

SRI LANKA STANDARD 483:1980

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**SPECIFICATION FOR
ALAVANGOES AND CLAW BARS**

BUREAU OF CEYLON STANDARDS

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SLS 483:1980

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This Standard does not purport to include all the necessary provisions of a contract.

SRI LANKA STANDARD
SPECIFICATION FOR ALAVANGOES AND CLAW BARS

FOREWORD

This Sri Lanka Standard specification was authorized for adoption and publication by the Council of the Bureau of Ceylon Standards on 1980-08-29, after the draft, finalized by the Drafting Committee on Alavangoes and Claw Bars, had been approved by the Mechanical Engineering Divisional Committee.

All values in this specification have been given in SI units.

For the purpose of deciding whether a particular requirements of this specification is complied with, the final value observed or calculated expressing the result of a test or observation shall be rounded off in accordance with CS 102*. The number of figures to be retained in the rounded off value shall be the same as that of the specified value in this specification.

The assistance derived from the publications of Indian Standards Institution during the preparation of this specification, is gratefully acknowledged.

*CS 102 *Presentation of numerical values.*

1 SCOPE

This specification covers the minimum requirements for Alavangoes and Claw Bars used in Sri Lanka.

2 TYPES

The following types of alavangoes and claw bars are covered in this specification:

- a) Round alavangoes with flat and point ends;
- b) Round claw bars with bent chisel and claw ends; and
- c) Holing alavangoes (Dudley pattern).

3 MATERIAL

3.1 Chemical composition

Steel with the following composition shall be used.

Constituent	Per cent
Carbon	0.55 - 0.65
Silicon	0.10 - 0.35
Manganese	0.50 - 0.80
Sulphur	0.050 (max)
Phosphorus	0.050 (max)

3.2 Mechanical properties

3.2.1 The minimum tensile strength and elongation shall be 680 MN/m^2 and 18 per cent respectively.

3.2.2 The bars shall be heat treated to obtain a hardness value within the range of 320 HV to 400 HV the test load being 294 N. The test point shall be anywhere within 75 mm on the straight portion nearer to the working end.

4 SHAPES AND DIMENSIONS

4.1 The shapes and dimensions of different types of alavangoes and claw bars shall be as given in Figure 1 to Figure 3 and Table 1 and Table 2. But these may be manufactured out of octagonal or hexagonal bars, provided the cross sectional area of such bars is not less than that of the round bars specified.

4.2 The tolerances are specified for the essential dimensions.

5 MANUFACTURE AND FINISH

5.1 Depending on the type, alavangoes and claw bars shall be forged from bars specified in 4.1. Working ends of the bars shall be ground to a reasonably smooth surface and shall be hardened and tempered. There shall be no flaws, seams or other defects.

5.2 The finished products shall be coated with an anti-corrosive material.

TABLE 1 - Dimensions for round alavangoes with flat and point ends
(See Figure 1)

Unit : mm

Length A	Diameter B	Length of point end D
1200 ± 25	25.0 ± 1.0	73 ± 3
1200 ± 25	22.2 ± 1.0	75 ± 3
1070 ± 25	22.2 ± 1.0	45 ± 3

Unit : mm

C	C ₁ min.	C ₂ min.	E ₁ min.	E ₂ min.	F min.	G min.	H min.	J min.	M min.	N min.	R ₁ min.	R ₂ min.
205	50	120	120	84	3	4	10	16	157	60	36	34
205	65	115	120	84	4	4	10	18	170	85	30	25
190	20	150	95	70	5	3	8	20	170	75	20	20

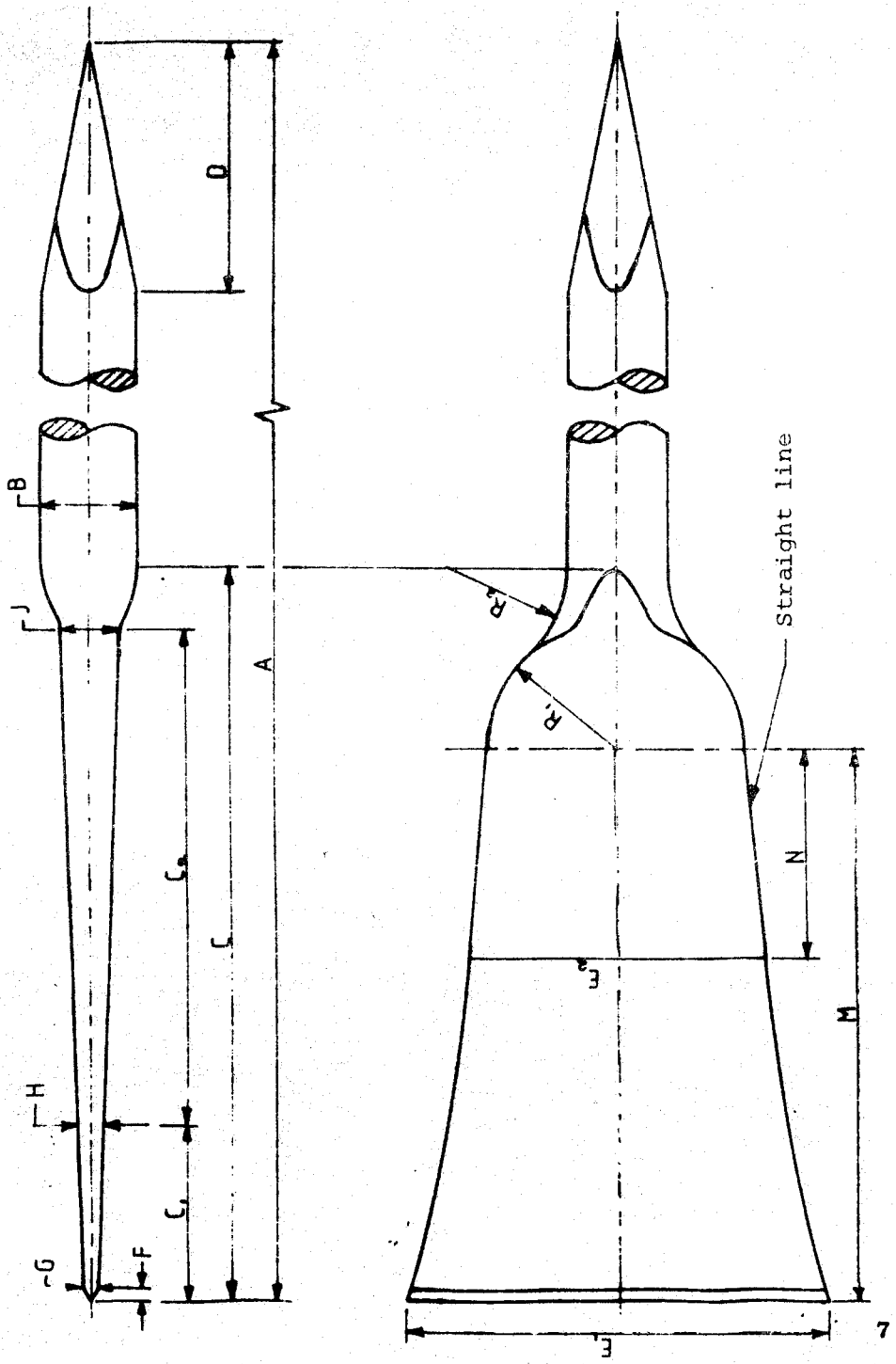


FIGURE 1 - Round alavango with flat and point ends

TABLE 2 - Dimensions for round claw bars with bent chisel and claw ends
(See Figure 2)

Unit : mm

Length A	Diameter B	Length of chisel end C	Width of cutting end E	F	G	H	J	K
685 ± 25	29 ± 1.0	75 ± 3	5	64	18	48	13	2.5
1070 ± 25	29 ± 1.0	75 ± 3	6	70	19	51	13	3.0
1250 ± 25	32 ± 1.0	90 ± 3	6	76	21	57	16	3.0
1680 ± 15	38 ± 1.0	108 ± 3	8	89	25	76	16	4.0

Unit : mm

Length of each claw L	Total width at claw end M	Gap at claw end N
32	51	18 ± 2
38	51	18 ± 2
44	64	21 ± 2
51	64	23 ± 2

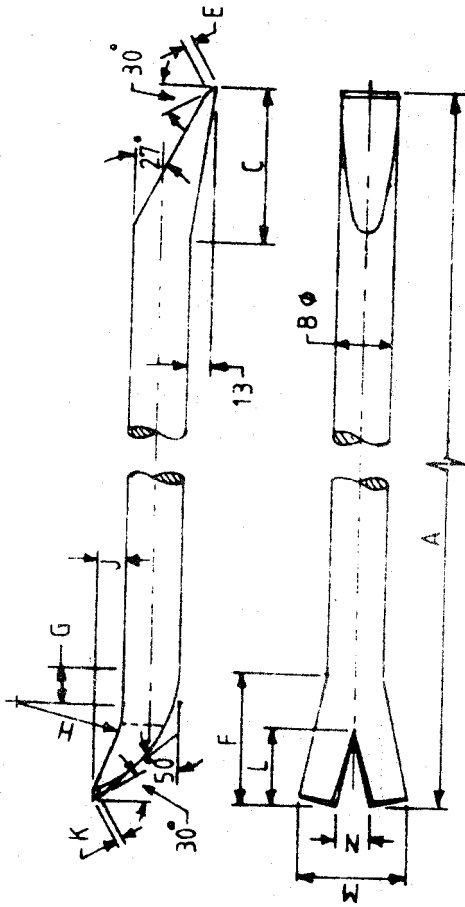


FIGURE 2 - Round claw bar with bent chisel and claw ends

6 SAMPLING

6.1 lot : In any consignment all the bars of the same type manufactured under similar conditions of manufacture on one date shall be grouped together to constitute a lot.

6.2 Samples shall be selected at random from each lot as given in Table 3.

TABLE 3 - Sample size and criteria for conformity

Lot size	Sample size	Permissible number of defectives
(1)	(2)	(3)
Up to 25	3	0
26 to 50	5	0
51 to 100	8	0
101 to 150	13	1
151 to 300	20	1
301 and above	32	2

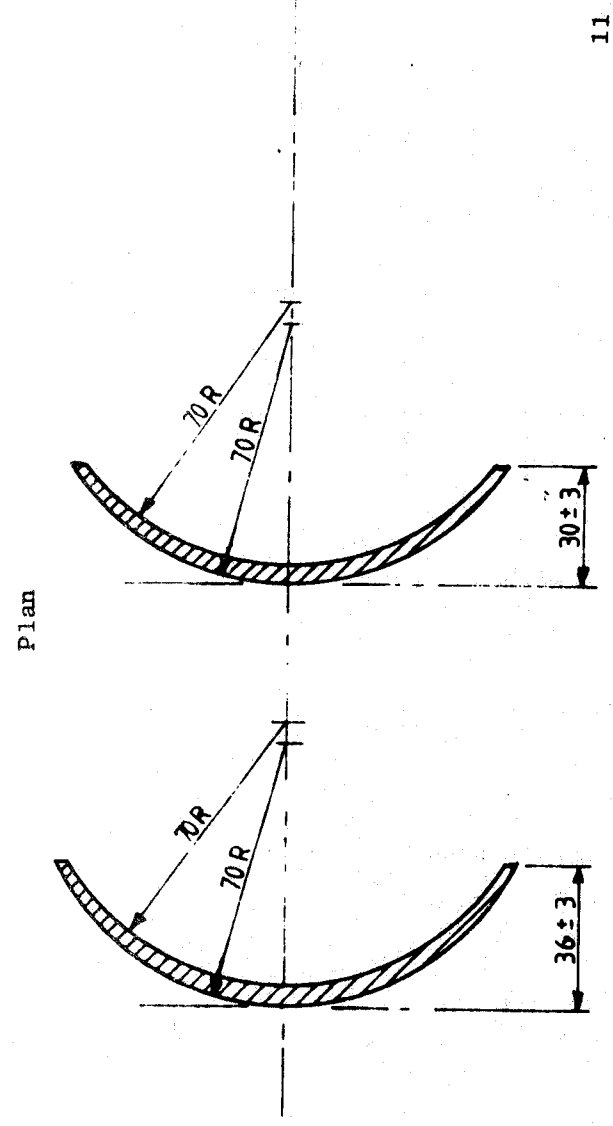
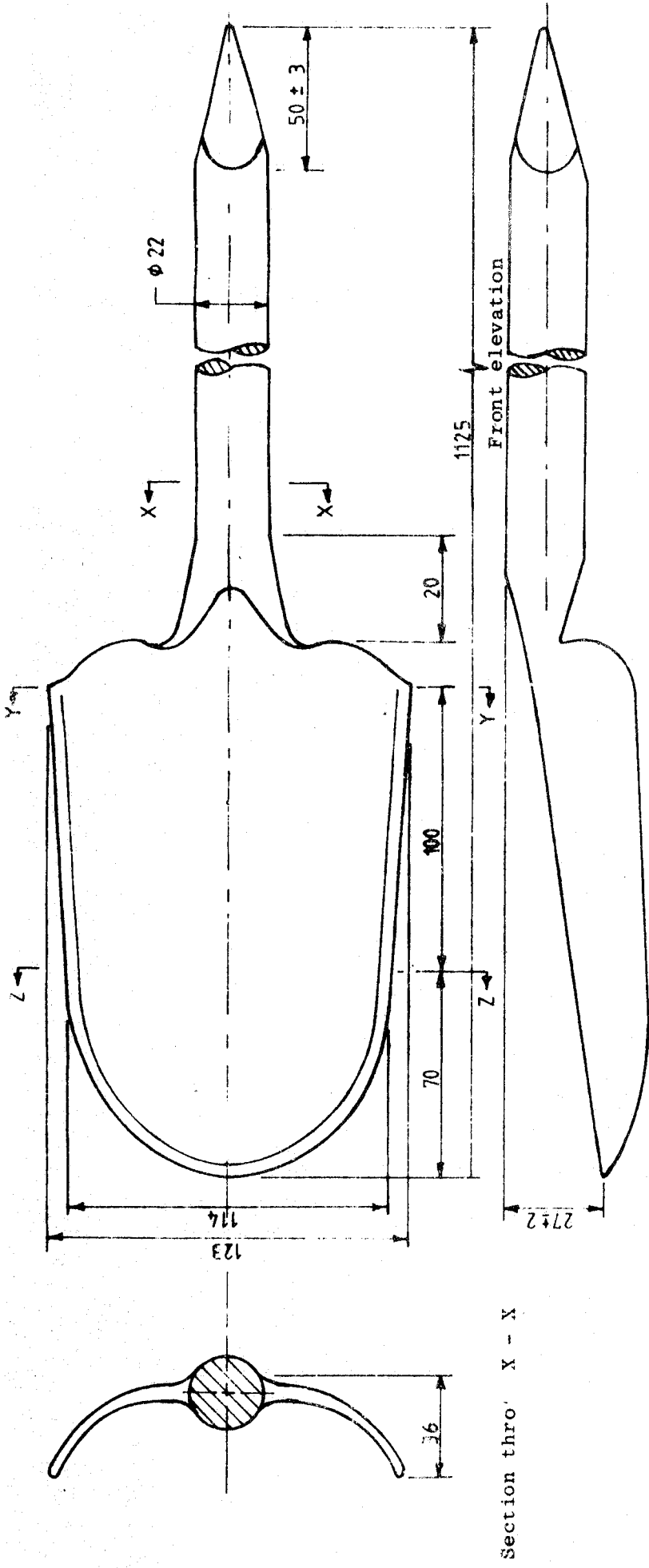


FIGURE 3 - Holing alavango (Dudley pattern)

Section thro' Y - Y Section thro' Z - Z

(12 Blank.)

7 CRITERIA FOR CONFORMITY

7.1 Samples selected in accordance with Table 3 shall be examined for hardness, dimensions manufacture and finish and shall be subjected to the tests given in 8. Any alavangoe or claw bar failing to meet these requirements shall be considered defective.

7.2 If the number of defective alavangoes and claw bars in the sample is less than or equal to the corresponding permissible number of defectives given in Column 3 of Table 3, the lot shall be considered as conforming to the requirements of this specification.

8 TESTS

8.1 Drop test (Applicable for both alavangoes and claw bars)

The bar shall be held vertically with the lower end at distance 600 mm from a block of grey cast iron of thickness over 150 mm and dropped on the block. This shall be repeated five times for each end. The ends shall not show any sign of fracture or deformation after the test.

8.2 Static load test (Applicable in the case of claw bars only)

The bar shall be rigidly clamped horizontally on the straight portion nearest to the working end and a specified load shall be suspended at a specified distance from the grip (see Table 4). The maximum length of the gripped portion shall not exceed 75 mm (see Fig. 4). The bar shall show no distortion or damage at the end of the test.

TABLE 4 - Requirements for static load test

Distance between grip and loading point <i>P</i> millimetres	Load newtons
460	2 010
840	1 108
1 016	1 333
1 320	1 108

8.3 Falling weight test (Applicable in the case of claw bars only)

The claws of the bar shall be tested by the following method.

The claws of the bar shall be placed 13 mm under the head of a dog spide rigidly placed and so located as to hold the bar in the horizontal position. A load of 628 N shall be dropped from a height of 300 mm at a point of 150-mm from the free end. At the end of the test there shall not be any cracks in the claws or any permanent set at the claws or in the bar.

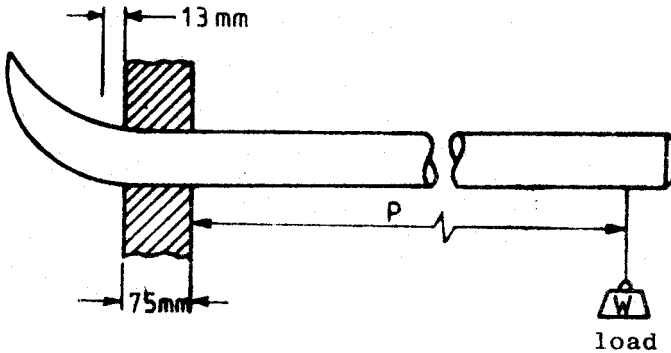


Figure 4 - Statistical test arrangement

9 MARKING

Alavangoes and claw bars shall be legibly stamped with the following informations:

- a) Manufacturer's name or trade mark;
- b) The length; and
- c) The country of manufacture.

10 PACKING

Alavangoes and claw bars shall be packed as agreed between the manufacturer and the purchaser.