



TSD
6208 B

PLANT STANDARD BHOPAL

BP 7250199

Rev. No. 07

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SUPERSEDES
BP 7250199 Rev 06

COMPANY'S MONOGRAM PLATE CAST-ALUMINIUM / ETCHED & DYED ALUMINIUM / ETCHED STAINLESS STEEL, BILINGUAL (WITH BORDER)

1.0 SCOPE:

- 1.1 This standard stipulates the requirements for Cast Aluminium/Anodized Aluminium Plate/Etched Stainless Steel Bilingual Monogram plates with border depicting company's monogram for displaying on our product.

2.0 DESIGNATION

A monogram plate Cast Aluminium/Anodized Aluminium Plate/ Etched Stainless Steel of nominal size 'A'-160mm shall be designated as:

2.1 On Drawings:

Specification Column	-	BP7250199
Description Column	-	COMPANY MONOGRAM PLATE C.AL. / Etched & Dyed Aluminium/ Etched Stainless Steel, BILINGUAL - 160.

2.2 On Indents:

Company's Monogram Plate Cast Aluminium/ Etched & Dyed Aluminium /Etched Stainless Steel Bilingual - 160mm to BP7250199.

2.3 On Purchase Orders/Enquiries:

While issuing Enquiries/Purchase Orders, enclose a copy of the standard BP 7250199.

3.0 MATERIAL:

- 1) The monogram plates, shall be made from Aluminium alloy grade 4600 of IS:617, (AA 12352).
- 2) 2 mm/3 mm thick Stainless Steel Sheet grade Gr: x04Cr19Ni9(AA 10739) Grade (304).
- 3) Monogram plate shall be made of 2 mm/3 mm thick Aluminium Sheet half hard Gr IS:737 Grade 19500.

Revision:

Revised.

Etched Stainless Steel /

Anodized Aluminium Plate added

Issued by :

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4.0 COMPLIANCE WITH STANDARDS:

There is no National Standard covering this type of item.

5.0 DIMENSIONS

5.1 Plate:

Overall dimension of Plate, Border and Hole, shall be specified in Table 1 & 2.

However, from the application point of view dimension of the letters and their spacing between the letters mentioned in the table are for guidance and reference only.

5.2 The monogram plates shall be free from burnt spots, cracks, scratches, and peeling of coating etc. Sharp edges shall be rounded off.

5.3 Monogram:

As specified in Corporate Standard AA 0401120.

6.1 FINISH FOR CAST ALUMINIUM

6.1.1 The monogram plate shall be painted by self etch primer first.

6.1.2 Back ground of Hindi Letters: Shall be full glossy non yellowing white enamel of stoving type.

6.1.3 Raised BHEL Hindi Letters: Shall be Black Glossy Stoving enamel Paint to AA 56138.

6.1.4 Black Ground of BHEL English: Black wrinkle finish synthetic stoving enamel.

6.1.5 Raised BHEL English Letters & Border: Shall be full glossy non yellowing white enamel of stoving type.

6.1.6 The inside boundary line in the area of Hindi letters "BHEL" shall not be black as mentioned in cl.4.3 of AA 0401120.

6.2 FINISH FOR STAINLESS STEEL

6.2.1 Monogram shall be made by Etching process, suitable for outdoor use.

6.2.2 English letter BHEL and border shall be natural raised and Hindi letter shall be etched black.

6.2.3 Raised BHEL English letters and borders shall be full glossy non yellowing white enamel of stoving type.

6.2.4 The inside boundary line in the area of Hindi letter "BHEL" shall not be black as mentioned in cl.4.3 of AA 0401120.



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6.2.5 Depth of etching shall be for 2 mm thickness Stainless Steel depth of etching minimum 300 micron, for 3 mm thickness Stainless Steel depth of etching minimum 500 micron.

6.3 FINISH FOR Etched & Dyed Anodized Aluminium.

6.3.1 Anodizing: The whole surface (Top & Bottom) shall be anodized.

6.3.2 Background of BHEL English letters and Top of Hindi बी.एच.ई.एल letters shall be etched and then dyed/painted black (stoving type).

6.3.3 BHEL English letters and background of Hindi बी.एच.ई.एल letters along with border shall be clear anodized(natural colour)

7.0 TEST REQUIREMENTS:

7.1 FOR CAST ALUMINIUM AND ETCHED STAINLESS STEEL MONOGRAM.

7.1.1 Humidity Test:

When tested in accordance with IS:101 by suspending the Cast Aluminium/Anodized Aluminium Plate/Etched Stainless Steel plate in a corrosion cabinet maintained at 90 to 100 percent relative humidity and a temperature cycle of 42 to 48 deg.C for 5 days, there shall be no signs of blistering and flaking of paint film.

7.1.2 Resistant to Salt Spray:

Cast Aluminium/Anodized Aluminium Plate /Etched Stainless Steel plate shall show no sign of blistering and flaking of paint film after continuous exposure for 4 days in salt spray cabinet when tested in accordance with IS:2074.

7.1.3 Adhesion by Tape Test:

Monogram plates shall show no peeling/removal of paint when subjected to cross-cut tape test.

This test is carried out by applying & removing pressure sensitive adhesive tape over cuts made in the paint film to ensure that adhesion of paint film to metallic substrate is adequate.

The test shall be carried out generally in line with ASTM D 3359 except that Transparent Pressure Sensitive Adhesive Tape of 25 mm $\pm$ 2 mm width, shall conform to IS:13262 or should bear ISI mark.

Method B of ASTM D 3359 shall be followed when thickness of paint film is between 50 to 125 microns and acceptance criteria shall be "4B", viz small flakes of the coating are detached at intersections, less than 5 % of the area is affected.

7.1.4 Accelerated Weathering Test: (Type Test):

The paint should not show any sign of deterioration when subjected to accelerated weathering test of 21 days in accordance with IS:2932.

Type Test shall be carried out once in a year per supplier, and at the time of approval of the source.



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7.2 FOR ETCHED AND DYED ALUMINIUM MONOGRAM.

(A) Routine Tests

7.2.1 Anodizing:

7.2.1.1 Visual Appearance:

The finish of the plate shall be uniform in colour and texture. The undyed areas shall be clear anodized and dyed area shall be black. The coating shall be smooth continuous and free from defects such as stains, blisters, cracks, etc.

7.2.1.2 Test for Anodic Film:

Current should not flow through the anodized parts, when an electrical connection from the positive bus bar another from the negative is connected with a small lamp bulb in circuit through the anodized article. Any failure of the anodic film will at once, be apparent by illumination of the bulb.

7.2.1.3 Thickness of anodic coating:

The thickness of anodic coating shall be within $\pm 10\%$ of the required thickness of 10 microns or as specified in the drawing.

The thickness shall be tested in accordance with IS:5523—Method of testing anodic coating on aluminium.

(B) Type Tests

7.2.2 Resistance to corrosion:

The anodized parts shall pass the test for the 6 hours salt spray test when tested in accordance with IS:9844.

7.2.3 Resistance to leaching:

The anodized parts shall pass the test for resistance to leaching when tested in accordance with IS:1868.

7.2.4 Resistance to tropical cycle:

The anodized plates shall not be affected by five tropical test cycles.

One cycle being defined as follows:

The plates shall be placed in a humidity chamber at $27 \pm 5^\circ\text{C}$. The temperature shall then be to $45 \pm 2^\circ\text{C}$, the relative humidity being kept in between 90% to 100%. These conditions shall be maintained for 12 hours.



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The chamber shall then be allowed to cool to $27 \pm 5^\circ\text{C}$ and saturation shall be allowed to occur. The lower temperature shall be maintained for the remainder of the 24 hours cycle and this time shall not be less than 5 hours.

8.0 FIXING:

The monogram plate shall be fixed on the company product as detailed below.

8.1 Holes:

The counter sunk hole sizes of monogram plate are indicated in table-I.

8.2 Screws:

The monogram plate shall be fixed by screws slotted, countersunk head, precision type A, coarse pitch to AA 712 21 01.

8.3 After fixing the screws on the plate, slots of heads shall be suitably filled with putty and shall be finished with white & black paint so that the appearance of the fastener merges with the white and black back ground.

9.0 TEST SAMPLES:

9.1 Samples shall be selected at random from supplies from an Approved Sources, once in any six consignment or once in a year, whichever is earlier. The no. of samples to be sent to TSD are as follows:

Monogram Plate - Upto & including 100 mm = 3 Samples
Above 100 mm = 1 Sample

10.0 MARKING & PACKING:

10.1 Identification Marking:

Name Plate size, Standard Number and Supplier's Name/Trade Mark shall be indicated on the back of each plate.

10.2 Packing:

Each name plate should be covered in paper and then suitably packed in polythene sheet cover so that the finish will not be affected during transit/storage before fixing the same on the products.



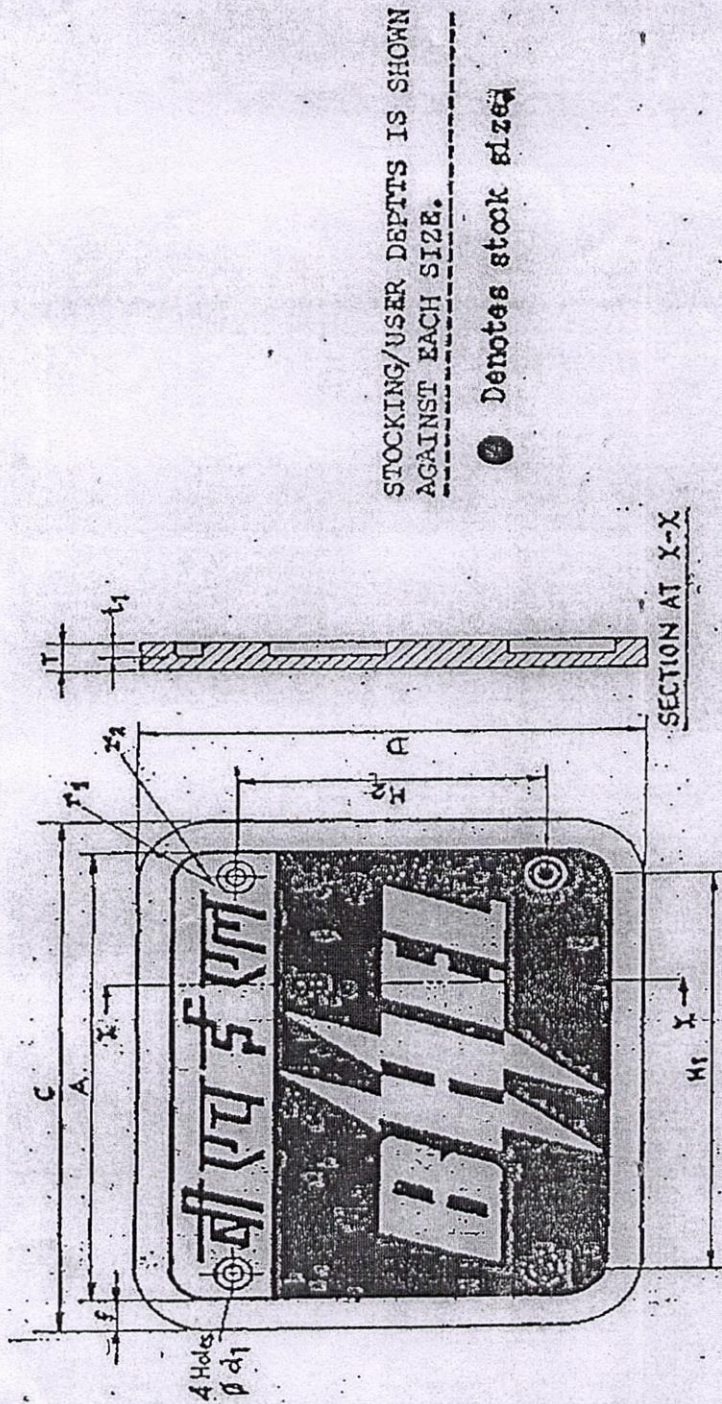
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STOCKING/USER DEPTTS IS SHOWN
AGAINST EACH SIZE.

● Denotes stock sizes

SECTION AT X-X

TABLE - 1
All Dimensions are in mm.
FOR CAST ALUMINIUM

NOM. SIZE A	PLATE												TOL. ON T & f (±)		HOLE CENTRE DISTANCE		HOLE DIA		NOM. SIZE OF FIXING SCREW	STOCK SIZE	SUB CODE	STOCKING STORE
	C	D	TOL. ON C & D	r1	r2	BORDER		THICKNESS														
						f	T	T	t1													
100	113	94	+1 -0	13.5	7	6.5	6	2	0.5	89	58	3.2	6.4	M3	●	013	FMS					
160	181	152	+1 -0	21.5	11	10.5	6	2.5	0.5	142	93	4.3	8.3	M4	●	021	FMS					
250	282	236	+1.5 -0	33.5	17.5	16	8	3	0.75	222	146	5.3	10.4	M5	●	030	FMS					
400	452	378	+2 -0	54	28	26	10	4	1.0	356	234	8.4	16.5	M8	●	048	TRM					

TABLE - 2
All Dimensions are in mm.
FOR ETCHED STAINLESS STEEL(ESS) / ETCHED & DYED ALUMINIUM (EDA)

NOM. SIZE A	PLATE										TOL. ON T & f (±)	HOLE CENTRE DISTANCE		HOLE DIA		NOM. SIZE OF FIXING SCREW	STOCK SIZE	SUB CODE		STOCKING STORE
	C	D	TOL. ON C & D	r1	r2	BORDER		THICKNESS		HORL H1		VERTICAL H2	φ d1	SCK DIA φ d2	ESS			EDA		
						f	T	T	t1											
100	113	94	+1 -0	13.5	7	6.5	2	0.30	0.5	89	58	3.2	6.4	M3	●	091	102	FMS		
160	181	152	+1 -0	21.5	11	10.5	2	0.30	0.5	142	93	4.3	8.3	M4	●	080	110	FMS		
250	282	236	+1.5 -0	33.5	17.5	16	2	0.30	0.75	222	146	5.3	10.4	M5	●	072	129	FMS		
400	452	378	+2 -0	54	28	26	3	0.40	1.0	356	234	8.4	16.5	M8	●	064	137	TRM		