerance of +/- 2 mm in each case)	mm	210*203*426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	7.6
Quantity of Electrolyte for battery (Including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	19.7
with acid	kg	28.7
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		7
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		8
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	5.6
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs.(with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 17
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P200F - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	200
Rated	AH	200
End of Life	AH	200
Rated Capacity at minimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	28.80
15 minutes	1.65	66.60
30 minutes	1.69	91.20
45 minutes	1.71	112.00
1 hour	1.75	120.00
2 hour	1.78	147.60
3 hour	1.80	162.20
4 hour	1.81	172.40
5 hour	1.82	180.00
6 hour	1.83	185.00
7 hour	1.83	190.20
8 hour	1.84	194.20
9 hour	1.84	197.60
10 Hour	1.85	200.00
Maximum momentary current for 1 min till 1.60 e.c.v		445
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.75
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	40
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	28
ii) Finishing current	A	14
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	160
ii) Maximum	mA	480
Equalising charge		
a) Voltage	V	2.3
b) Current	A	10
c) Duration	Hrs.	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (Tolerance : +/- 3 ; +/-3 ; +/-5. mm L X W X H)	mm	210*203*426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	7.3
Quantity of Electrolyte for battery (including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	22
with acid	kg	30.7
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.6
No. of positive plates per cell		8
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		9
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	6.4
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.35
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs (with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 19
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P225P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.65 ecv		
Initial	AH	225
Rated	AH	225
End of Life	AH	225
Rated Capacity at minimum ambient temperature	Ah	As per formula: Ct=C27(1+0.009(t-27))
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27(1+0.009(t-27))
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	32.40
15 minutes	1.65	73.80
30 minutes	1.69	102.60
45 minutes	1.71	126.00
1 hour	1.75	135.00
2 hour	1.78	166.05
3 hour	1.80	182.48
4 hour	1.81	193.95
5 hour	1.82	202.50
6 hour	1.83	209.25
7 hour	1.83	213.98
8 hour	1.84	218.48
9 hour	1.84	222.30
10 Hour	1.85	225.00
Maximum momentary current for 1 min till 1.60 e.c.v		504
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.68
Loss in capacity in 28 days due to self discharge	%	<6%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	45
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	31.5
ii) Finishing current	A	15.75
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	180
ii) Maximum	mA	540
Equalising charge		
a) Voltage	V	2.3
b) Current	A	11.25
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
I) During Initial Charging	deg C	50
II) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H	mm	248*203*428
(Tolerance L = +/-3, W = +/-3, H = +/-5)		
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	8.9
Quantity of Electrolyte for battery (including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	24.3
with acid	kg	34.9
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
I) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		9
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
II) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		10
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	7.2
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs.(with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 21
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P250P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	250
Rated	AH	250
End of Life	AH	250
Rated Capacity at mimimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	38.00
15 minutes	1.65	82.00
30 minutes	1.69	114.00
45 minutes	1.71	140.00
1 hour	1.75	160.00
2 hour	1.78	184.50
3 hour	1.80	202.75
4 hour	1.81	215.50
5 hour	1.82	225.00
6 hour	1.83	232.50
7 hour	1.83	237.75
8 hour	1.84	242.75
9 hour	1.84	247.00
10 Hour	1.85	250.00
Maximum momentary current for 1 min till 1.60 e.c.v		560
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.65
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	50
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	35
ii) Finishing current	A	17.5
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	200
ii) Maximum	mA	600
Equalising charge		
a) Voltage	V	2.3
b) Current	A	12.5
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (tolerance of +/- 2 mm in each case)	mm	248*203*426
Complete Battery L x W x H	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	8.6
Quantity of Electrolyte for battery (Including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	26.7
with acid	kg	36.9
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		10
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.61
No. of negative plates per cell		11
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	6
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs.(with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 23
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P27SP - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	275
Rated	AH	275
End of Life	AH	275
Rated Capacity at minimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	39.60
15 minutes	1.65	90.20
30 minutes	1.69	125.40
45 minutes	1.71	154.00
1 hour	1.75	185.00
2 hour	1.78	202.96
3 hour	1.80	223.03
4 hour	1.81	237.05
5 hour	1.82	247.50
6 hour	1.83	255.75
7 hour	1.83	261.53
8 hour	1.84	267.03
9 hour	1.84	271.70
10 Hour	1.85	275.00
Maximum momentary current for 1 min till 1.60 e.c.v		616
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.59
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	55
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	38.5
ii) Finishing current	A	19.25
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	220
ii) Maximum	mA	660
Equalising charge		
a) Voltage	V	2.3
b) Current	A	13.75
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L(+/- 3)x W(+/- 3) x H(+/- 5)	mm	258*203*426
Complete Battery L(+/- 10)x W(+/- 5) x H(+/- 10)	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	10.3
Quantity of Electrolyte for battery (Including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	29.1
with acid	kg	41.4
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		11
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		12
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	1.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	69
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks	mm	Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	8.8
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs (with the plugs closed tightly)
Does the battery meet the required duty cycle curve	Yes/No	Yes (refer sizing calaulation)

General Technical Particulars

	Units	
Type of Cell		YKP 25
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P300P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battary	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	300
Rated	AH	300
End of Life	AH	300
Rated Capacity at minimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	43.20
15 minutes	1.65	96.40
30 minutes	1.69	136.80
45 minutes	1.71	168.00
1 hour	1.75	180.00
2 hour	1.78	221.40
3 hour	1.80	243.30
4 hour	1.81	258.60
5 hour	1.82	270.00
6 hour	1.83	279.00
7 hour	1.83	285.30
8 hour	1.84	291.30
9 hour	1.84	296.40
10 Hour	1.85	300.00
Maximum momentary current for 1 min till 1.60 e.c.v		672
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.52
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	60
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	42
ii) Finishing current	A	21
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	240
ii) Maximum	mA	720
Equalising charge		
a) Voltage	V	2.3
b) Current	A	15
c) Duration	Hrs.	6
d) Interval between succesive equalising charge	Months	6

Recommended specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130
Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (tolerance: LXWXH : (+/-3)X (+/-3) X (+/-5)	mm	286*203*426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	10
Quantity of Electrolyte for battery (including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%) Each cell		
without acid	kg	31.5
with acid	kg	43.4
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		12
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		13
Whether negative plates of individual cells are interchangeable		Yes, but not recommended

Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offered		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made
Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	9.6
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.35
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs (with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 27
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P325P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	325
Rated	AH	325
End of Life	AH	325
Rated Capacity at mimimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	46.80
15 minutes	1.65	106.60
30 minutes	1.69	148.20
45 minutes	1.71	182.00
1 hour	1.75	195.00
2 hour	1.78	239.85
3 hour	1.80	263.58
4 hour	1.81	280.15
5 hour	1.82	292.50
6 hour	1.83	302.25
7 hour	1.83	309.08
8 hour	1.84	315.58
9 hour	1.84	321.10
10 Hour	1.85	325.00
Maximum momentary current for 1 min till 1.60 e.c.v		728
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.48
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	65
ii) Voltage	V	2.26 vpc
b) Boost charging		
i) Starting Current	A	45.5
ii) Finishing current	A	22.75
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	260
ii) Maximum	mA	780
Equalising charge		
a) Voltage	V	2.3
b) Current	A	16.25
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (tolerance of +/- 2 mm in each case)	mm	362*203*426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	13.7
Quantity of Electrolyte for battery (Including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	38.3
with acid	kg	52.6
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		15
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		14
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	39
Whether explosion vents are offered		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel /Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	10.4
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs (with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 29
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P350P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	350
Rated	AH	350
End of Life	AH	350
Rated Capacity at minimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	50.40
15 minutes	1.65	114.80
30 minutes	1.69	159.60
45 minutes	1.71	196.00
1 hour	1.75	210.00
2 hour	1.78	258.30
3 hour	1.80	283.85
4 hour	1.81	301.70
5 hour	1.82	315.00
6 hour	1.83	326.50
7 hour	1.83	332.85
8 hour	1.84	339.85
9 hour	1.84	345.80
10 Hour	1.85	350.00
Maximum momentary current for 1 min till 1.60 e.c.v		784
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.44
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	70
ii) Voltage	V	2.26 vpc
b) Boost charging		
i) Starting Current	A	49
ii) Finishing current	A	24.5
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	280
ii) Maximum	mA	840
Equalising charge		
a) Voltage	V	2.3
b) Current	A	17.5
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (tolerance of +/- 2 mm in each case)	mm	362*203*426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	13.4
Quantity of Electrolyte for battery (Including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	38.5
with acid	kg	54.4
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		14
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		15
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	39
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		Steel/Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	11.2
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs (with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 31
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P375P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	375
Rated	AH	375
End of Life	AH	375
Rated Capacity at mimimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	**Ah output**
5 minutes	1.62	64.00
15 minutes	1.65	123.00
30 minutes	1.69	171.00
45 minutes	1.71	210.00
1 hour	1.75	225.00
2 hour	1.78	276.75
3 hour	1.80	304.13
4 hour	1.81	323.25
5 hour	1.82	337.50
6 hour	1.83	348.75
7 hour	1.83	356.63
8 hour	1.84	364.13
9 hour	1.84	370.50
10 Hour	1.85	375.00
Maximum momentary current for 1 min till 1.60 e.c.v		840
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.42
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	75
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	52.5
ii) Finishing current	A	26.25
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	300
ii) Maximum	mA	900
Equalising charge		
a) Voltage	V	2.3
b) Current	A	18.75
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (tolerance of +/- 2 mm in each case)	mm	362*203*426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	13.1
Quantity of Electrolyte for battery (Including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	40.6
with acid	kg	56.4
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		15
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		16
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	12
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.38
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs (with the plugs closed tightly)

General Technical Particulars

	Units	
Type of Cell		YKP 33
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P400P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 ecv		
Initial	AH	400
Rated	AH	400
End of Life	AH	400
Rated Capacity at minimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	57.60
15 minutes	1.65	131.20
30 minutes	1.69	182.40
45 minutes	1.71	224.00
1 hour	1.75	240.00
2 hour	1.78	295.20
3 hour	1.80	324.40
4 hour	1.81	344.80
5 hour	1.82	360.00
6 hour	1.83	372.00
7 hour	1.83	380.40
8 hour	1.84	388.40
9 hour	1.84	395.20
10 Hour	1.85	400.00
Maximum momentary current for 1 min till 1.60 e.c.v		896
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.38
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	80
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	56
ii) Finishing current	A	28
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	320
ii) Maximum	mA	960
Equalising charge		
a) Voltage	V	2.3
b) Current	A	20
c) Duration	Hrs	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	60
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (Tolerance L = +/-3, W = +/-3, H = +/-5)	mm	382 x 203 x 426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	12.6
Quantity of Electrolyte for battery (Including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	43.2
with acid	kg	56.4
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
I) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.8
No. of positive plates per cell		16
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		17
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		Steel/Teak wood
e) Dimensions of the racks(L x W x H		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	cc/hr/AH	12.8
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.38
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs.(with the plugs closed tightly)
Does the battery meet the required duty cycle curve	Yes/No	Yes (refer sizing calaulation)

General Technical Particulars

	Units	
Type of Cell		YKP 35
Nominal Voltage per cell	Volts	2
Manufacturer's Name		Exide Industries Ltd.
Standards to which battery is manufactured		IS 1652 / BS6290
IS Nomenclature		P425P - HDP
Number of cells in the battery bank		n
Nominal Voltage of Battery	Volts	2 X n
Declared Capacity at 27 degree C upto 1.85 eov		
Initial	AH	425
Rated	AH	425
End of Life	AH	425
Rated Capacity at minimum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Rated Capacity at maximum ambient temperature	Ah	As per formula: Ct=C27{1+0.009(t-27)}
Capacity in AH at various end cell voltages and duration of discharge		
	E.C.V.	Ah output
5 minutes	1.62	61.20
15 minutes	1.65	139.40
30 minutes	1.69	193.80
45 minutes	1.71	238.00
1 hour	1.75	255.00
2 hour	1.78	313.65
3 hour	1.80	344.68
4 hour	1.81	366.35
5 hour	1.82	382.50
6 hour	1.83	396.25
7 hour	1.83	404.18
8 hour	1.84	412.68
9 hour	1.84	419.90
10 Hour	1.85	425.00
Maximum momentary current for 1 min till 1.60 e.c.v		952
Expected life of battery under normal operation & maintainence conditions	Years	15 - 20 years
Internal Resistance of cell (IR)	milli ohms	0.36
Loss in capacity in 28 days due to self discharge	%	<8%
Recommended Charging rate for		
a) Float Charging		
i) Limit current	A	85
ii) Voltage	V	2.25 vpc
b) Boost charging		
i) Starting Current	A	59.5
ii) Finishing current	A	29.75
iii) Voltage	V	2.75
Trickle Charging Rate		
i) Minimum	mA	340
ii) Maximum	mA	1020
Equalising charge		
a) Voltage	V	2.3
b) Current	A	21.25
c) Duration	Hrs.	6
d) Interval between succesive equalising charge	Months	6
Recommended Specific gravity at 27 deg C		
a) for first filling		1.205 +/- 0.005
b) at full charge		1.215 +/- 0.005
c) when Battery is discharged at 10 hours rate		1.120 - 1.130

Permissible max. temperature of Electrolyte		
i) During Initial Charging	deg C	50
ii) During Normal Operation	deg C	45
Overall dimensions		
Each Cell L x W x H (Tolerance : L X W X H : +/-3 X +/-3 X +/-5 mm)	mm	362*203*426
Complete Battery	mm	Depends on the battery layout
Distance between cell centres	mm	211
Quantity of Electrolyte per Cell	litres	12.5
Quantity of Electrolyte for battery (Including 10% extra)	litres	n X electrolyte per cell X 1.1
Weight(+/-5%)		
Each cell		
without acid	kg	45.6
with acid	kg	60.4
Complete Battery without acid	kg	n X each cell weight without acid
with acid	kg	n X each cell weight with acid
Material and type of Plates		
i) Positive Plates		
Material		99.99% Pure Lead
Height of Positive Plate	mm	207
Thickness of Positive Plate	mm	7.6
No. of positive plates per cell		17
Whether positive plates of individual cells are interchangeable		Yes, but not recommended
ii) Negative Plates		
Material		Lead - Antimony alloy grid
Height of Negative Plate	mm	211
Thickness of Negative Plate	mm	3.81
No. of negative plates per cell		18
Whether negative plates of individual cells are interchangeable		Yes, but not recommended
Material and type of Separators		
Material		PVC
Thickness of separator	mm	3.2
Clearance between bottom of the plate and the bottom of the container	mm	35
Clearance between top of the plates and top of container	mm	89
Whether explosion vents are offerred		YES
Type of Vent and Filling Plugs		Explosion proof microporous ceramic made

Container		
Thickness of Container	mm	4
Material of Container		Transperant Styrene Acrylonitrile (SAN)
Cover		
Type of cover		Adhesive Sealed
Material of Cover		Opaque Styrene Acrylonitrile (SAN)
Connections		
Material of Inter-Cell Connectors		Lead Plated Copper
Thickness of Inter-Cell Connectors	mm	2
Method of connection		Bolted
Inter-row, Inter-tier connectors and end take-offs furnished?		Yes
Material of Bolt, Nut and Washer for Inter-Cell and Cable Connections		Lead plated MS
Racks		
Racks		
a) Number of racks per battery		Depends on the battery layout
b) Number of cells per rack		Depends on the battery layout
c) Type of racks		Depends on the battery layout
d) Material of rack		steel / Teak wood
e) Dimensions of the racks		Depends on the battery layout
Ventilation requirements		
Cubic content of battery rooms	m^3	To be provided by customer
Gas generation per single cell per hour	Lit	13.6
No. of air exchanges required per hour		Depends on the size of battery room
Gasification Voltage per Cell	Volt	2.36
Efficiency		
Ah efficiency	%	> 92 %
Watt Hr efficiency	%	> 80 %
Recommended Max. period of cell storage before the first Charge (After Installation and filling of Electrolyte)		12 - 18 hours
Recommended Storage life of Battery (Dry shelf life)		2 yrs.(with the plugs closed tightly)