HIND
LBT

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AUTOMOTIVE
BATTERIES

HIND LBT INDIA PVT. LTD.

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What is Hind$_{LBT}$ Brand

Hind$_{LBT}$ is a technology driven company and provides quality and innovative energy solutions.
Hind LBT is known for Power, Long Life and Technology leading to consistent and enhanced performance.

Hind offers comprehensive range of batteries starting from 35ah to 220ah across JIS & DIN models. Complete energy solutions!

Hind's product offering is highly effective for hot climate region and has earned us accolades from across markets.

Hind LBT India is a Highly Brand consciousness group, our comprehensive quality management system and stringent quality measures leading to reduced rate of return. We deploy Quality checks at every level starting from Inward material, grid & plate manufacturing processes coupled with 100% product testing and inspection before it gets past to Packaging and "dispatch".

Experience Hind LBT and be the proud owner!

Why Hind$_{LBT}$

Longer life of use of the battery

Advanced Silver Alloy inside reduces the rate of corrosion generated by high temperature and consequently increases the life of the battery. Its most suitable for countries with higher temperature.

Greater shelf life

The self-discharge of the battery is 10% - 15% lower than other batteries. It is quick charged and has 10% to 15% better charge acceptance over others batteries. High density pasted plates further improve the life- cycle.

Extremely Powerful

Balance NAM, PAM ratio, enhance cranking & Greater plate count generates more "ah". Very powerful!

Vibration and impact resistant

P.E (AU) Profile Separator with Glass Mat give resistance against any sever vibration and protect the plates.

Quick Bites

Automotive was the largest application area in the market, contributing more than 65.0% share in terms of volume in 2017

Technology

- Silver Alloy composition
- Best separator for Automotive batteries – We use AU profile with glass mat separator which is specially designed for Auto battery and extends battery life by up to 25%.
- Heavier plate count – We use 99.99% pure lead and healthier plate count to generator higher "Ah" and more power.
- Grid Cast Technology – We use grid cast technology which is designed to perform efficiently in hot conditions as compared to other types of grids.
- Consistency – Highly Automated plant and strong quality check leading to greater consistency throughout 365 days.

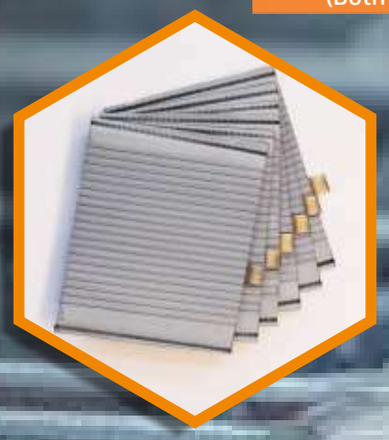
Quick Bites

Lead Acid Battery Market revenue worth over $75 billion by 2024

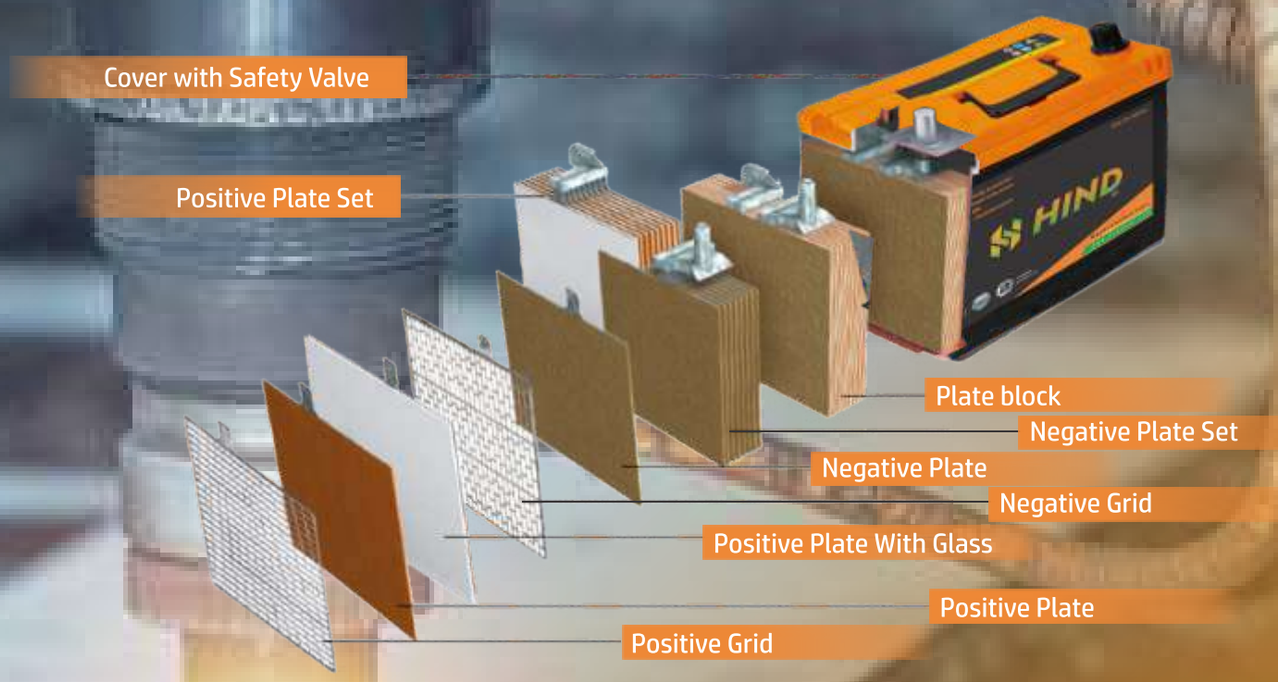
Hind$_{LBT}$ Battery Construction

Advanced Radial Grid

Construction Grid plate
(Both side) pasting



Au Profile Glass Mat Separators



Charging Process

Testing Process

Inspection Stage

JIS (Japan Industrial Standard)

S.NO	New JIS	Old JIS	Ah	Dimensions			CCA	RC	Net Weight Of Bty (In Kg)
				L (mm)	W (mm)	H (mm)			
1	44B20L	NS40ZL	35	197	129	227	320	53	10.8
2	44B20R	NS40Z	35	197	129	227	320	53	10.8
3	40B24L	N40L	40	238	129	227	370	70	13
4	40B24R	N40	40	238	129	227	370	70	13
5	40B24LS	N40LS	40	238	129	227	370	70	13
6	40B24RS	N40S	40	238	129	227	370	70	13
7	60B24L	NS60L	45	238	129	227	370	70	13.7
8	60B24R	NS60S	45	238	129	227	370	70	13.7
9	60B24LS	N60LS	45	238	129	227	370	70	13.7
10	60B24RS	N60S	45	238	129	227	370	70	13.7
11	55D23L	-	60	232	172	225	480	100	16.5
12	55D23R	-	60	232	172	225	480	100	16.5
13	48D26L	N50L	50	260	173	214	380	85	18.1
14	48D26R	N50	50	260	173	214	380	85	18.1
15	65D26L	NS70L	65	260	173	214	500	110	18.1
16	65D26R	NS70	65	260	173	214	500	110	18.1
17	80D26L	NX110-5L	70	260	173	214	520	120	18.5
18	80D26R	NX110-5	70	260	173	214	520	120	18.5
19	75D31L	N70ZL	75	306	173	225	500	145	23.4
20	75D31R	N70Z	75	306	173	225	500	145	23.4
21	95D31L	-	80	306	173	225	530	145	23.4
22	95D31R	-	80	306	173	225	530	145	23.4
23	95E41R	-	90	410	175	231	550	155	26.9
24	105E41R	N100	100	410	175	231	650	182	28
25	MF120	N120	120	512	182	237	700	210	35.1
26	HMF150	N150	150	512	212	232	820	280	41.9
27	N170	N170	170	512	212	240	810	290	45
28	HMF200	N200	200	512	212	232	960	390	52.3
25	85D23L	55D23L	60	231	173	227	500	114	16.8
26	85D23L	55D23L	60	231	173	227	500	114	16.8
27	MF120	N120	130	512	182	237	720	230	35.9
28	N170	N170	180	512	212	232	900	340	52.3

DIN (Deutche Industrie Normung)

S.NO	DIN Part No	DIN Old Part No	Ah	Dimensions			CCA	RC	Net Weight Of Bty (In Kg)
				L (mm)	W (mm)	H (mm)			
1	DIN44L	-	44	210	175	190	360	65	12.6
2	DIN44R	-	44	210	175	190	360	65	12.6
3	DIN55L	-	55	243	175	190	420	82	15
4	DIN55R	-	55	243	175	190	420	82	15
5	DIN66L	-	66	278	175	190	510	105	18.5
6	DIN74L	-	74	278	175	190	570	115	19.5
7	DIN80L	-	80	313	175	190	750	157	22.5
8	DIN100L	-	100	353	175	190	750	176	25.2
9	DIN170	-	170	509	220	220	880	27	49.2

Quick Bites

Asia (including Middle East) leading the growth of the lead acid Battery market.

Battery testing procedures

***Resting voltage (Table 1)**

Temperature	Standard battery (Resting volts)	Remarks on resting volts
100%	12.60 – 12.75	–
95%	12.60 – 12.70	–
90%	12.60 – 12.65	Resting voltage for standard auto battery
85%	12.6	Resting voltage for standard auto battery
80%	12.50 – 12.55	Do not allow the battery to get discharged at this point
75%	12.5	Minimum resting voltage for a charged battery
70%	12.45	Anything below this is poorly charged
65%	12.4	Give freshening charge at this point
60%	12.35	–
55%	12.3	–
50%	12.25	Never discharge the battery at this point
45%	12.2	–
40%	12.15 – 12.20	–
25%	12.10 – 12.15	Low voltage, do not conduct load test
20%	11.80 – 12.00	Cell get affected at this point.

*conditions apply as per storage condition.

Visual Check

- Check the container, cover and terminals. If there are physical damages, reject the battery
- Check the indicator (If the battery has the indicator). Always have a top view look when viewing the indicator, also tap the indicator lightly to dislodge any air bubbles.

Voltage check

- If OCV is below 12.4V, recharge the battery immediately.

Discharge test (Load test)

- Connect the battery tester to battery terminals
- Measure the temperature of the battery. Set the battery tester ampere values for ½ of the CCA rating
- Apply the load for 15 seconds and read the voltage
- Compare measures values with the values in table 2
- If the values are outside of the table values, recharge the battery and test again. If the battery fails the load test twice, replace it.
- Sometimes, electronic testers such as MIDTRONICS, SNAP-ON etc. are used instead of load tester. Electronic testers are only suitable for batteries that have been in use for a certain time. They cannot rate the performance of new or unused batteries. For this reason, we recommend the test defined in global standards to confirm rated specifications.

BATTERY CHARGING procedures

***Constant current charge condition (Table 3)**

OCV	31-40AH	41-50AH	51-60AH	61-70AH	71-80AH	81-90AH	91-100AH	101-110AH
12.4-12.49V	4X3	5X3	6X3	7X3	8X3	9X3	10X3	11X3
12.3-12.39V	4X5	5X5	6X5	7X5	8X5	9X5	10X5	11X5
12.2 – 12.19V	4X7	5X7	6X7	7X7	8X7	9X7	10X7	11X7
12.1-12.19V	4X8	5X8	6X8	7X8	8X8	9X8	10X8	11X8
12.0-12.09V	4X10	5X10	6X10	7X10	8X10	9X10	10X10	11X10
Below 11.99V	4X13	5X13	6X13	7X13	8X13	9X13	10X13	11X13

*4X3 means 4 ampere and 4 hours

Battery charge

If the battery is below 12.4V or fails to pass the load test, battery must be recharged as soon as possible to prevent lead saltation. During charge, if the battery sprays electrolytes through the vent holes or gets hot (over 52° c), the charge must be stopped for a time to allow the battery to cool down.

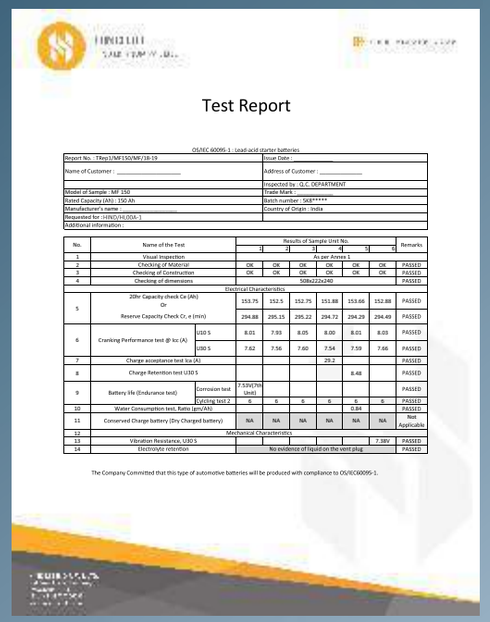
Constant current charge

Another method is to charge a battery at a specified voltage (14.3 – 16V). When charging starts, a high rate current flows into the battery. As the battery is being charged, the current is reduced. Generally, this method needs more time than the constant current charge, but overcharge risk is lower.

End of charge

If the battery has been properly charged, voltage output across battery terminals on charge will be maintained for 2 hours.

Quality Test Reports



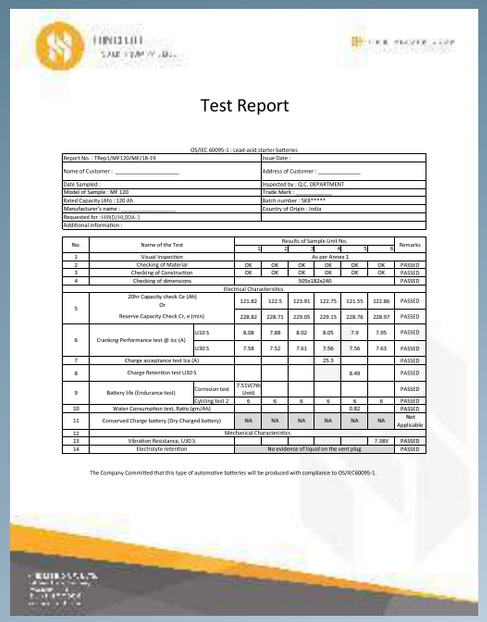
Test Report

O5/IEC 60095-1 : Lead-acid starter batteries

Report No. : TRep1/MF150/MF/18-19	Issue Date :
Name of Customer : _____	Address of Customer : _____
	Inspected by : Q.C. DEPARTMENT
Model of Sample : MF 150	Trade Mark :
Rated Capacity (Ah) : 150 Ah	Batch number : 568*****
Manufacturer's name :	Country of Origin : India
Requested for :HIND/HL00A-1	
Additional information :	

No.	Name of the Test		Results of Sample Unit No. 1	2	3	4	5	6	Remarks
1	Visual Inspection		As per Annex 1						PASSED
2	Checking of Material		OK	OK	OK	OK	OK	OK	PASSED
3	Checking of Construction		OK	OK	OK	OK	OK	OK	PASSED
4	Checking of dimensions		508x222x240						PASSED
	Electrical Characteristics								
5	20hr Capacity check Ce (Ah) Or Reserve Capacity Check Cr, e (min)		153.75 / 294.88	152.5 / 295.15	152.75 / 295.22	151.88 / 294.72	153.66 / 294.29	152.88 / 294.49	PASSED
6	Cranking Performance test @ Icc (A)	U10 S	8.01	7.93	8.05	8.00	8.01	8.03	PASSED
		U30 S	7.62	7.56	7.60	7.54	7.59	7.66	PASSED
7	Charge acceptance test Icа (A)					29.2			PASSED
8	Charge Retention test U10 S						8.48		PASSED
9	Battery life (Endurance test)	Corrosion test	7.53V(7th Unit)						PASSED
		Cycling test 2	6	6	6	6	6	6	PASSED
10	Water Consumption test, Ratio (gm/Ah)						0.84		PASSED
11	Conserved Charge battery (Dry Charged battery)		NA	NA	NA	NA	NA	NA	Not Applicable
12	Mechanical Characteristics								
13	Vibration Resistance, U30 S							7.38V	PASSED
14	Electrolyte retention		No evidence of liquid on the vent plug						PASSED

The Company Committed that this type of automotive batteries will be produced with compliance to O5/IEC60095-1.



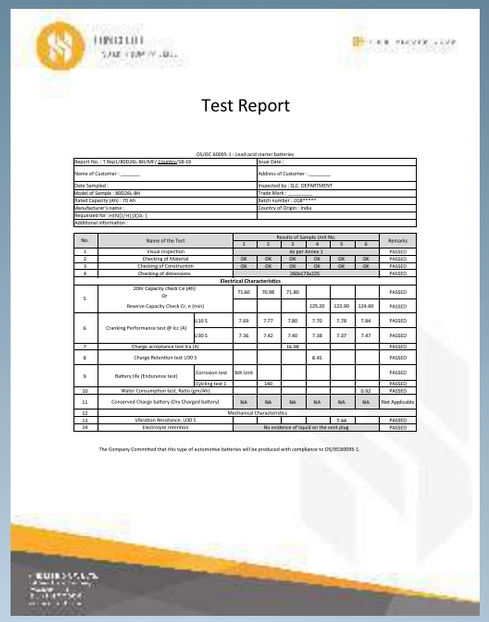
Test Report

O5/IEC 60095-1 : Lead-acid starter batteries

Report No. : TRep1/MF120/MF/18-19	Issue Date :
Name of Customer : _____	Address of Customer : _____
Date Sampled :	Inspected by : Q.C. DEPARTMENT
Model of Sample : MF 120	Trade Mark :
Rated Capacity (Ah) : 120 Ah	Batch number : 563*****
Manufacturer's name :	Country of Origin : India
Requested for :HIND/HL00A-1	
Additional information :	

No.	Name of the Test		Results of Sample Unit No. 1	2	3	4	5	6	Remarks
1	Visual Inspection		As per Annex 1						PASSED
2	Checking of Material		OK	OK	OK	OK	OK	OK	PASSED
3	Checking of Construction		OK	OK	OK	OK	OK	OK	PASSED
4	Checking of dimensions		505x182x240						PASSED
	Electrical Characteristics								
5	20hr Capacity check Ce (Ah) Or Reserve Capacity Check Cr, e (min)		121.82 / 228.82	122.5 / 228.71	123.91 / 229.05	122.75 / 229.15	121.55 / 228.76	122.86 / 228.97	PASSED
6	Cranking Performance test @ Icc (A)	U10 S	8.08	7.88	8.02	8.05	7.9	7.95	PASSED
		U30 S	7.58	7.52	7.61	7.56	7.56	7.63	PASSED
7	Charge acceptance test Icа (A)					25.3			PASSED
8	Charge Retention test U10 S						8.49		PASSED
9	Battery life (Endurance test)	Corrosion test	7.51V(7th Unit)						PASSED
		Cycling test 2	6	6	6	6	6	6	PASSED
10	Water Consumption test, Ratio (gm/Ah)						0.82		PASSED
11	Conserved Charge battery (Dry Charged battery)		NA	NA	NA	NA	NA	NA	Not Applicable
12	Mechanical Characteristics								
13	Vibration Resistance, U30 S							7.38V	PASSED
14	Electrolyte retention		No evidence of liquid on the vent plug						PASSED

The Company Committed that this type of automotive batteries will be produced with compliance to O5/IEC60095-1.



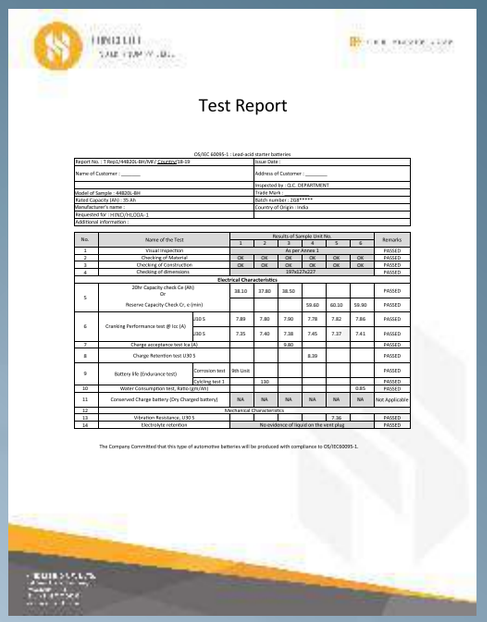
Test Report

O5/IEC 60095-1 : Lead-acid starter batteries

Report No. : TRep1/840[illegible]-BH/MF/[illegible]/18-19	Issue Date :
Name of Customer : _____	Address of Customer : _____
Date Sampled :	Inspected by : Q.C. DEPARTMENT
Model of Sample : 840[illegible]-BH	Trade Mark :
Rated Capacity (Ah) : 70 Ah	Batch number : 268*****
Manufacturer's name :	Country of Origin : India
Requested for :HIND/HL00A-1	
Additional information :	

No.	Name of the Test		Results of Sample Unit No. 1	2	3	4	5	6	Remarks
1	Visual Inspection		As per Annex 1						PASSED
2	Checking of Material		OK	OK	OK	OK	OK	OK	PASSED
3	Checking of Construction		OK	OK	OK	OK	OK	OK	PASSED
4	Checking of dimensions		260x173x225						PASSED
	Electrical Characteristics								
5	20hr Capacity check Ce (Ah) Or Reserve Capacity Check Cr, e (min)		71.60	70.98	71.80				PASSED
						125.20	123.90	124.60	PASSED
6	Cranking Performance test @ Icc (A)	U10 S	7.69	7.77	7.80	7.70	7.78	7.84	PASSED
		U30 S	7.36	7.42	7.40	7.38	7.37	7.47	PASSED
7	Charge acceptance test Icа (A)				66.98				PASSED
8	Charge Retention test U30 S					8.45			PASSED
9	Battery life (Endurance test)	Corrosion test	6th Unit						PASSED
		Cycling test 1		160					PASSED
10	Water Consumption test, Ratio (gm/Ah)							0.92	PASSED
11	Conserved Charge battery (Dry Charged battery)		NA	NA	NA	NA	NA	NA	Not Applicable
12	Mechanical Characteristics								
13	Vibration Resistance, U30 S					7.44			PASSED
14	Electrolyte retention		No evidence of liquid on the vent plug						PASSED

The Company Committed that this type of automotive batteries will be produced with compliance to O5/IEC60095-1.



Test Report

O5/IEC 60095-1 : Lead-acid starter batteries

Report No. : TRep1/448[illegible]-BH/MF/[illegible]/18-19	Issue Date :
Name of Customer : _____	Address of Customer : _____
	Inspected by : Q.C. DEPARTMENT
Model of Sample : 448[illegible]-BH	Trade Mark :
Rated Capacity (Ah) : 35 Ah	Batch number : 268*****
Manufacturer's name :	Country of Origin : India
Requested for :HIND/HL00A-1	
Additional information :	

No.	Name of the Test		Results of Sample Unit No. 1	2	3	4	5	6	Remarks
1	Visual Inspection		As per Annex 1						PASSED
2	Checking of Material		OK	OK	OK	OK	OK	OK	PASSED
3	Checking of Construction		OK	OK	OK	OK	OK	OK	PASSED
4	Checking of dimensions		197x027x227						PASSED
	Electrical Characteristics								
5	20hr Capacity check Ce (Ah) Or Reserve Capacity Check Cr, e (min)		38.10	37.80	38.50				PASSED
						59.60	60.10	59.00	PASSED
6	Cranking Performance test @ Icc (A)	U10 S	7.89	7.80	7.90	7.78	7.82	7.86	PASSED
		U30 S	7.35	7.40	7.38	7.45	7.37	7.41	PASSED
7	Charge acceptance test Icа (A)				9.80				PASSED
8	Charge Retention test U30 S					8.39			PASSED
9	Battery life (Endurance test)	Corrosion test	9th Unit						PASSED
		Cycling test 1		190					PASSED
10	Water Consumption test, Ratio (gm/Ah)							0.93	PASSED
11	Conserved Charge battery (Dry Charged battery)		NA	NA	NA	NA	NA	NA	Not Applicable
12	Mechanical Characteristics								
13	Vibration Resistance, U30 S					7.36			PASSED
14	Electrolyte retention		No evidence of liquid on the vent plug						PASSED

The Company Committed that this type of automotive batteries will be produced with compliance to O5/IEC60095-1.

CE ISO 9001

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Happy Customer

Babji International in Kuwait

Hind LBT can be described in two words i.e. Quality and services. Al my customers are extremely happy with the quality and we are happy with Hind LBT services.

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