

SRI LANKA STANDARD 888 : 1990

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SPECIFICATION FOR
THE DEFINITION OF WELDING POSITIONS

SRI LANKA STANDARDS INSTITUTION

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SLS 888 : 1990

Gr. 6

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SRI LANKA STANDARDS INSTITUTION

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Sri Lanka Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

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

SRI LANKA STANDARD

SPECIFICATION FOR THE DEFINITION OF WELDING POSITIONS

FOREWORD

This standard was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 90-08-13, after the draft, finalised by the Drafting Committee on Welding, had been approved by the Mechanical Engineering Divisional Committee.

All values given in this standard are in SI units.

This standard makes possible the location in space of plate and pipe welds by means of angles of slope and rotation. Pipes over 600 mm diameter may be considered as plates for the purpose of this standard.

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

The assistance derived from the International Organization for Standardization (ISO) and American National Standards Institution (ANSI) in the preparation of this standard is gratefully acknowledged.

1 SCOPE

This specification defines the welding positions of groove and fillet welds in plates and pipes.

2 REFERENCES

- CS 102 Presentation of numerical values
- SLS ...* Glossary of terms in welding

* *under preparation*

3 DEFINITIONS

3.1 For the purpose of this standard all terms relating to welding unless otherwise defined in 3.2 shall have the meanings assigned to them in SLS*.

3.2 In addition to the requirements in 3.1 for the purpose of this standard the following definitions shall also apply :

3.2.1 *angle of inclination* : The angle made by the weld axis as measured from the horizontal plane towards the vertical plane (see Fig.1 and Fig.3)

3.2.2 *angle of rotation of weld face* : The angle of rotation of the weld face is the angle made by a line passing through the centre of the weld root and intersecting the weld surface at a point equidistant from either edge of the weld, with the reference position (0°) as indicated in Fig.1 and Fig.3.

3.2.3 *reference position (0°)* : Reference position of rotation of the weld face is the direction pointing opposite to that in which the angle of inclination of weld axis increases.

4 DEFINITION AND DESIGNATION OF WELDING POSITIONS

4.1 The definition and designation of welding positions for groove welds (1G, 2G, 3G and 4G of Fig.2) and fillet welds (1F, 2F, 3F and 4F of Fig.4) in space shall be as shown in Fig.1 and Fig.3 respectively.

4.2 The definition and designation of combined welding positions for pipe welds (5G, 6G and 6GR) shall be as shown in Fig. 5 a.

5 REPRESENTATION OF WELDING POSITIONS

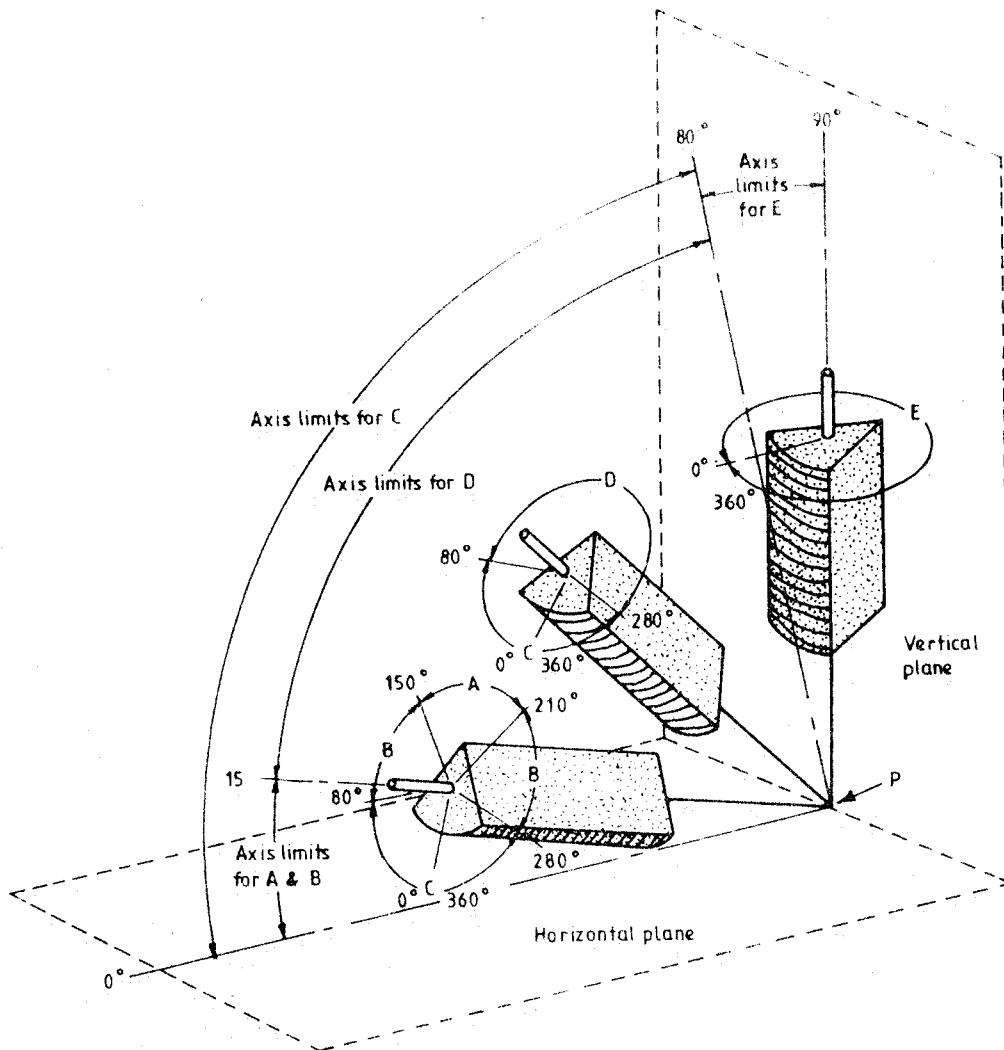
5.1 Illustrative representation of groove welds are shown in Fig.2 .

5.2 Illustrative representation of fillet welds are shown in Fig.4.

5.3 Illustrative representation of circumferential groove welds are shown in Fig. 5b.

5.4 Graphical representation of circumferential groove welds in space are shown in Fig. 6.

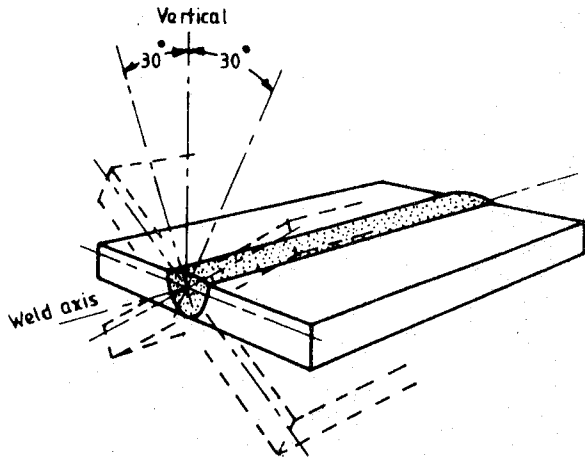
* Glossary of terms in welding (under preparation)



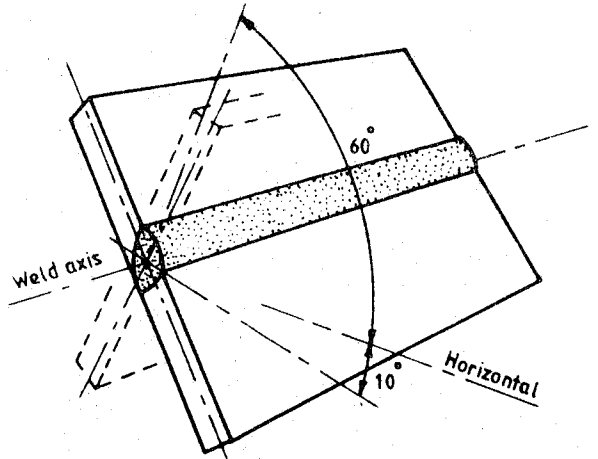
Tabulation of positions of groove welds				
Position	Designation	Diagram reference	Inclination of axis	Rotation of face
Flat	1G	A	0° to 15°	150° to 210°
Horizontal	2G	B	0° to 15°	80° to 150° 210° to 280°
Overhead	4G	C	0° to 80°	0° to 80° 280° to 360°
Vertical	3G	D	15° to 80°	80° to 280°
		E	80° to 90°	0° to 360°

NOTE - The horizontal reference plane is always taken to lie below the weld under consideration

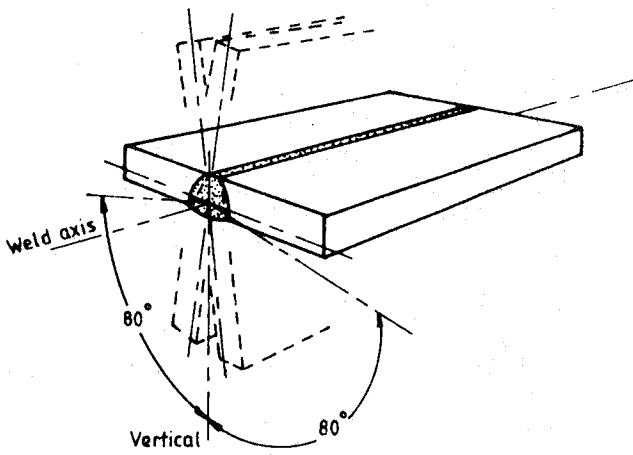
FIGURE 1 - Universal position diagram for groove welds in space



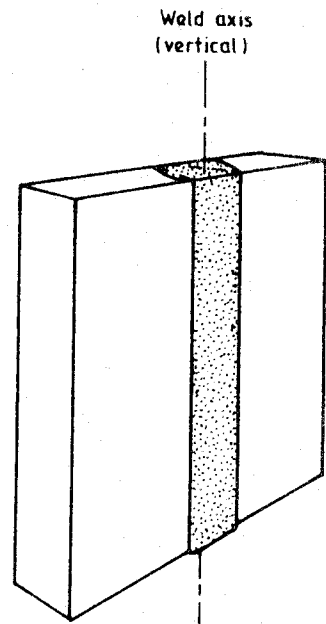
(a) Flat position
1G position



(b) Horizontal position
2G position

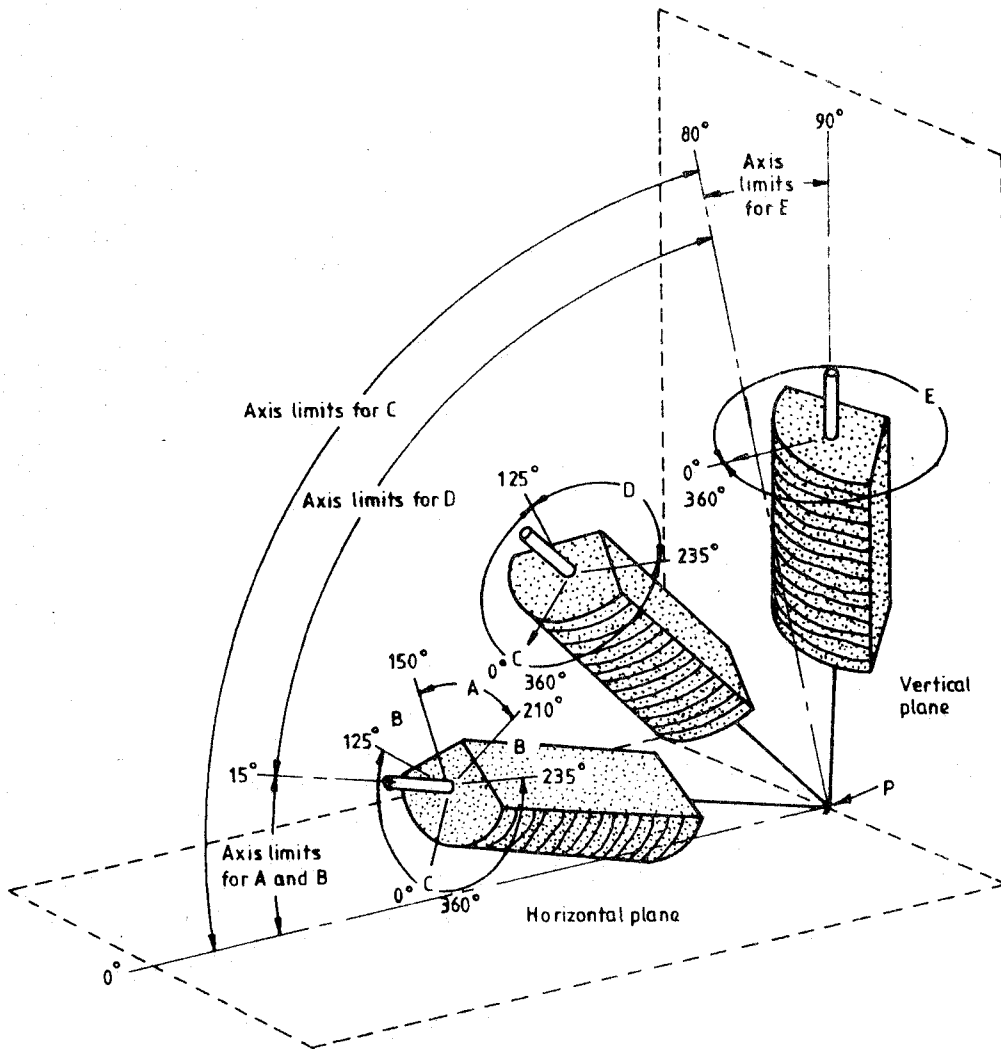


(c) Overhead position
4G position



(d,e) Vertical position
3G position

FIGURE 2 - Weld positions of groove welds in plates



Tabulation of positions of fillet welds				
Position	Designation	Diagram reference	Inclination of axis	Rotation of face
Flat	1F	A	0° to 15°	150° to 210°
Horizontal	2F	B	0° to 15°	125° to 150° 210° to 235°
Overhead	4F	C	0° to 80°	0° to 125° 235° to 360°
Vertical	3F	D	15° to 80°	125° to 235°
		E	80° to 90°	0° to 360°

NOTE - The horizontal reference plane is always taken to lie below the weld under consideration

FIGURE 3 - Universal position diagram for fillet welds in space

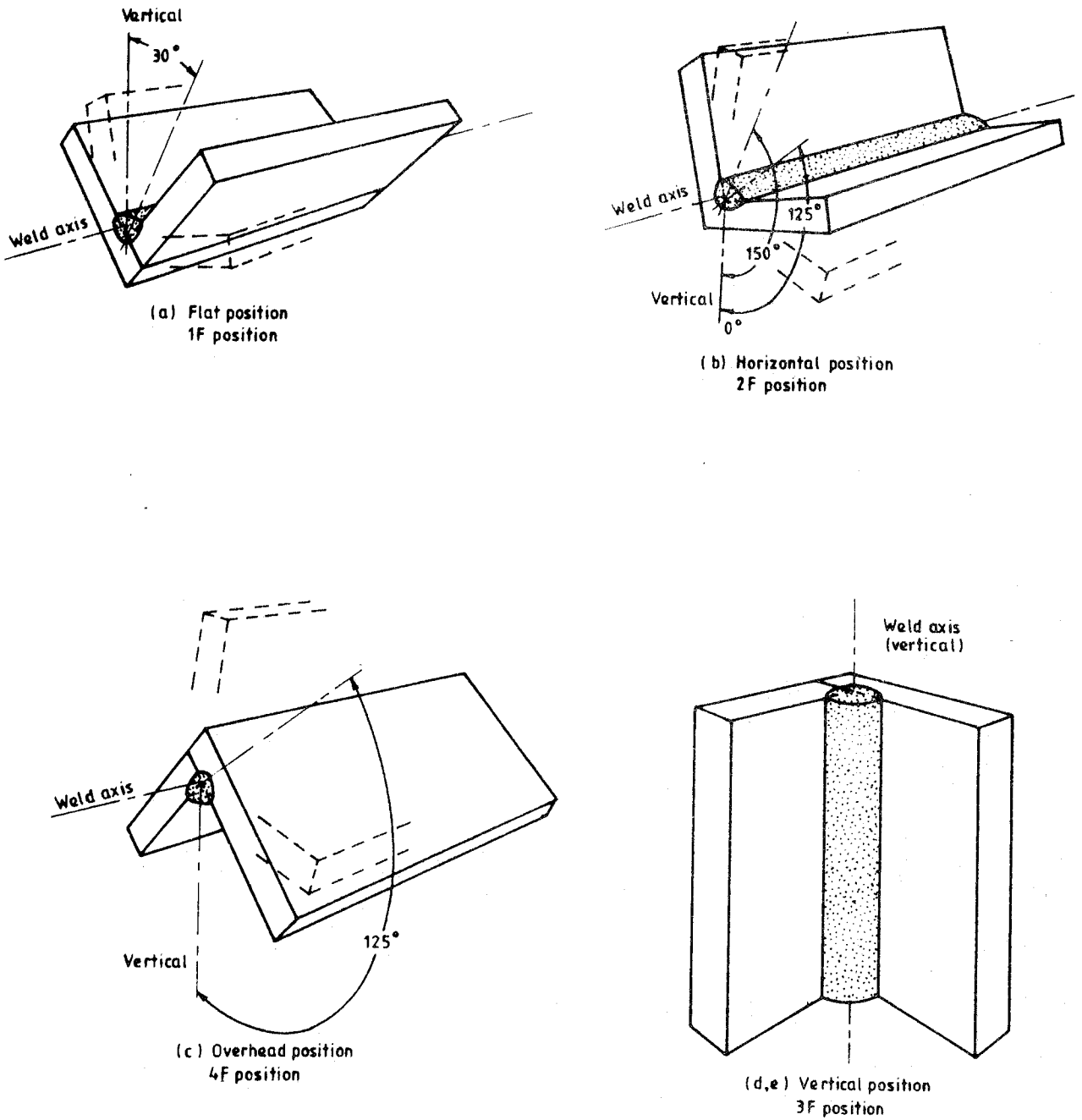
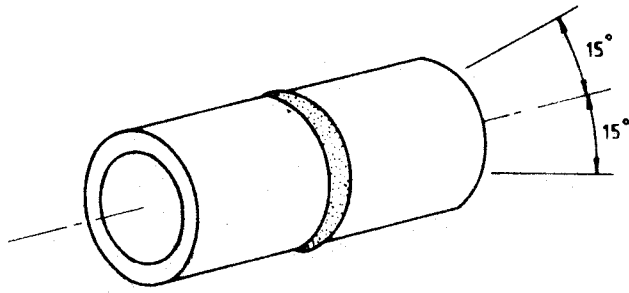
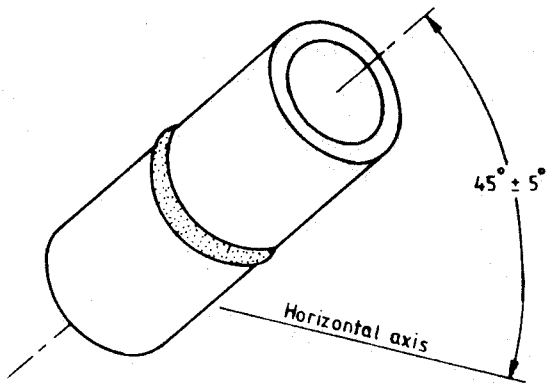


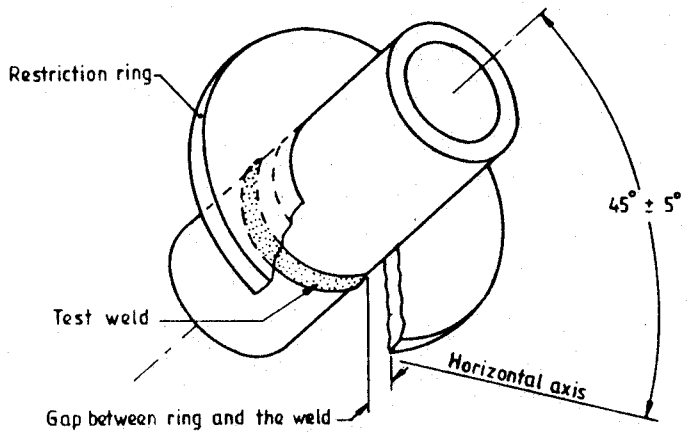
FIGURE 4 - Weld positions of fillet welds in plates



5G - Horizontal fixed position

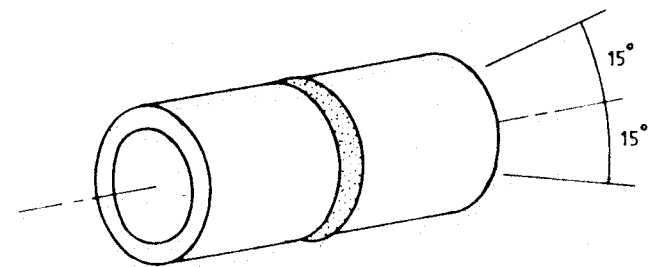


6G Inclined fixed position

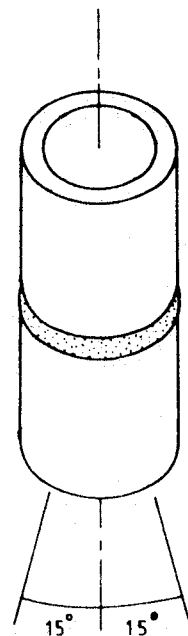


6GR - Inclined fixed position with restriction ring

FIGURE 5a - Combined weld positions of pipe welds



16 - Horizontal rolled position



26 - Vertical position

FIGURE 5b - Weld positions of pipe welds

Positions for circumferential groove welds indicated by shaded areas for pipe with axis varying from horizontal (0°) to vertical (90°)

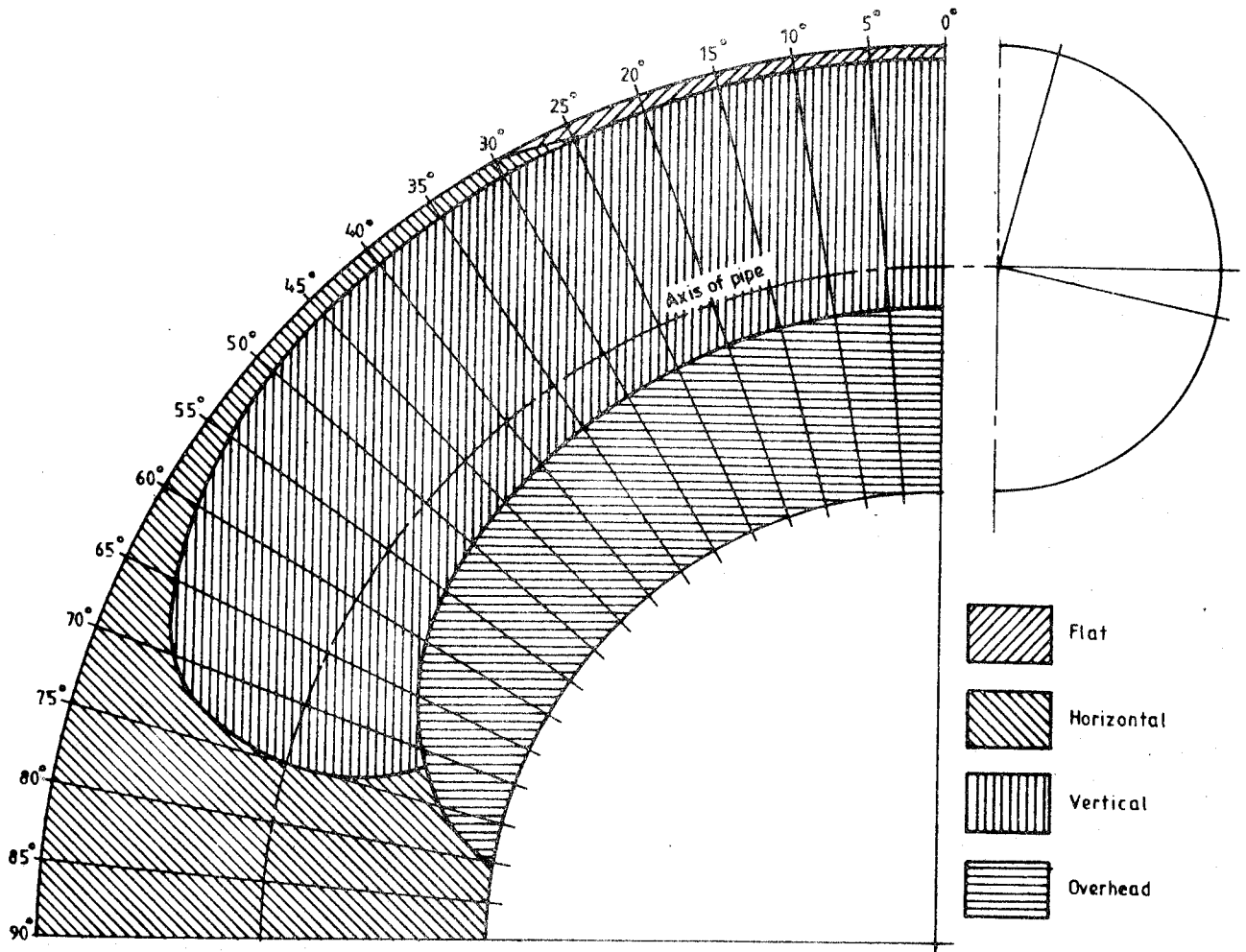


FIGURE 6 - Orientation of weld positions of pipe welds in space

SRI LANKA STANDARDS INSTITUTION

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The principal objects of the Institution as set out in the Act are to prepare standards and promote their adoption, to provide facilities for examination and testing of products, to operate a Certification Marks Scheme, to certify the quality of products meant for local consumption or exports and to promote standardization and quality control by educational, consultancy and research activity.

The Institution is financed by Government grants, and by the income from the sale of its publications and other services offered for Industry and Business Sector. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The development and formulation of National Standards is carried out by Technical Experts and representatives of other interest groups, assisted by the permanent officers of the Institution. These Technical Committees are appointed under the purview of the Sectoral Committees which in turn are appointed by the Council. The Sectoral Committees give the final Technical approval for the Draft National Standards prior to the approval by the Council of the SLSI.

All members of the Technical and Sectoral Committees render their services in an honorary capacity. In this process the Institution endeavours to ensure adequate representation of all view points.

In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.

SLS CERTIFICATION MARK

The Sri Lanka Standards Institution is the owner of the registered certification mark shown below. Beneath the mark, the number of the Sri Lanka Standard relevant to the product is indicated. This mark may be used only by those who have obtained permits under the SLS certification marks scheme. The presence of this mark on or in relation to a product conveys the assurance that they have been produced to comply with the requirements of the relevant Sri Lanka Standard under a well designed system of quality control inspection and testing operated by the manufacturer and supervised by the SLSI which includes surveillance inspection of the factory, testing of both factory and market samples.

Further particulars of the terms and conditions of the permit may be obtained from the Sri Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.

