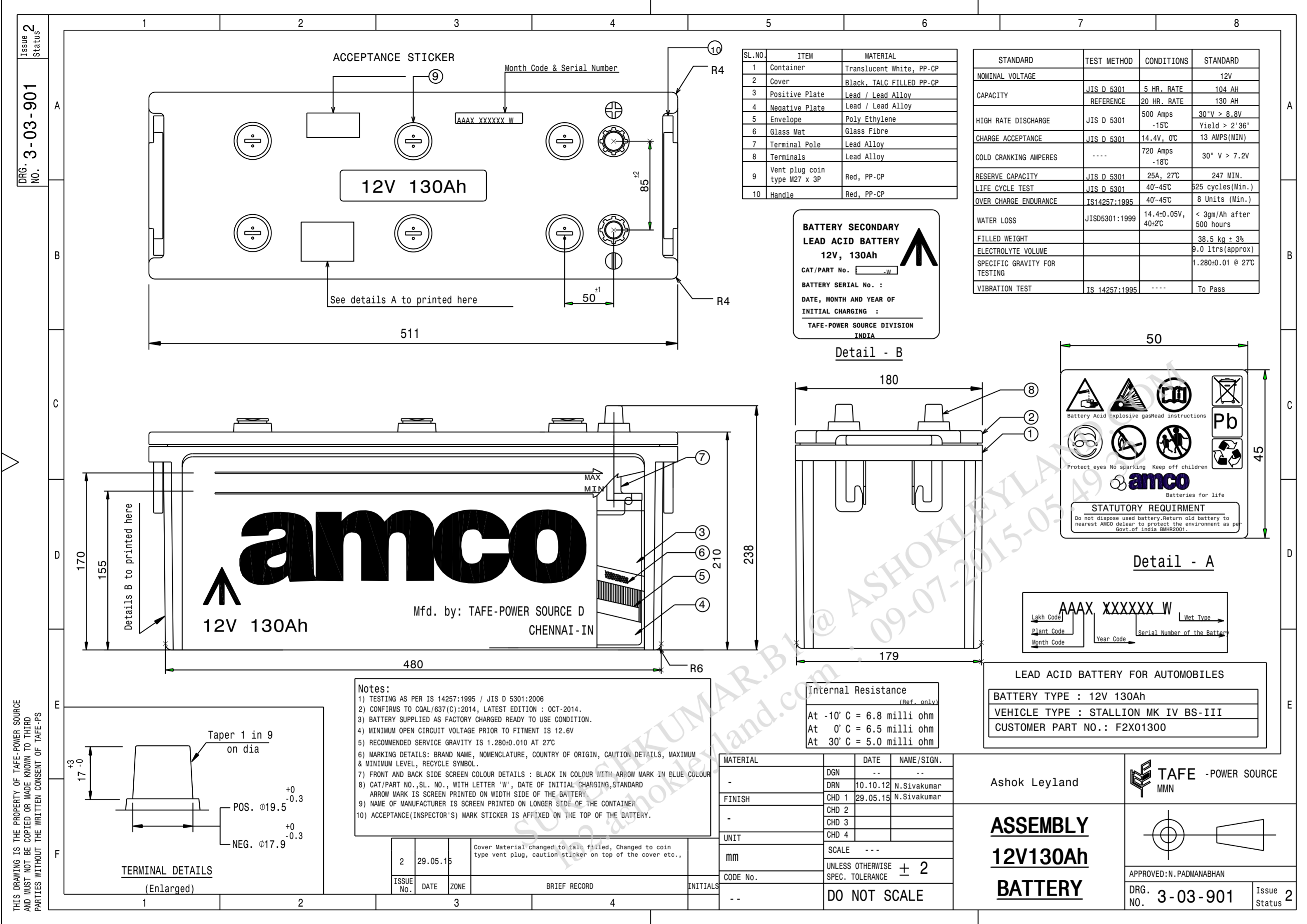




ASHOK LEYLAND LTD. TECHNICAL CENTRE VELLIVOLCHAVADI  
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ALTERATIONS	ER-DIN DATE	GRADE	SUFFIX

AL PLM VAULT	REVISION : #	DATE : 7/7/2015	STATUS : RELEASE
STAGE : II	ER-DIN NO : ER-DIN-0026596	DATE : 8/7/2015	
ALTERED BY : kumar.n3	CHECKED BY : jur.alvce		
MED APPROVAL : sarathkumar.gv	APPROVED BY : snagarajan.alvce		

DRAWN/ DATE	CHECKED/ DATE	MED APPROVAL/ DATE	APPROVED/ DATE	STDS APP/ DATE
NKR 09.06.2015	JNR 09.06.2015	PAWAN KUMAR 09.06.2015	S.N 09.06.2015	-----

MATERIAL	HEAT TREATMENT	REMARKS

DESCRIPTION	STALLION VARIANTS
12V 130AH BATTERY - 720 CCA	
PART NO.	F 2 X 0 1 3 0 0 #
SHEET No	.....1..... OF .....1..... A2

3-03-901	F2X01300	Qty : -	Qty : 10 Nos	-
Supplier Part No	AL Part No	Sample	Pilot	Production

SURFACE PROTECTION	THIS DRG. CONTAINS ( - ) @ CRITICAL ( - ) S SAFETY ( - ) + IMPORTANT CHARACTERISTICS	
TOLERANCES	REFER IS:2102; MEDIUM FOR MACHINING AND COARSE FOR FABRICATION	
SURFACE PROTECTION	TO MEET THE REQUIREMENT OF ALS.268.03	
SURFACE FINISH AS PER IS:3073(CLA VALUE)	METRIC SCREW THREADS SHALL CONFORM TO THE LIMITS AND TOLERANCES SPECIFIED IN THE CURRENT IS:4218	SHARP EDGES TO BE REMOVED DIMENSIONS ARE IN MM DO NOT SCALE DRAWING

SPECIAL INSTRUCTIONS/NOTE:

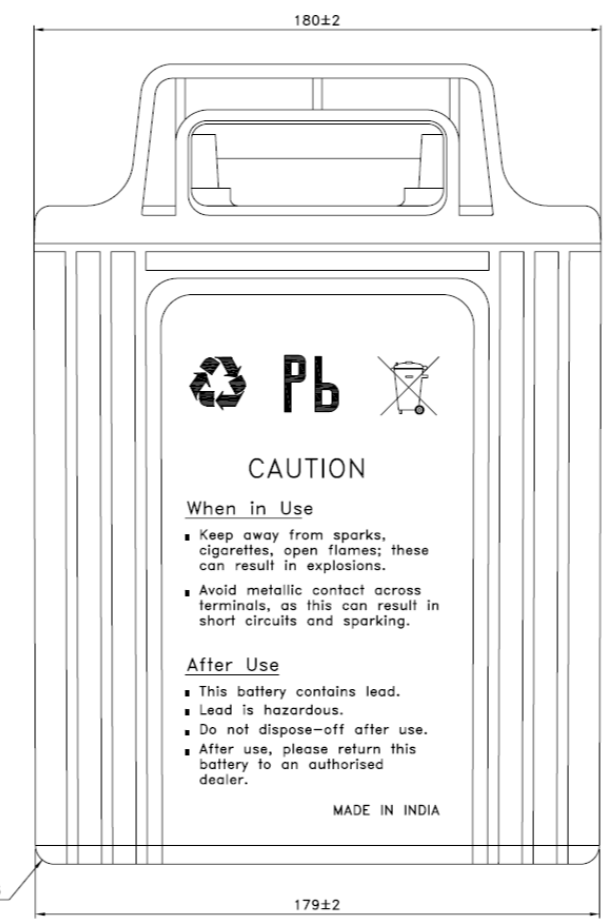
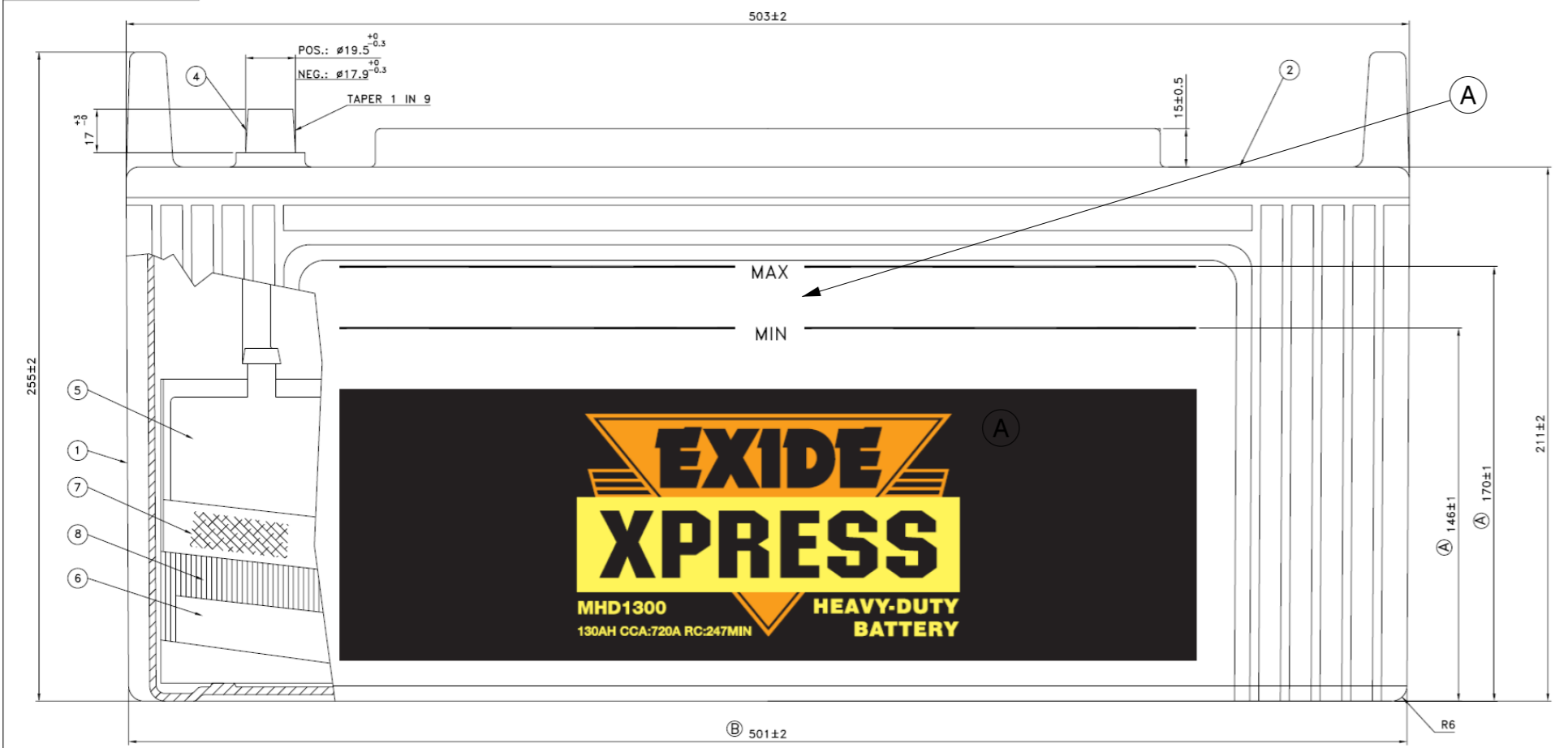
BILL OF MATERIALS		
APPEARANCE ITEM	ER-DIN	DATE
-YES-	NO	ER-DIN-XXXXXX XX/XX/XX
FINISHED WEIGHT(APPROX)	REF PART NO:	---
38.5 Kgs	S/A PART NO:	---
SCALE	SUPERSEDES	---
NTS	SPEC NO:	---



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**ASHOK LEYLAND LTD.**  
 TECHNICAL CENTRE VELLIVOLCHAVADI

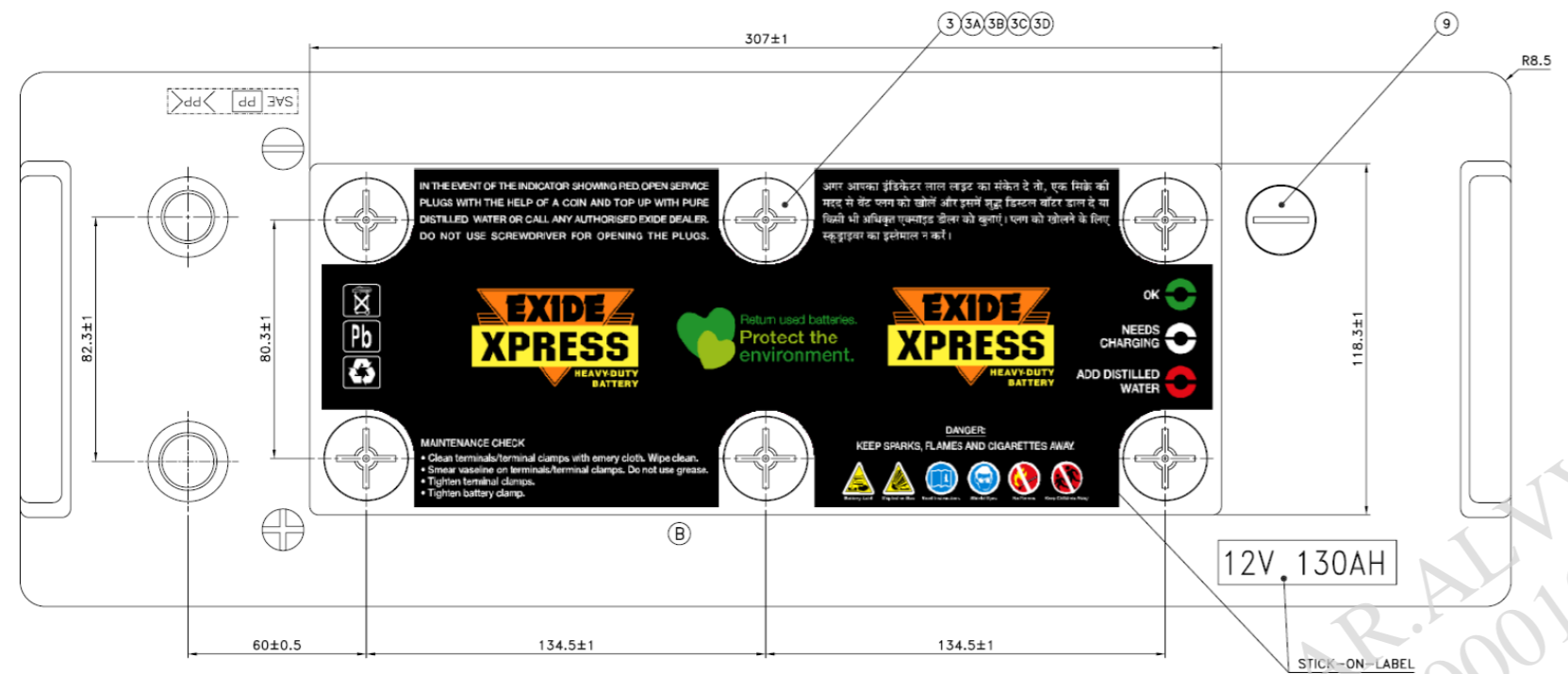
DO NOT SCALE



SL.NO.	ITEM	MATERIAL
1	CONTAINER	TRANSLUCENT WHITE, PP-CP
2	LID	BLACK, PP-CP
3	VENT PLUG, M22x2.5P	BLACK, PP-CP
3A	PLUG TOP	BLACK, PP-CP
3B	MICRO-POROUS FILTER DISC	WHITE, CERAMIC
3C	WASHER	NEOPRENE RUBBER
3D	PLUG BOTTOM	WHITE, PP-CP
4	TERMINALS (POS./NEG.)	LEAD ALLOY
5	POSITIVE PLATE	LEAD / LEAD ALLOY (1.65% Sb)
6	NEGATIVE PLATE	LEAD / LEAD CALCIUM ALLOY
7	GLASSMAT	GLASS MICROFIBRE
8	ENVELOPE	POLYETHYLENE
9	ACID LEVEL INDICATOR	ACRYLIC RESIN, M16x2P

PERFORMANCE SPECIFICATIONS

STANDARD	TEST METHOD	CONDITIONS	STANDARD
NOMINAL VOLTAGE			12V
CAPACITY	IS 14257:1995	5 HOUR RATE	104 AH
	REFERENCE	20 HOUR RATE	130 AH
HIGH RATE DISCHARGE	IS 14257:1995	500 AMPS -15°C	30 SEC VOLTAGE > 8.8V DURATION TO 6V > 2.6 MINUTES
	IS 14257:1995	14.4V, 0°C	13 AMPS (MIN)
CHARGE ACCEPTANCE	IS 14257:1995	14.4V, 0°C	13 AMPS (MIN)
	SAE J537:1994	720 AMPS -18°C	30 SEC VOLTAGE > 7.2V
RESERVE CAPACITY	SAE J537:1994	25 A, 27°C	247 MIN
	IS 14257:1995	40°-45°C	525 CYCLES (MIN)
LIFE CYCLE TEST	IS 14257:1995	40°-45°C	8 UNITS (MIN)
	JIS D5301:1999	14.4±0.05V, 40±2°C	< 3 gm/AH AFTER 500 HOURS
WATER LOSS	JIS D5301:1999	14.4±0.05V, 40±2°C	< 3 gm/AH AFTER 500 HOURS
			36.4 kg ± 3%
FILLED WEIGHT			8.5 LITRES (APPROX)
ELECTROLYTE VOLUME			1.280±0.010 AT 27°C
SPECIFIC GRAVITY FOR TESTING			



- NOTES**
- TESTING AS PER IS:14257-1995 UNLESS OTHERWISE SPECIFIED.
  - VIBRATION TESTS AS PER IS:14257-1995.
  - BATTERY TO BE SUPPLIED AS FACTORY CHARGED READY TO USE CONDITION.
  - MINIMUM OPEN CIRCUIT VOLTAGE PRIOR TO FITMENT IS 12.3V.
  - RECOMMENDED SERVICE GRAVITY IS 1.240±0.010 AT 27°C.
  - STENCIL COLOUR SCHEME**  
FRONT/BACK PANEL: COMBINATION OF YELLOW, ORANGE & BLACK.  
SIDE PANEL: BLACK.
  - MARKING DETAILS : COMPANY LOGO, BRAND NAME, NOMENCLATURE, RATING, POLARITY SIGN, COUNTRY OF ORIGIN, CAUTION NOTES, DON'T DISPOSE & RECYCLE SYMBOLS TO APPEAR LEGIBLY & DURABLY ON TOP/SIDES OF THE BATTERY.

**BATCH CODE DETAILS**

THE FOLLOWING INFORMATION WILL BE HEAT IMPRINTED ON THE TOP OF LID:

A) FACTORY CODE: 3 (HALDIA) OR 4 (HOSUR)  
 B) MONTH CODE: A, B, C, ..., L (A FOR JANUARY ETC.)  
 C) YEAR CODE: 8 (2008), 9 (2009)  
 D) ASSEMBLY LINE CODE: 1, 2, 3  
 E) SERIAL NUMBER OF BATTERY: 5 DIGITS  
 e.g.: 4 A9 2 12264

REV.NO.	REV. DATE	REV. BY	CHKD. BY	APD. BY
D	03.01.09	N.C	G.M	D.M
C	02.12.08	P.K.D	G.M	D.M
B	21.01.08	A.C	A.R	D.M
A	5.5.05	S.K	P.D.G	D.M

**REVISIONS**

NAME	SIGN.	DATE
G.M		10.04.03
P.D.G		10.04.03
D.M		10.04.03

**TITLE**  
 OUTLINE DRAWING OF MHD1300 BATTERY

**DO NOT SCALE**  
 ALL DIMS. ARE IN mm  
 UNSPECIFIED TOLERANCES

FORS	>	1.0	5.0
DIM.	>	1.0	5.0
TOL.	<	±0.05	±0.1 ±0.2

SCALE : 1 : 1  
 DRG.NO.: BA7803D  
 DATE OF ISSUE

ALTERATIONS	ER-DIN DATE	GRADE	SUFFIX
COSMETIC CHANGE AS PER SUPPLIER'S REQUEST. ACID LEVEL INDICATION INTRODUCED. NEW AL TEMPLATE INCLUDED.			A
GKK\KARK\LDG			

AL PLM VAULT  
 REVISION:A |DATE:4-8-2009 |STATUS:RELEASE  
 STAGE:III |ER-DIN NO/DATE: ER-DIN-0003554 / 4-8-2009

ALTERED BY:gkk.alvvc |CHECKED:kark.alvvc  
 MED APPROVAL:--NA-- |APPROVED:dgghose.alvvc

DIGITALLY SIGNED. PHYSICAL SIGNATURE NOT REQUIRED

DRAWN/ DATE	CHECKED/ DATE	MED APPROVAL/ DATE	APPROVED/ DATE	STDS APP/ DATE
XXXX XX.XX.XXXX	XXXX XX.XX.XXXX	XXXX XX.XX.XXXX		

MATERIAL \_\_\_\_\_

HEAT TREATMENT \_\_\_\_\_

REMARKS	DESCRIPTION
CCA RATING 720 AMPS	MHD 1300 - 12V - 130Ah BATTERY
PART NO.	<b>F 8 2 1 3 2 0 0 A</b>
SHEET No	.....1..... OF .....1.....

UNLESS OTHERWISE SPECIFIED

TOLERANCES REFER IS:2102; MEDIUM FOR MACHINING AND COARSE FOR FABRICATION

SURFACE PROTECTION FABRICATED COMPONENTS TO BE DEGREASED, DESCALED. APPLY ZINC PHOSPHATE, APPLY EPOXY PRIMER AND APPLY BLACK ENAMEL TO MEET 300 HRS OF SALT SPRAY LIFE WHEN TESTED AS PER ASTM B117 (UNDER PELLICULAR CORROSION <= 2mm. NO BLISTERING IS ALLOWED.)  
 MACHINED SURFACE TO BE APPLIED WITH RUST PREVENTIVE OIL TO IS:1154

SURFACE FINISH AS PER IS:3073(CLA VALUE)

METRIC SCREW THREADS SHALL CONFORM TO THE LIMITS AND TOLERANCES SPECIFIED IN THE CURRENT IS:4218 CLASS 6g EXTERNAL OR 5H INTERNAL

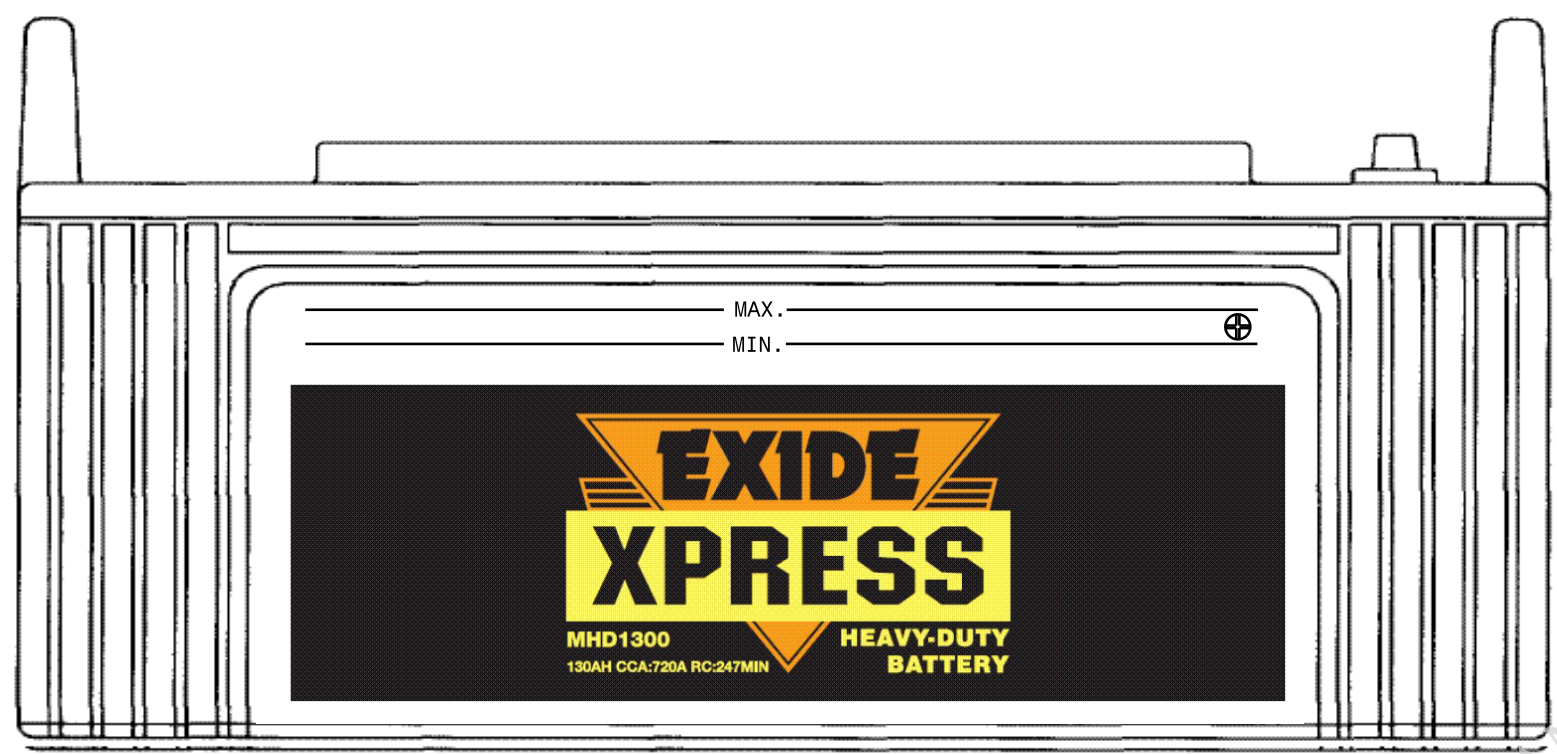
SHARP EDGES TO BE REMOVED DIMENSIONS ARE IN MM DO NOT SCALE DRAWING

SPECIAL INSTRUCTIONS/NOTE:

SL No	PART NO:	DESCRIPTION	SIZE	MATERIAL	QTY
<b>BILL OF MATERIALS</b>					
		APPEARANCE ITEM	ER-DIN	DATE	
		YES NO	ER-DIN-XXXXXXX	XX.XX.XXXX	
		FINISHED WEIGHT(APPROX)	REF PART NO:		
		XXX.XXX Kgs	S/A PART NO:		
		SCALE	SUPERSEDES		
		1:1	SPEC NO:		







ALTERATIONS	ER-DIN DATE	GRADE	SUFFIX
NOTE AND DRAWING UPDATED. SG/BSV	8.6.10	-	#.1

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ASHOK LEYLAND LTD. TECHNICAL CENTRE, VELLIVoyalCHAVADI

**SPECIFICATION:**

EXIDE CODE : MHD 1300  
 VOLTAGE : 12 V  
 CAPACITY 5 HR. (AH) : 104 AH  
 ELECTROLYTE VOLUM : 8.5 LITRES (APPROX.)  
 RECOMMENDED TEST GRAVITY: 1.280±0.010 AT 27°

BATTERY TO GENERALLY CONFIRM TO IS:14257 - 1995

**INSTRUCTION FOR MAKING OF BATTERY (FOR ARMY VEHICLE ONLY)**

- CAT/PART NO. DESIGNATION TO BE EMBOSSED.
- LETTER 'W' OR 'D' INDICATING WET OR DRY TYPE OF SEPERATION USED BY MANUFACTURER. TOGETHER WITH MONTH AND YEAR OF MANUFACTURE TO BE EMBOSSED.
- ACCEPTANCE MARK (INSPECTOR'S MARK) TO BE EMBOSSED.
- DATE. THE BATTERY IS GIVEN INITIAL CHARGE, TO BE STENCILLED ON THE CONTAINER.
- STANDARD ARROW MARK TO BE BRANDED ON ONE OF THE SIDES OF THE CONTAINER AND FILLED WITH ANTI-SULPHURIC ACID YELLOW PAINT.
- NAME OF THE MANUFACTURER TO BE EMBOSSED ON THE LONGER SIDE OF THE CONTAINER. SERIAL NO. CODE NO. AND TYPE TO BE EMBOSSED BY THE MANUFACTURERS.

**NOTE**  
 IN CASE OF BATTERIES HAVING INTERNAL CONNECTIONS. THE INFORMATION REQUIRED IS TO BE EMBOSSED ON THE BATTERY CASING.  
 EVERY BATCH OF BATTERIES SHOULD BE SUPPLIED ALONG WITH VALID TYPE APPROVAL CERTIFICATE FROM C.Q.A.L.

**NOTE**  
 FOR DIMENSION AND OTHER TECHNICAL DETAIL REF DRG NO. F8213200.

AL PLM VAULT  
 REVISION : #.1      DATE : 26/11/2010      STATUS : RELEASE  
 STAGE : III      ER-DIN NO : ER-DIN-0001589      DATE : 26/11/2010  
 ALTERED BY : sundar.alvvc      CHECKED BY : jnr.alvvc  
 MED APPROVAL : N/A      APPROVED BY : snagarajan.alvvc

DIGITALLY SIGNED . PHYSICAL SIGNATURE NOT REQUIRED

DRAWN/ DATE	CHECKED/ DATE	MED APPROVAL /DATE	APPROVED/ DATE	STDS APP/ DATE
RP 02.05.2006	SN 02.05.2006	XXXX XX.XX.XXXX	SN 02.05.2006	_____

MATERIAL \_\_\_\_\_  
 HEAT TREATMENT \_\_\_\_\_  
 REMARKS  
 STALLION MK IV

SL No	PART NO:	DESCRIPTION	SIZE	MATERIAL	QTY
<b>UNLESS OTHERWISE SPECIFIED</b>					
TOLERANCES REFER IS:2102 ; MEDIUM FOR MACHINING AND COARSE FOR FABRICATION					
SURFACE PROTECTION FABRICATED COMPONENTS TO BE DEGREASED, DESCALED. APPLY ZINC PHOSPHATE, APPLY EPOXY PRIMER AND APPLY BLACK ENAMEL TO MEET 300 HRS OF SALT SPRAY LIFE WHEN TESTED AS PER ASTM B117 (UNDER PELLICULAR CORROSION <= 2mm. NO BLISTERING IS ALLOWED.) MACHINED SURFACE TO BE APPLIED WITH RUST PREVENTIVE OIL TO IS:1154					
METRIC THREADS METRIC SCREW THREADS SHALL CONFORM TO THE LIMITS AND TOLERANCES SPECIFIED IN THE CURRENT IS:4218 CLASS 6g EXTERNAL OR 5H INTERNAL					
SURFACE FINISH AS PER IS:3073(CLA VALUE)					
SHARP EDGES TO BE REMOVED DIMENSIONS ARE IN MM DO NOT SCALE DRAWING					

APPEARANCE ITEM	ER-DIN	DATE
YES	---	---
NO	---	---
FINISHED WEIGHT (APPROX):	REF PT NO:	---
SUPERSEDES:	S/A PT NO:	---
SCALE	SPEC NO:	---

DESCRIPTION  
**BATTERY MHD 1300 -12V-130AH**

PART NO. **F 8 2 1 7 8 0 0 #.1**

SHEET NO: .....1..... OF... 1..... **A3**