

Australian Standard™

**Graphical symbols for general
engineering**

**Part 3: Welding and non-destructive
examination**



This Australian Standard was prepared by Committee WD-001, Welding Definitions and Symbols. It was approved on behalf of the Council of Standards Australia on 25 November 2004.
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The following are represented on Committee WD-001:

Australian Industry Group
Bureau of Steel Manufacturers of Australia
New Zealand Heavy Engineering Research Association
Welding Technology Institute of Australia

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STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 1101.3—2005

**Graphical symbols for general engineering
Part 3: Welding and non-destructive examination**

RECONFIRMATION NOTICE

Major stakeholders of this publication have reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 12 January 2018.

NOTES

Australian Standard™

Graphical symbols for general engineering

Part 3: Welding and non-destructive examination

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WD-001, Welding Definitions and Symbols, to supersede AS 1101.3—1987.

The 1987 edition of the Standard was generally based on ANSI/AWS A2.4-79, Symbols for Welding and Non-destructive Testing, and the permission of the American Welding Society Inc. to use their Standard was acknowledged.

This edition continues to follow the ANSI/AWS A2.4, and takes cognizance of its 1998 edition.

The main changes in this edition include—

- (a) the use of a new symbol for edge weld to replace the symbols for flange edge and corner welds (see Section 6); and
- (b) the introduction of a symbol for stud weld (see Section 11).

In addition, the format of the Standard has been changed and editorial changes have been included in line with current Standards Australia policy.

The Standard provides a scheme whereby complete details of welds and welded joints can be delineated on drawings. A separate section covers symbols for use on drawings to specify requirements for non-destructive examination for determining the soundness of materials.

The method for symbolic representation of welds on engineering drawings used in this standard is consistent with the ‘third angle’ method of projection, which is the preferred method given in AS 1100, *Technical drawing*, Part 101: *General principles*. It should be noted, however, that the scheme is equally appropriate to drawings in which the ‘first angle’ method of projection is used.

The committee noted the practice currently adopted in ISO 2553, *Welded, brazed and soldered joints; symbolic representation on drawings*, in regard to the position of the symbols on drawings, viz., the dual reference line, and felt that this situation should not be carried over into this Standard. Therefore, the practice of using one continuous reference line remains unaltered in this edition.

Illustrations used with the text are intended only to show how symbols may be used to convey welding or testing information and do not necessarily represent good or accepted design practice.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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STANDARDS AUSTRALIA**Australian Standard****Graphical symbols for general engineering****Part 3: Welding and non-destructive examination****SECTION 1 SCOPE AND GENERAL****1.1 SCOPE**

This Standard describes symbols that provide the means of placing complete welding information on drawings. It covers the details of symbols and requirements for their application in various welding processes (including brazing), and non-destructive examination.

NOTE: Appendix A gives a listing of abbreviations normally used for welding and allied processes.

1.2 REFERENCED DOCUMENTS

The following Standard is referred to in this Standard:

AS

2812 Welding, brazing and cutting of metals—Glossary of terms

1.3 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 2812 shall apply.

1.4 DESIGN AND DIMENSIONS OF STANDARD SYMBOLS

The design and dimensions of standard symbols shall be as shown in Appendix B.

SECTION 2 BASIC PRINCIPLES

2.1 BASIC SYMBOLS

2.1.1 Distinction between weld symbol and welding symbol

This Standard makes a distinction between the terms weld symbol and welding symbol. The weld symbol (see Figure 2.1) indicates the type of weld. The welding symbol (see Figure 2.3) is a method of representing the weld symbol on drawings, and includes supplementary information and consists of the following eight elements:

- (a) Reference line (shown horizontally).
- (b) Arrow.
- (c) Basic weld symbols.
- (d) Dimensions and other data.
- (e) Supplementary symbols.
- (f) Finish symbols.
- (g) Tail.
- (h) Specification, process, or other references.

NOTE: Not all of the above elements need to be used unless required for clarity.

2.1.2 Illustrations

Examples given, including dimensions (in millimetres), are illustrative only and are intended to facilitate communications. They are not intended to represent best design practices or to replace code or specification requirements.

2.1.3 Basic weld symbols

Basic weld symbols shall be as shown in Figure 2.1. The symbols shall be drawn 'on' the reference line (shown dotted).

2.1.4 Supplementary symbols

Supplementary symbols to be used in connection with welding symbols shall be as shown in Figure 2.2.

2.1.5 Standard location of elements of a welding symbol

The elements of a welding symbol shall have standard locations with respect to each other as shown in Figure 2.3. Specification and process references should be shown in the tail of the welding symbol.

2.2 BASIC TYPES OF JOINTS AND WELDS

2.2.1 Basic types of joints

The basic types of joints are shown in Figure 2.4.

2.2.2 Applicable welds

Applicable welds in basic types of joints are listed in Figure 2.4.

Butt weld							
Square	Scarf	V	Bevel	U	J	Flare-V	Flare-bevel

Fillet weld	Plug weld or slot weld	Spot weld or protection weld	Seam weld	Backing run or backing weld	Surfacing	Edge weld	Stud weld

FIGURE 2.1 BASIC WELD SYMBOLS

Weld all around	Site weld	Complete penetration from one side	Backing or spacer material	Contour		
				Flush	Convex	Concave

FIGURE 2.2 SUPPLEMENTARY SYMBOLS

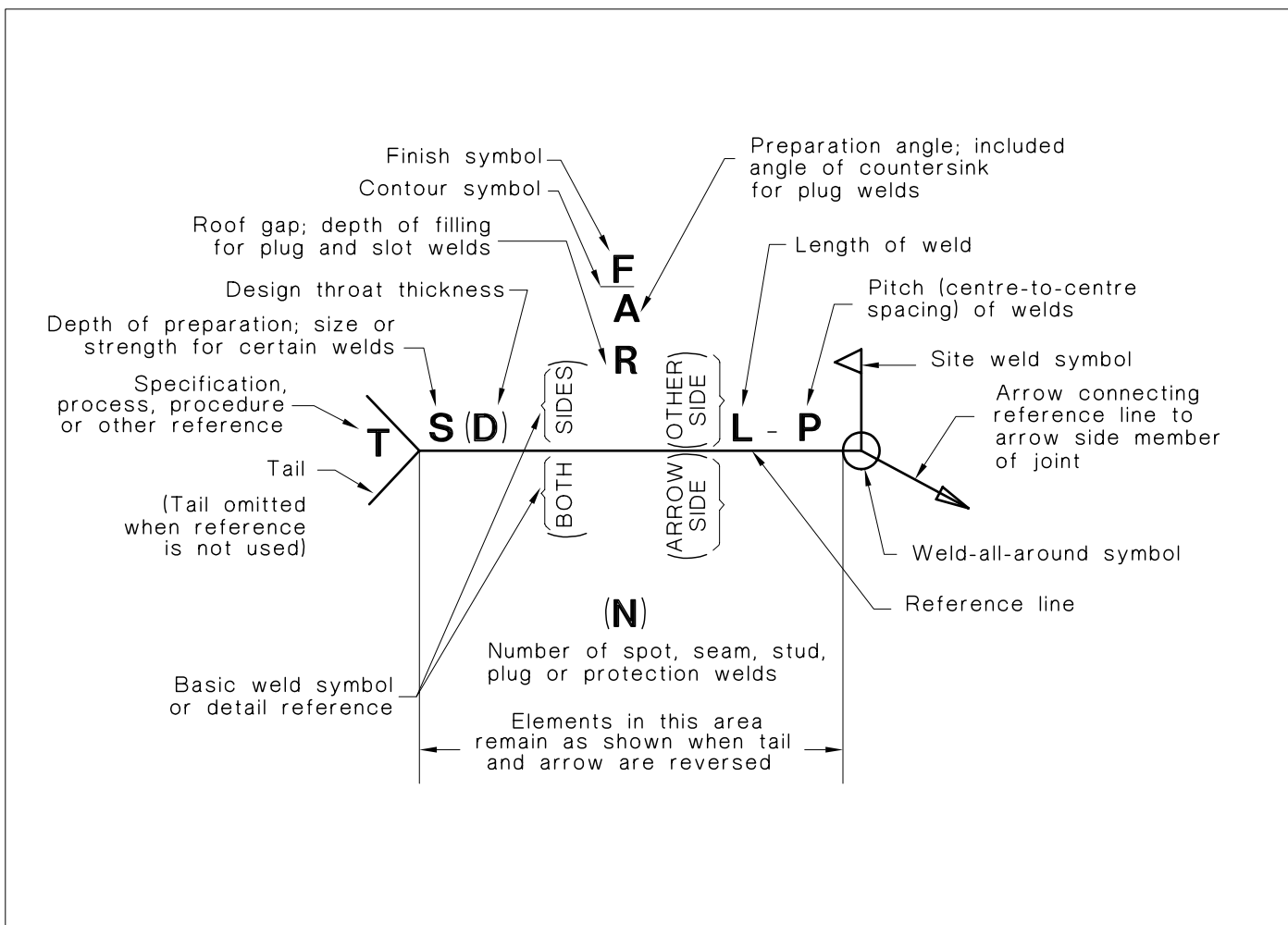


FIGURE 2.3 STANDARD LOCATION OF ELEMENTS OF A WELDING SYMBOL

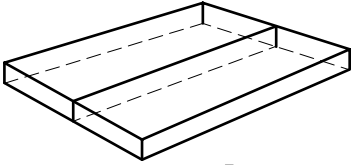
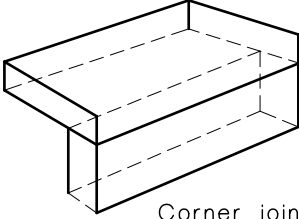
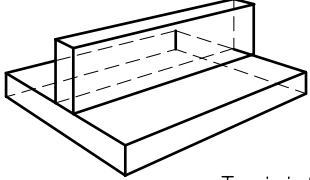
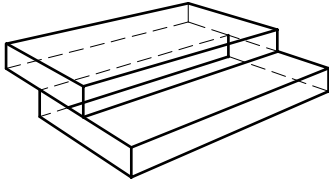
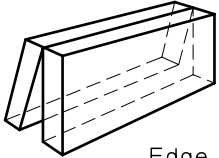
 Butt joint	Applicable welds <table> <tr> <td>Square-butt</td><td>J-butt</td></tr> <tr> <td>V-butt</td><td>Flare-V-butt</td></tr> <tr> <td>Bevel-butt</td><td>Flare-bevel-butt</td></tr> <tr> <td>U-butt</td><td>Edge-flange</td></tr> <tr> <td></td><td>Braze</td></tr> </table>	Square-butt	J-butt	V-butt	Flare-V-butt	Bevel-butt	Flare-bevel-butt	U-butt	Edge-flange		Braze				
Square-butt	J-butt														
V-butt	Flare-V-butt														
Bevel-butt	Flare-bevel-butt														
U-butt	Edge-flange														
	Braze														
 Corner joint	Applicable welds <table> <tr> <td>Fillet</td><td>Flare-bevel-butt</td></tr> <tr> <td>Square-butt</td><td>Edge-flange</td></tr> <tr> <td>V-butt</td><td>Corner-flange</td></tr> <tr> <td>Bevel-butt</td><td>Spot</td></tr> <tr> <td>U-butt</td><td>Projection</td></tr> <tr> <td>J-butt</td><td>Seam</td></tr> <tr> <td>Flare-V-butt</td><td>Braze</td></tr> </table>	Fillet	Flare-bevel-butt	Square-butt	Edge-flange	V-butt	Corner-flange	Bevel-butt	Spot	U-butt	Projection	J-butt	Seam	Flare-V-butt	Braze
Fillet	Flare-bevel-butt														
Square-butt	Edge-flange														
V-butt	Corner-flange														
Bevel-butt	Spot														
U-butt	Projection														
J-butt	Seam														
Flare-V-butt	Braze														
 T- joint	Applicable welds <table> <tr> <td>Fillet</td><td>J-butt</td></tr> <tr> <td>Plug</td><td>Flare-level-butt</td></tr> <tr> <td>Slot</td><td>Spot</td></tr> <tr> <td>Square-butt</td><td>Projection</td></tr> <tr> <td>Bevel-butt</td><td>Seam</td></tr> <tr> <td></td><td>Braze</td></tr> </table>	Fillet	J-butt	Plug	Flare-level-butt	Slot	Spot	Square-butt	Projection	Bevel-butt	Seam		Braze		
Fillet	J-butt														
Plug	Flare-level-butt														
Slot	Spot														
Square-butt	Projection														
Bevel-butt	Seam														
	Braze														
 Lap joint	Applicable welds <table> <tr> <td>Fillet</td><td>J-butt</td></tr> <tr> <td>Plug</td><td>Flare-level-butt</td></tr> <tr> <td>Slot</td><td>Spot</td></tr> <tr> <td>Bevel-butt</td><td>Projection</td></tr> <tr> <td></td><td>Seam</td></tr> <tr> <td></td><td>Braze</td></tr> </table>	Fillet	J-butt	Plug	Flare-level-butt	Slot	Spot	Bevel-butt	Projection		Seam		Braze		
Fillet	J-butt														
Plug	Flare-level-butt														
Slot	Spot														
Bevel-butt	Projection														
	Seam														
	Braze														
 Edge joint	Applicable welds <table> <tr> <td>Square-butt</td><td>Edge-flange</td></tr> <tr> <td>Bevel-butt</td><td>Corner-flange</td></tr> <tr> <td>V-butt</td><td>Seam</td></tr> <tr> <td>U-butt</td><td>Edge</td></tr> <tr> <td>J-butt</td><td></td></tr> </table>	Square-butt	Edge-flange	Bevel-butt	Corner-flange	V-butt	Seam	U-butt	Edge	J-butt					
Square-butt	Edge-flange														
Bevel-butt	Corner-flange														
V-butt	Seam														
U-butt	Edge														
J-butt															

FIGURE 2.4 BASIC TYPES OF JOINTS

2.3 GENERAL PROVISIONS

2.3.1 Location significance of arrow

2.3.1.1 General

The location significance of the arrow is shown in Figure 2.5.

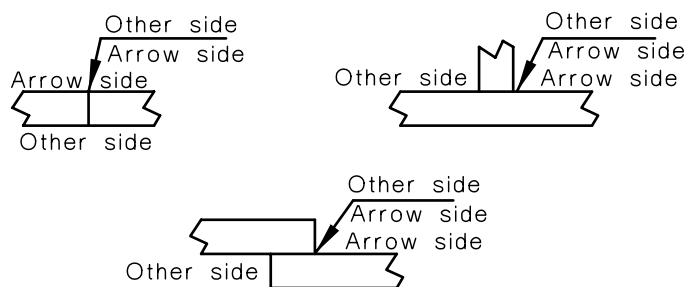


FIGURE 2.5 LOCATION SIGNIFICANCE OF ARROW

2.3.1.2 *Butt, fillet, and flange weld symbols*

For symbols for butt, fillet, and flange welds, the arrow shall connect the welding symbol reference line to one side of the joint and this side shall be considered the arrow side of the joint. The side opposite the arrow side of the joint shall be considered the other side of the joint (see Figure 2.6).

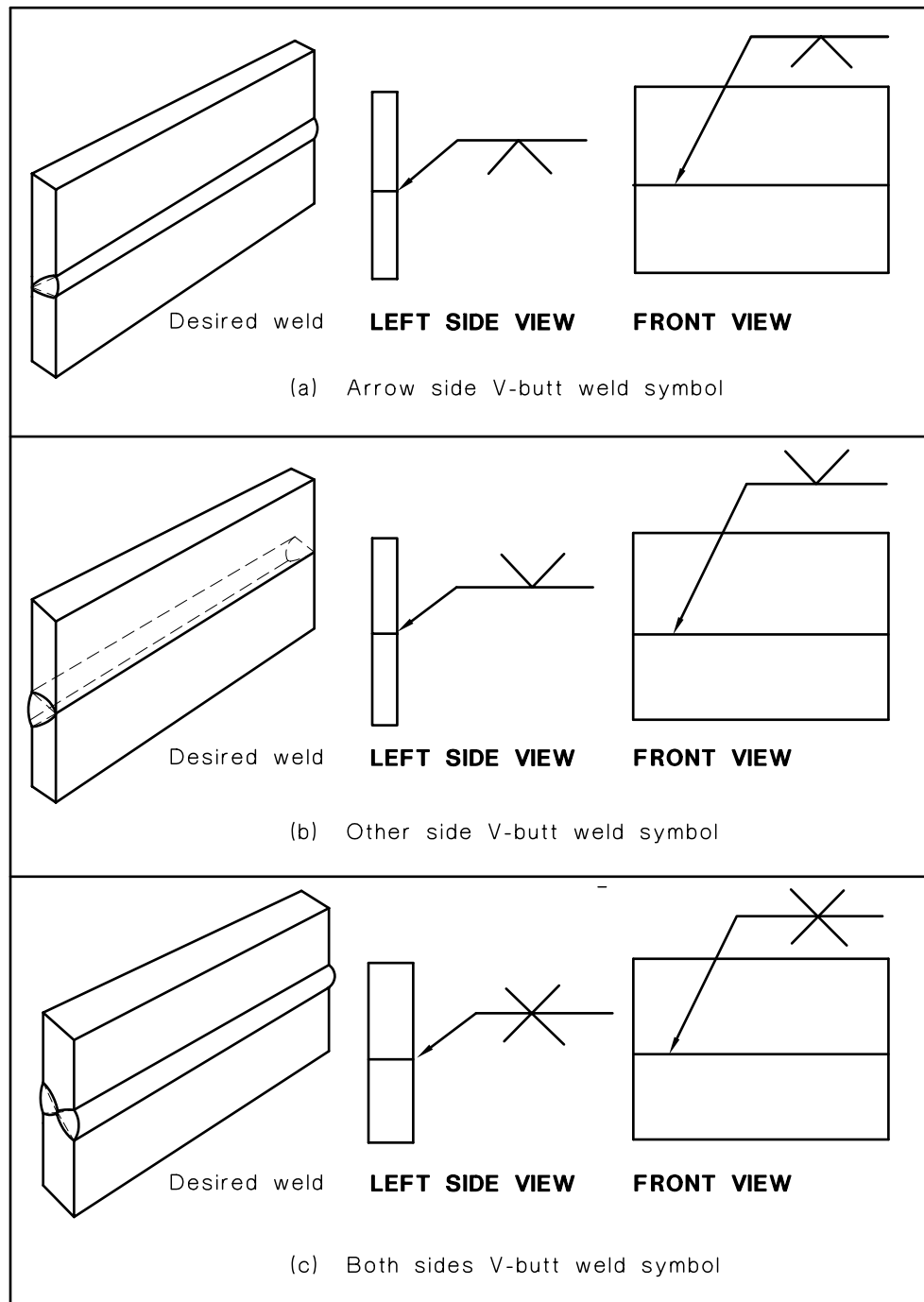


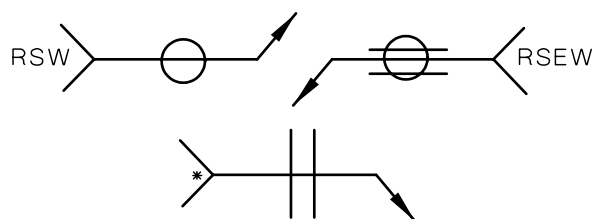
FIGURE 2.6 APPLICATION OF ARROW SIDE AND OTHER SIDE CONVENTION

2.3.1.3 Plug, slot, spot, seam and projection weld symbols

For symbols for plug, slot, spot, seam, and projection welds, the arrow shall connect the weld symbol reference line to the outer surface of one of the members of the joint at the centre-line of the desired weld. The member towards which the arrow points shall be considered the arrow side member. The other member of the joint shall be considered the other side member. (See figures cited in Sections 7 to 10 inclusive.)

2.3.1.4 Symbols with no side significance

Some weld symbols have no arrow side or other side significance, although supplementary symbols used in conjunction with them may have significance (see Figure 2.7 and Clauses 9.1.2 and 9.1.4).



* Use appropriate letter symbol for process

FIGURE 2.7 SYMBOLS WITH NO SIDE SIGNIFICANCE

2.3.2 Location of weld with respect to joint

2.3.2.1 Arrow side

Welds on the arrow side of the joint shall be shown by placing the weld symbol on the side of the reference line towards the reader (see Figure 2.8 and Clause 2.3.1.1).

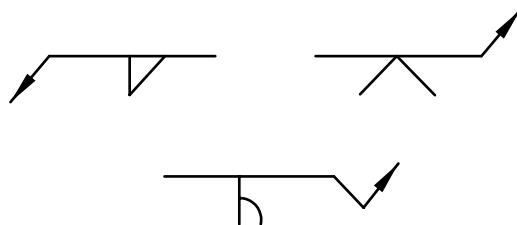


FIGURE 2.8 WELDS ON ARROW SIDE

2.3.2.2 Other side

Welds on the other side of the joint shall be shown by placing the weld symbol on the side of the reference line away from the reader (see Figure 2.9 and Clause 2.3.1.1).

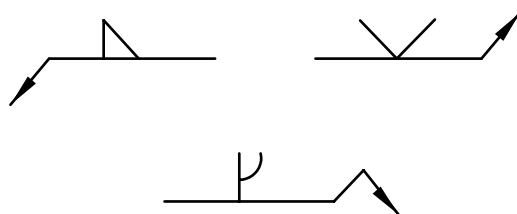


FIGURE 2.9 WELDS ON OTHER SIDE

2.3.2.3 Both sides

Welds on both sides of the joint shall be shown by placing weld symbols on both sides of the reference line, towards and away from the reader (see Figure 2.10 and Clause 2.3.1.1).

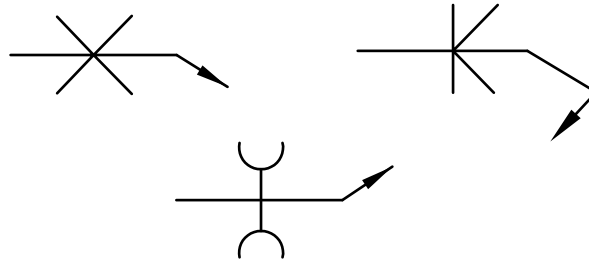


FIGURE 2.10 WELDS ON BOTH SIDES

2.3.3 Method of drawing symbols

Symbols may be drawn mechanically or freehand, as desired. Symbols intended to appear in publications or otherwise to be of high precision may be drawn with the dimensions and proportions shown in Appendix B.

2.3.4 Location of a specification, procedure, process, or other reference

2.3.4.1 Symbols with references

Where a specification, procedure, process, or other reference is used with a welding symbol, the reference shall be placed in the tail (see Figure 2.11).

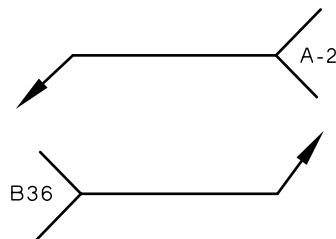


FIGURE 2.11 REFERENCE LOCATION

2.3.4.2 Symbols without reference

Where desired, symbols may be used without specification, process, or other references in the following instances:

- (a) Where a note such as the following appears on the drawing:
‘Unless otherwise designated, all welds are to be made in accordance with Specification No.’
- (b) Where the welding procedure to be used is prescribed elsewhere, such as in shop instructions and process sheets.

2.3.4.3 General notes

Where desired, general notes such as the following may be placed on a drawing to provide detailed information pertaining to the pre-dominant welds:

‘Unless otherwise indicated, all fillet welds are 6 mm in size.’

‘Unless otherwise indicated, root gaps for all butt welds are 3 mm.’

The information need not be repeated on the symbols.

2.3.4.4 Process indication

Where use of a definite process is required, the process shall be indicated by letter designations.

NOTE: See Appendix A for abbreviations of terms for welding and allied processes.

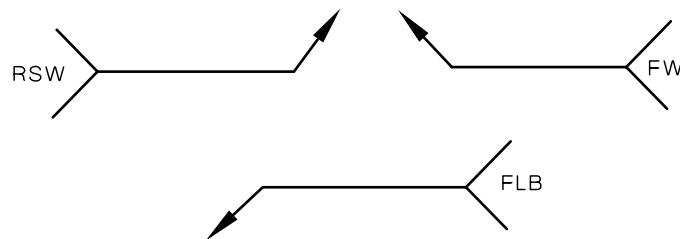


FIGURE 2.12 PROCESS INDICATION

2.3.4.5 Symbol without tail

Where no specification, process, or other reference is used with a welding symbol, the tail may be omitted.

2.3.5 Site weld symbol

Site welds (welds not made in a shop or at the place of initial construction) shall be indicated by means of the site weld symbol. The flag shall point away from the arrow. (See Figure 2.13.)

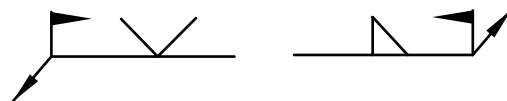


FIGURE 2.13 USE OF SITE WELD SYMBOL

2.3.6 Symbol for complete penetration from one side

2.3.6.1 Use

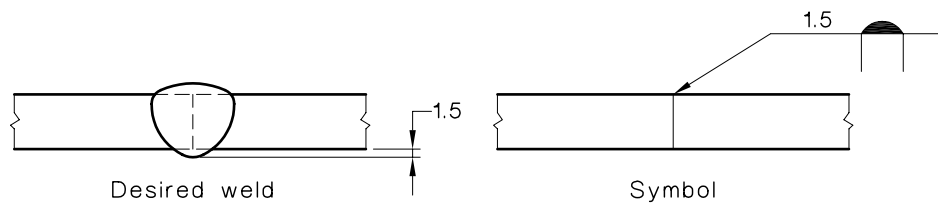
The symbol for complete penetration from one side shall be used only where complete joint or member penetration plus reinforcement is required in welds made from one side only (see Figure 2.14).

2.3.6.2 Location

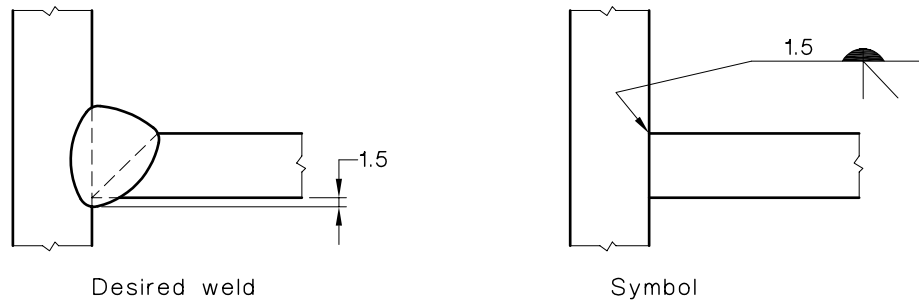
The symbol for complete penetration from one side shall be placed on the side of the reference line opposite to the weld symbol (see Figure 2.14).

2.3.6.3 Dimensions

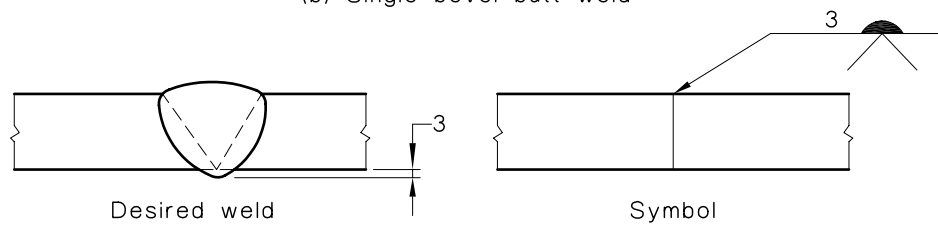
Dimensions of complete penetration need not be shown on the welding symbol. If it is desired to specify height of reinforcement, it shall be shown on the drawing (see Figure 2.14).



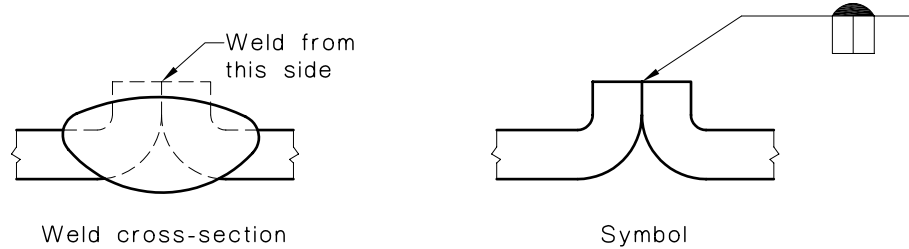
(a) Square butt weld



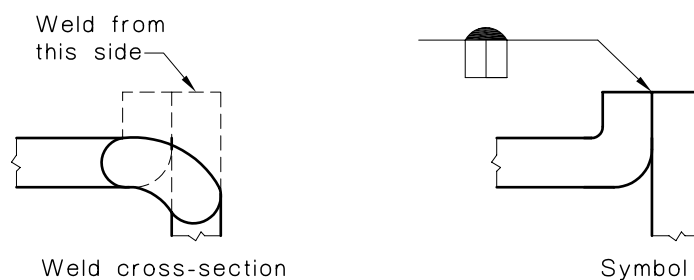
(b) Single bevel butt weld



(c) Single V butt weld



(d) Edge weld on flanged butt joint



(e) Edge weld on flanged corner joint

FIGURE 2.14 APPLICATION OF SYMBOL FOR COMPLETE PENETRATION FROM ONE SIDE

2.3.7 Contour and surface finish methods for complete penetration from one side

2.3.7.1 Flush contour

Complete penetration welds from one side that is to be made flush by mechanical means shall be shown by adding both the flush contour symbol and the required finish symbol to the symbol for complete penetration from one side (see Clause 2.3.10 and Figure 2.15).

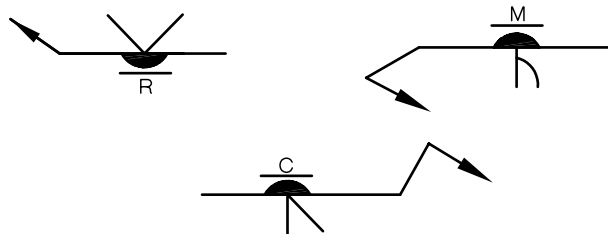


FIGURE 2.15 INDICATION OF FLUSH CONTOUR

2.3.7.2 Convex contour

Complete penetration welds from one side that is to be mechanically finished to a convex contour shall be shown by adding both the convex contour symbol and the required finish symbol to the symbol for complete penetration from one side (see Clause 2.3.10 and Figure 2.16).

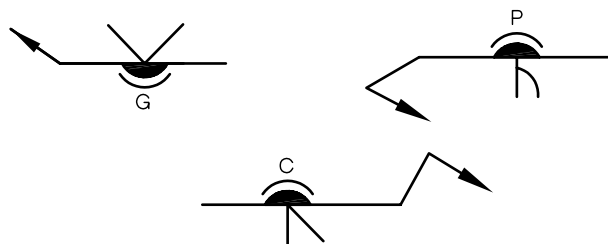


FIGURE 2.16 INDICATION OF CONVEX CONTOUR

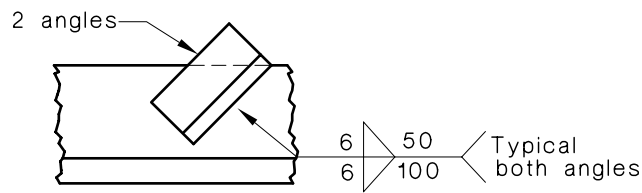
2.3.8 Extent of welding denoted by symbols

2.3.8.1 Abrupt changes

Symbols apply between abrupt changes in the direction of the welding or to the extent of hatching or dimension lines, except where the weld-all-around symbol is used (see Figures 2.19 and 2.20).

2.3.8.2 Hidden joints

Where the welding of the hidden joint is the same as that of the visible joint, the welding on hidden joints may be covered, as shown in Figure 2.17. In such case, a section is desirable but is not necessary. The drawing shall indicate the presence of hidden members. If the welding on the hidden point is different from that of the visible joint, specific information for the welding of both shall be given. If needed for clarification, auxiliary illustrations or views shall be added.



DIMENSIONS IN MILLIMETRES

FIGURE 2.17 EXAMPLE OF HIDDEN JOINT

2.3.8.3 Approximate location

Where the exact location of the weld is not critical, it may be indicated as in Figure 2.19(d).

2.3.8.4 Use of weld-all-around symbol

Welds extending completely around a joint shall be indicated by the weld-all-around symbol (see Figure 2.18).

Welds that are completely around a joint that includes more than one type of weld, indicated by a combination weld symbol, shall be designated by the weld-all-around symbol. Welds completely around a joint in which the metal intersections at the points of welding are in more than one plane shall also be indicated by the weld-all-around symbol (see Figure 2.20(c)).

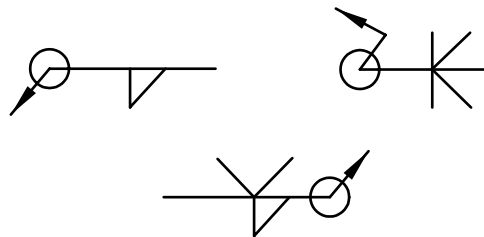


FIGURE 2.18 USE OF WELD-ALL-AROUND SYMBOL

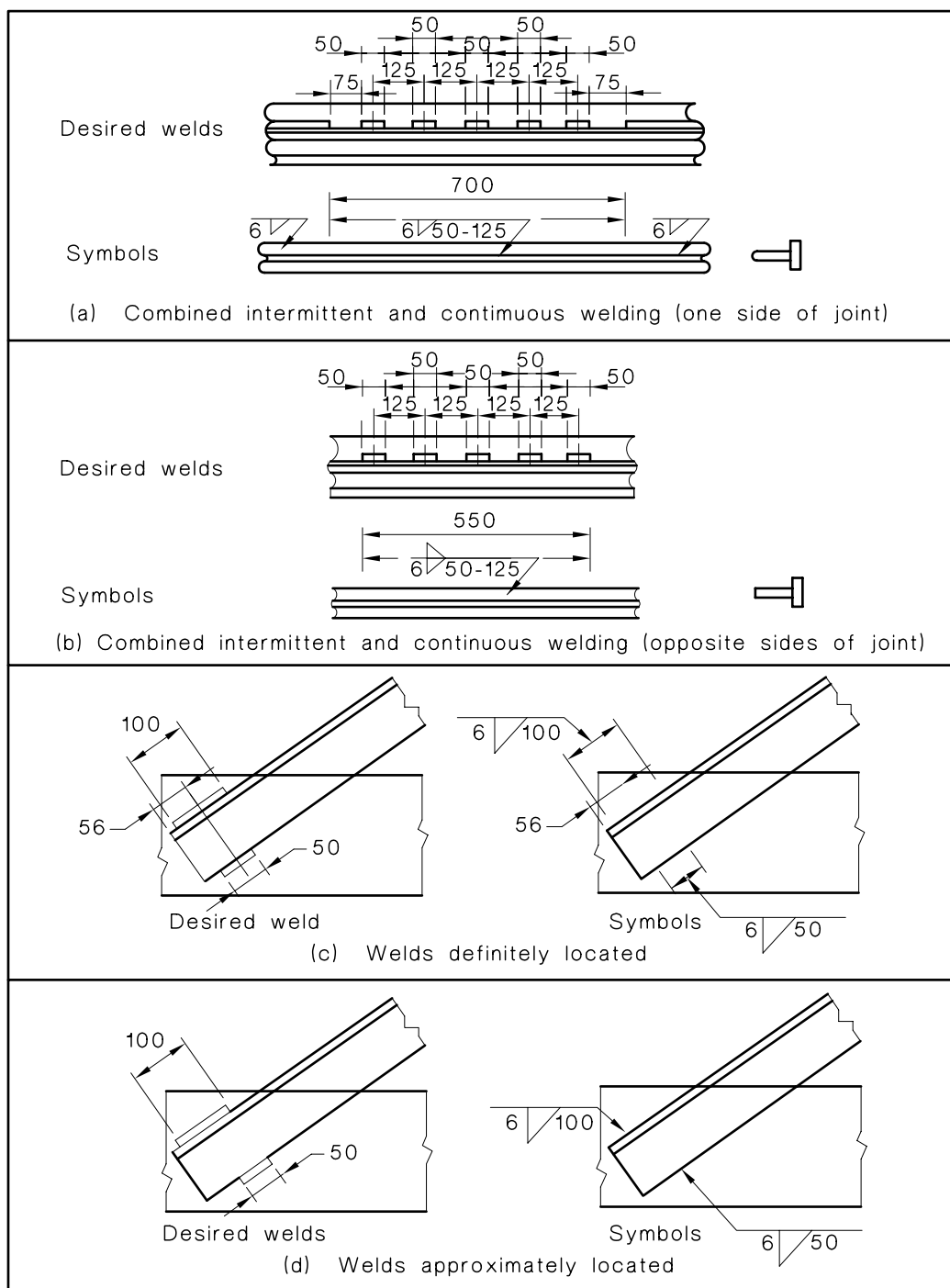
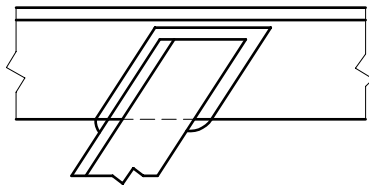
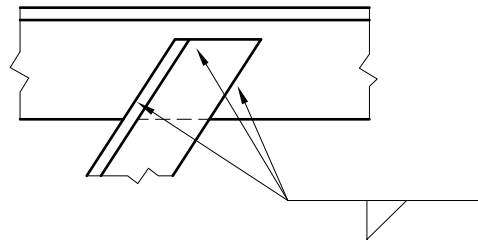


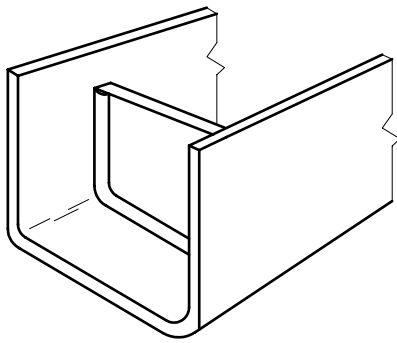
FIGURE 2.19 DESIGNATION OF LOCATION AND EXTENT OF FILLET WELDS



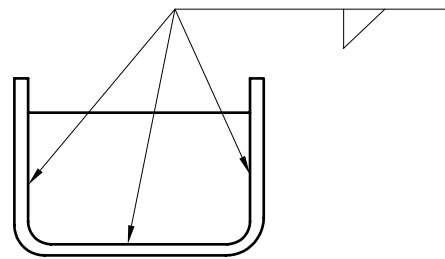
Desired weld



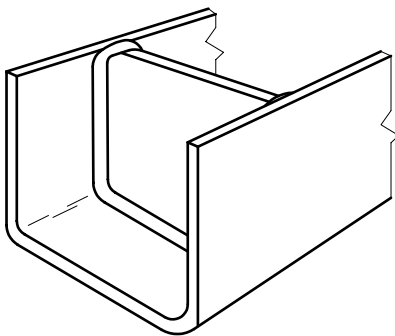
Symbol



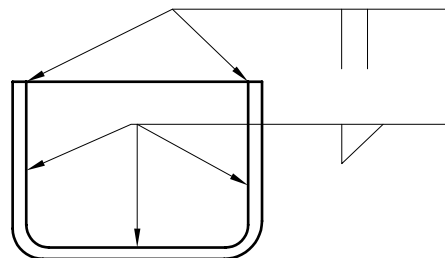
Desired weld



Symbol



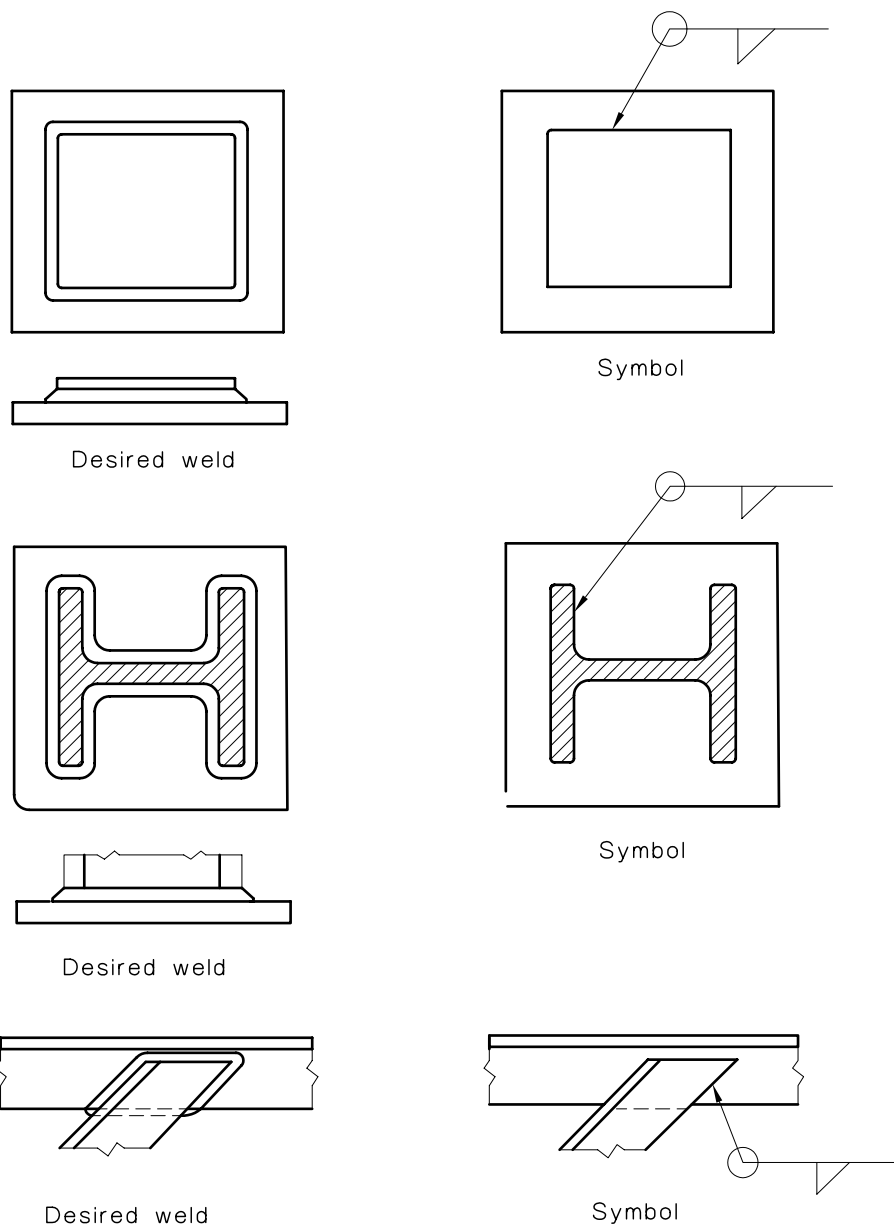
Desired weld



Symbol

(a) Weld with abrupt changes in direction

FIGURE 2.20 (in part) DESIGNATION OF EXTENT OF WELDING



(b) Weld-all-around symbol

FIGURE 2.20 (in part) DESIGNATION OF EXTENT OF WELDING

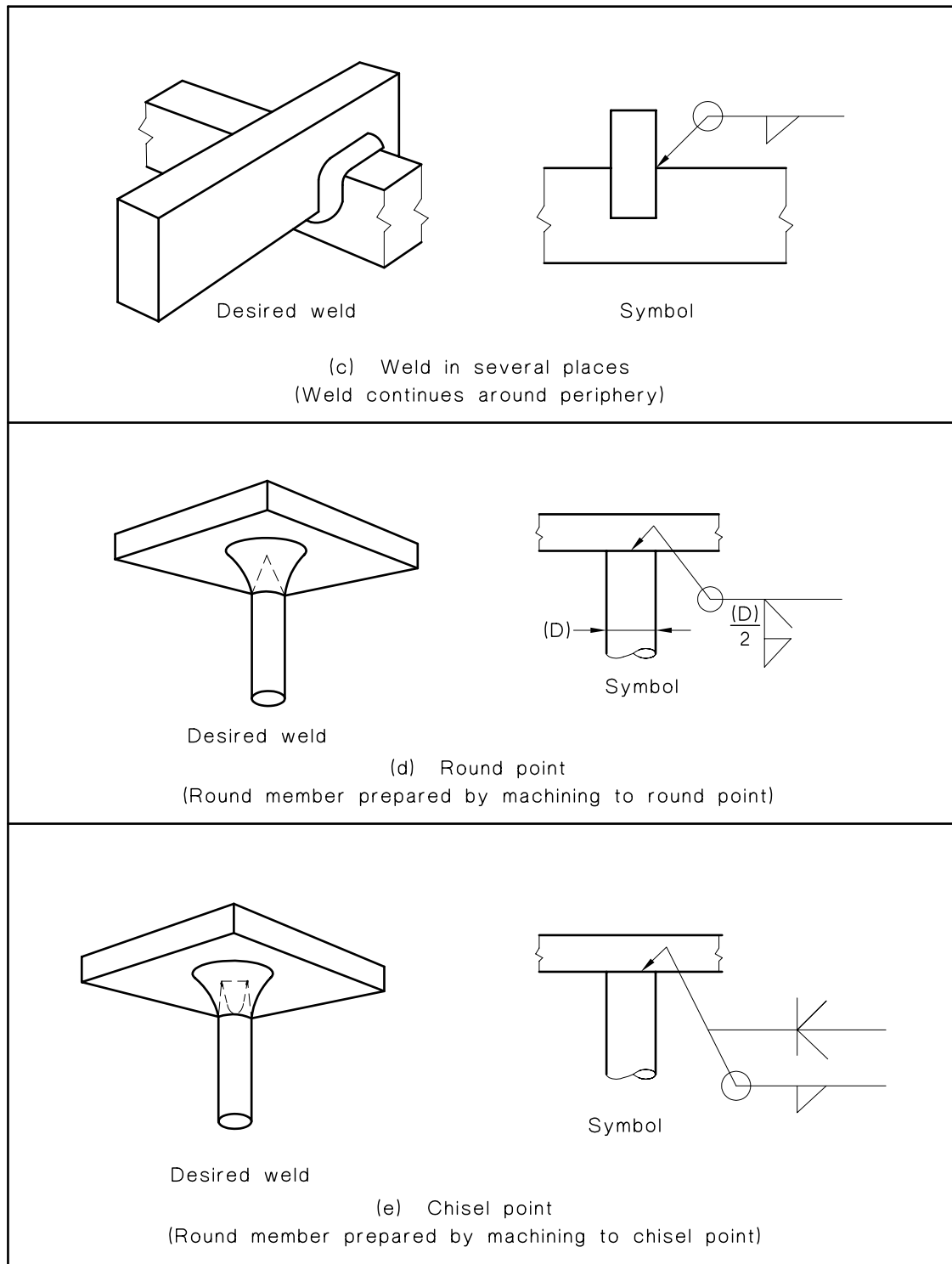


FIGURE 2.20 (in part) DESIGNATION OF EXTENT OF WELDING

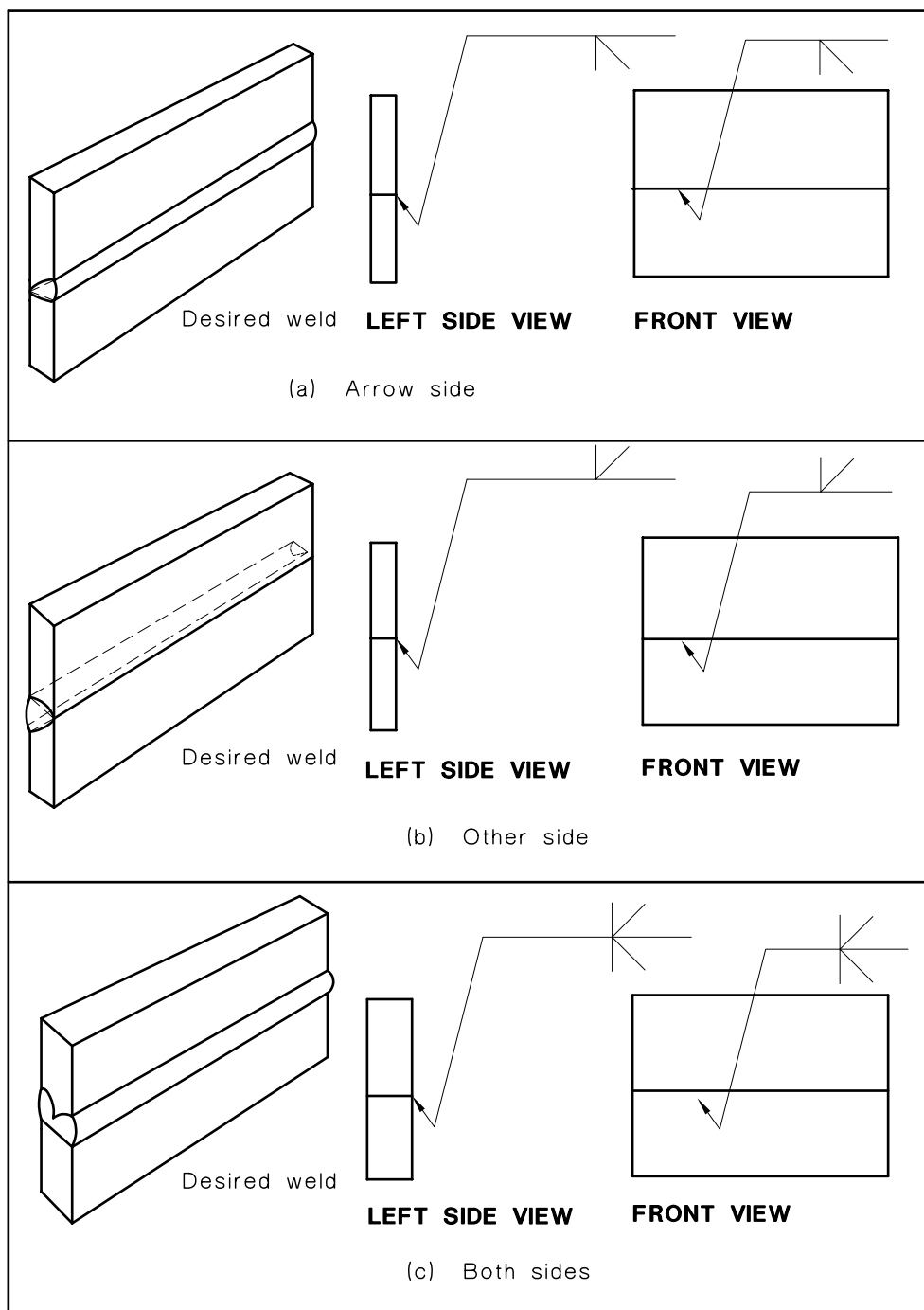


FIGURE 2.21 APPLICATION OF CRANK IN ARROW OF WELDING SYMBOL (BEVEL-BUTT WELD)

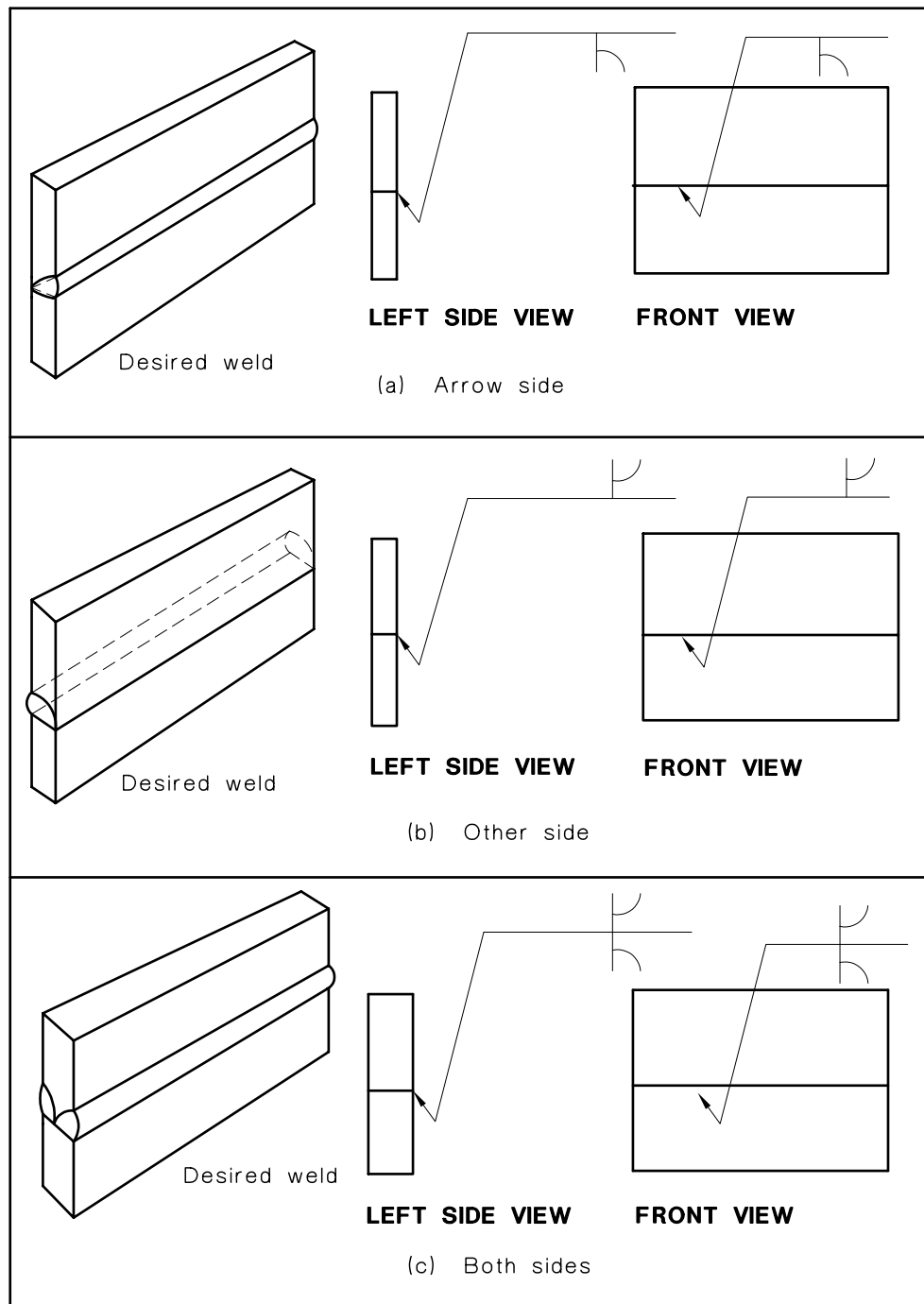


FIGURE 2.22 APPLICATION OF CRANK IN ARROW OF WELDING SYMBOL (J-BUTT WELD)

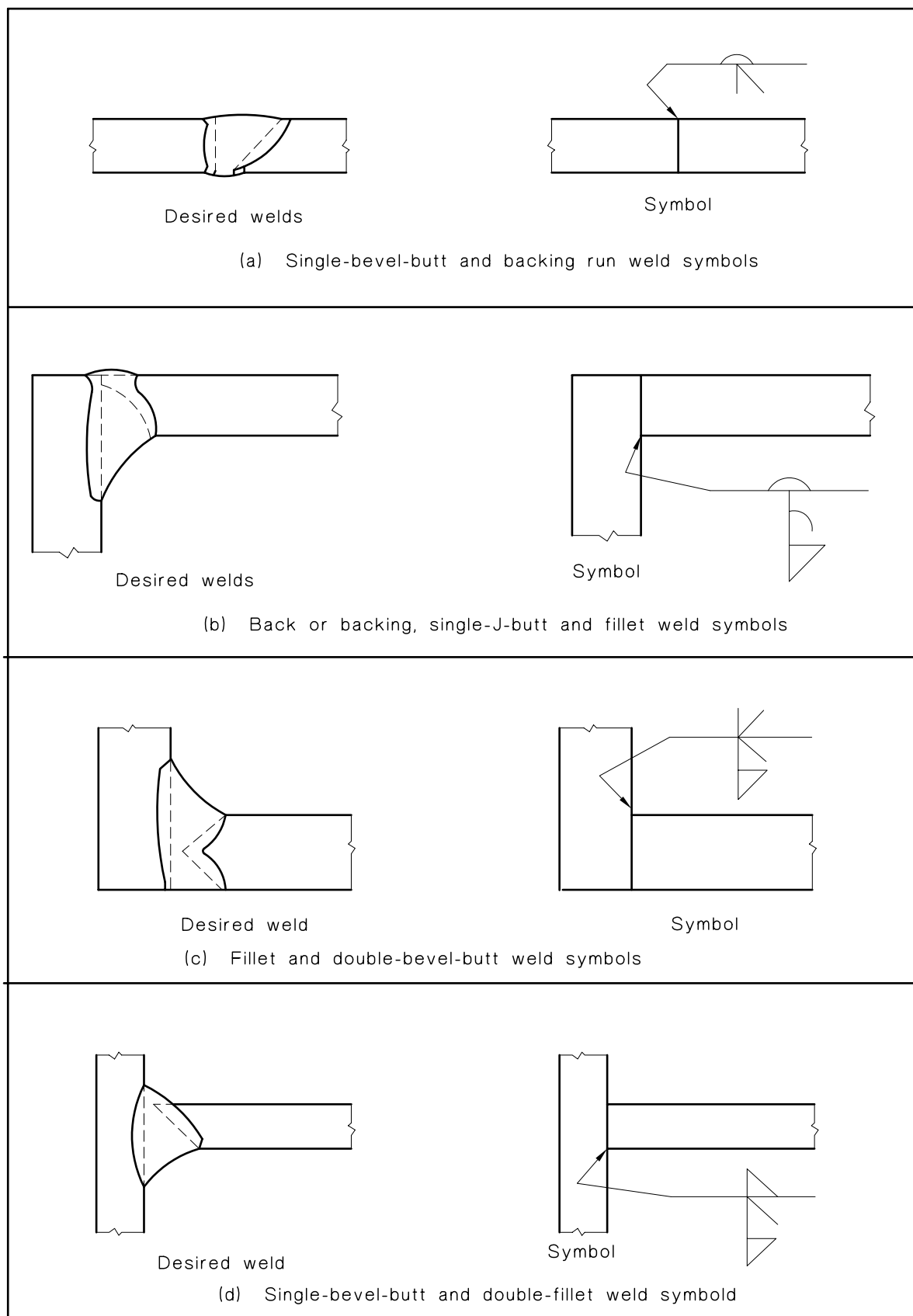


FIGURE 2.23 COMBINATION OF WELD SYMBOLS SHOWING CRANK IN ARROW

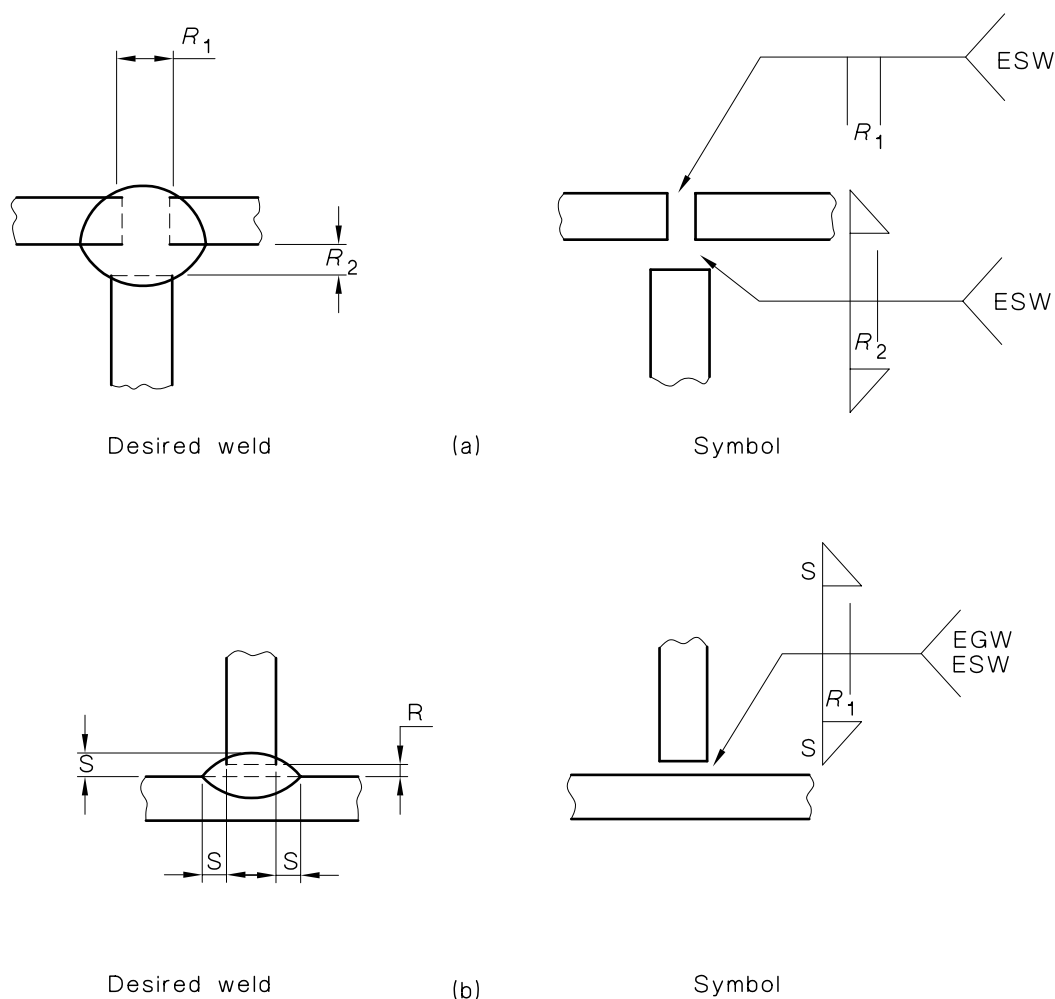


FIGURE 2.24 APPLICATION OF ELECTROSLAG WELDING AND ELECTROSLAG WELDING WITH COMBINATION OF WELD SYMBOLS

2.3.9 Weld continuity

Unless otherwise indicated, all welds shall be continuous.

2.3.10 Finishing of welds

Finishing of welds, other than cleaning, shall be indicated by suitable contour and finish symbols. The following finishing symbols indicate the method, not the degree of finish:

- (a) C — Chipping.
- (b) G — Grinding.
- (c) M — Machining.
- (d) R — Rolling.
- (e) P — Peening.

(See Clauses 2.3.7, 3.9, 4.4, 4.5.3, 7.6, 8.4, 9.6 and 10.6.)

2.3.11 Construction of symbols

Fillet, bevel and J-butt, flare-bevel-butt, and corner-flange weld symbols shall be shown with the perpendicular leg always to the left (see Figure 2.25).

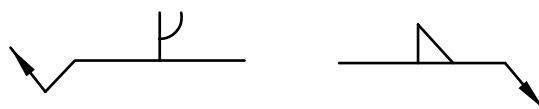


FIGURE 2.25 CONSTRUCTION OF SYMBOLS

2.3.12 Crank in arrow

Where one member of a joint is to be prepared, the arrow shall point with a definite crank towards that member (see Figure 2.26, and also Figures 2.21 and 2.22).

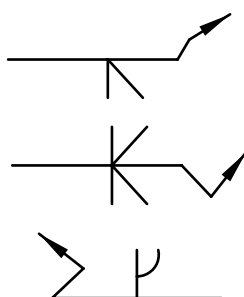


FIGURE 2.26 CRANK IN ARROW

2.3.13 Reading of information on welding symbols

Information on welding symbols shall be placed to read from left to right along the reference line in accordance with the usual conventions of drafting.

2.3.14 Combined weld symbols

For joints having more than one weld, a symbol shall be shown for each weld (see Figures 2.23 and 2.24).

2.3.15 Complete penetration

The letters 'CP' in the tail of the arrow indicate a complete penetration weld regardless of the type of weld or joint preparation (see Clause 4.2.7 and Figure 4.14).

2.3.16 Designation of special types of weld

Where the basic weld symbols are inadequate to indicate the desired weld, the weld shall be shown by a cross-section, detail, or other data with a reference thereto on the welding symbol in accordance with the location conventions given in Clause 2.3.1 (see Figure 2.27).

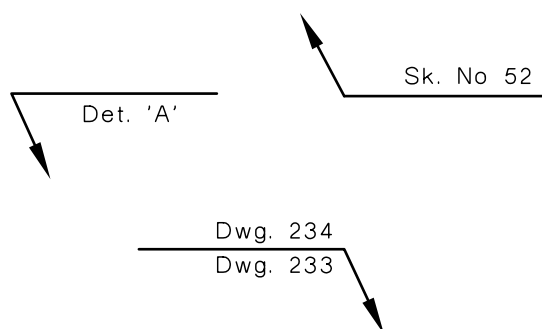


FIGURE 2.27 DESIGNATIONS OF SPECIAL WELD TYPES

2.3.17 Multiple reference lines

2.3.17.1 Sequence of operations

Two or more reference lines may be used to indicate a sequence of operations. The first operation is shown on the reference line nearest the arrow. Subsequent operations are shown sequentially on other reference lines. (See Figure 2.28.)

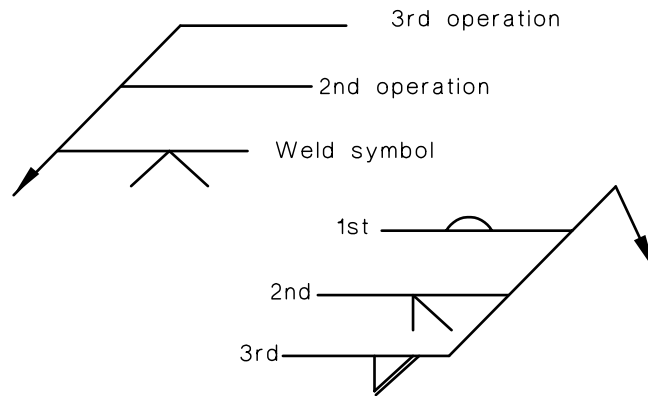


FIGURE 2.28 INDICATION OF SEQUENCE OF OPERATION

2.3.17.2 Supplementary data

Additional reference lines may be used to show data supplementary to welding symbol information included on the reference line nearest to the arrow (see Figure 2.29).

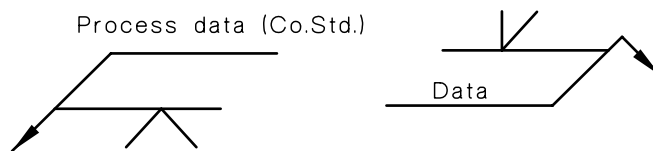


FIGURE 2.29 USE OF ADDITIONAL REFERENCE LINE FOR SUPPLEMENTARY DATA

2.3.17.3 Test information

Test information may be shown on a second or third reference line away from the arrow as described in Section 12.

2.3.17.4 Supplementary symbols

Where required, the weld-all-around symbol or test-all-around symbol shall be placed at the junction of the arrow line and reference line for each operation to which it is applicable. The site weld symbol may also be applied in the same manner. (See Figure 2.30.)

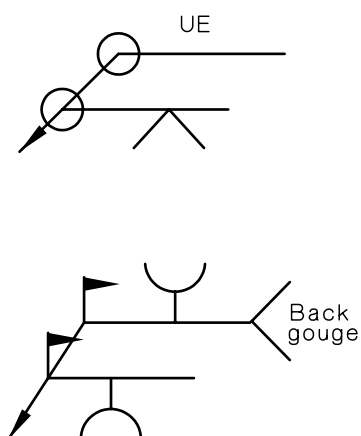


FIGURE 2.30 USE OF SUPPLEMENTARY SYMBOL WITH MULTIPLE REFERENCE LINE

SECTION 3 SYMBOLS FOR FILLET WELDS

3.1 GENERAL

3.1.1 Dimensioning fillets

Dimensions of fillet welds shall be shown on the same side of the reference line as the weld symbol (see Figures 2.19, 3.4 and 3.5).

3.1.2 Symbols with no general note

Where no general note governing the dimensions of fillet welds appears on the drawing, the dimensions of fillet welds on both sides of the joint shall be shown (see Figures 3.1 and 3.2).

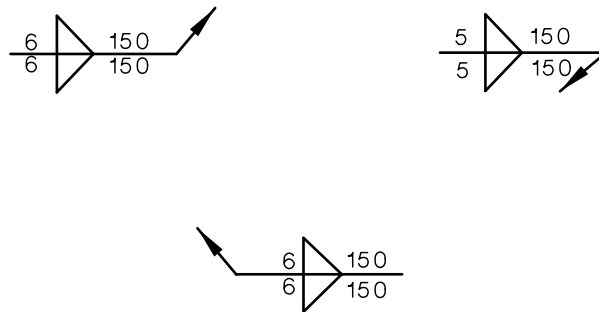


FIGURE 3.1 WELDS WITH SAME DIMENSIONS



FIGURE 3.2 WELDS WITH DIFFERENT DIMENSIONS

3.1.3 Symbols with general note

Where a general note appears on the drawing governing the dimensions of fillet welds, such as 'unless otherwise indicated, all fillet welds are 8 mm in size', the dimensions of fillet welds need not be shown on the symbol.

3.2 SIZE OF FILLET WELDS

3.2.1 Location

The size of a fillet weld shall be shown to the left of the weld symbol (see Figure 3.4(a), (b), (c) and (d)).

NOTE: Examples shown in Figure 3.4 are for joints without root gaps. For root gaps caused by workmanship tolerances, the appropriate application standard should be followed for fillet weld sizes.

3.2.2 Unequal legs

The size of a fillet weld with unequal legs shall be indicated to the left of the weld symbol. Weld orientation is not indicated by the symbol and shall be shown on the drawing when necessary. (See Figure 3.4(d).)

3.2.3 Minimum size

Unless otherwise indicated, the deposited fillet weld size shall be not less than the size shown on the drawing.

3.2.4 Penetration

Where penetration for a given root opening is specified, as in Figure 3.8(a), the inspection method for determining penetration depth is to be included in the applicable specification.

3.3 LENGTH OF FILLET WELDS

3.3.1 Location

The length of a fillet weld, where indicated on the welding symbol, shall be shown to the right of the weld symbol (see Figure 3.3 and Figure 3.4(f)).

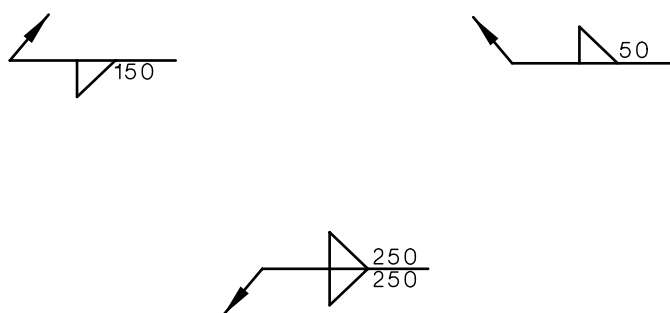


FIGURE 3.3 LENGTH OF FILLET WELDS

3.3.2 Abrupt changes

Where fillet welding extends for the full distance between abrupt changes in the direction of the welding (see Clause 2.3.8), no length dimension need be shown on the welding symbol (see Figure 3.4(e)).

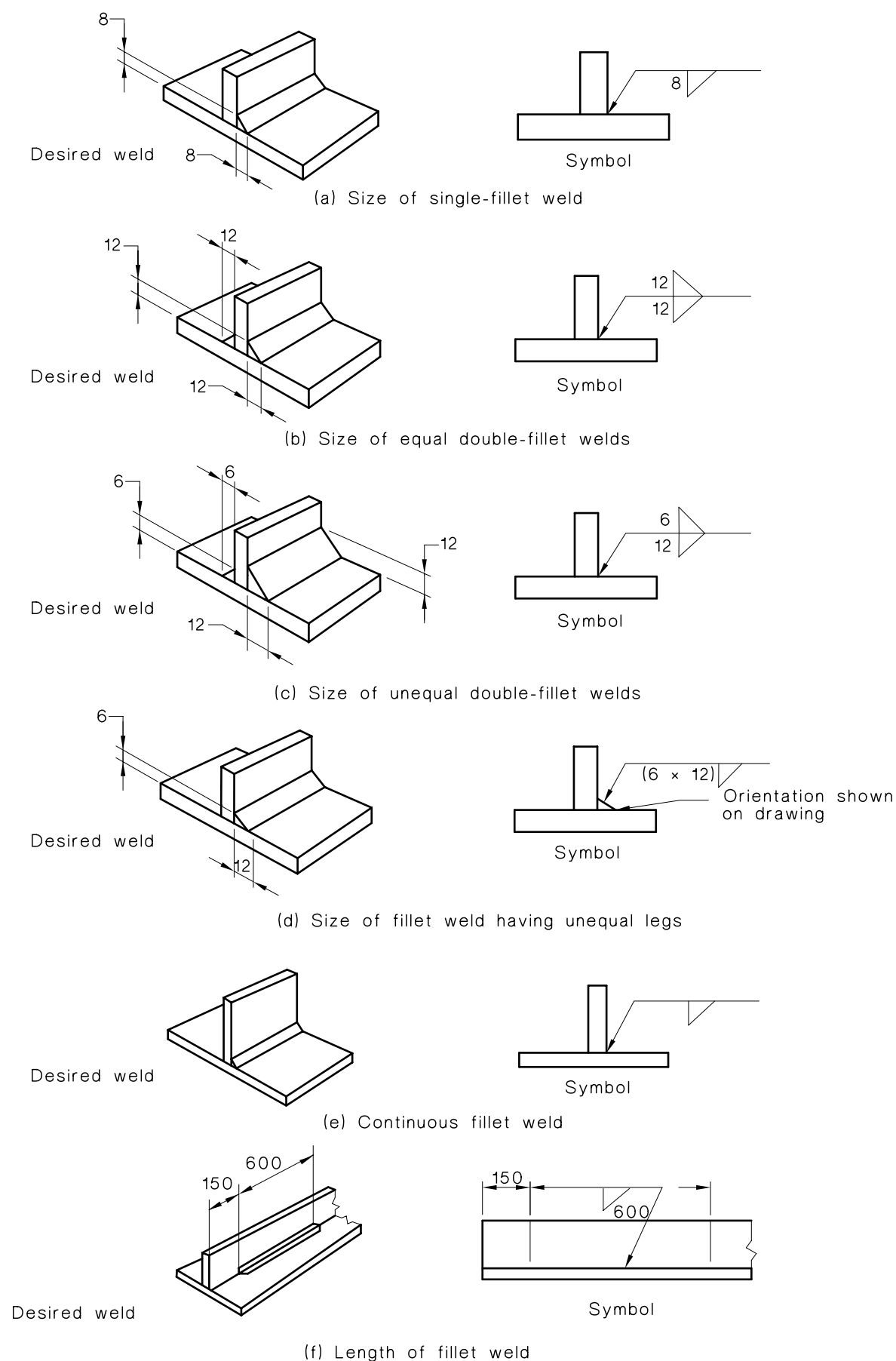
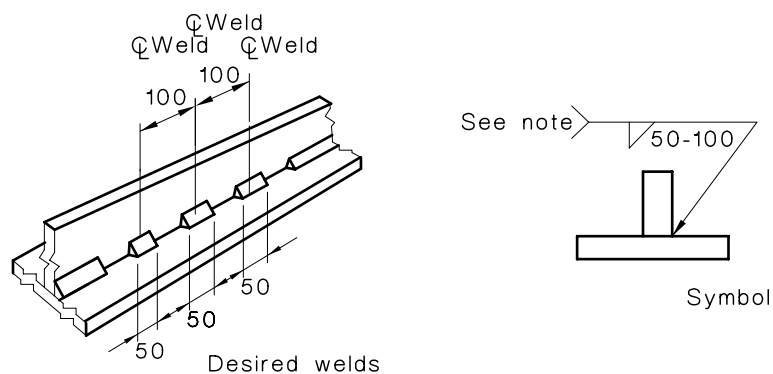
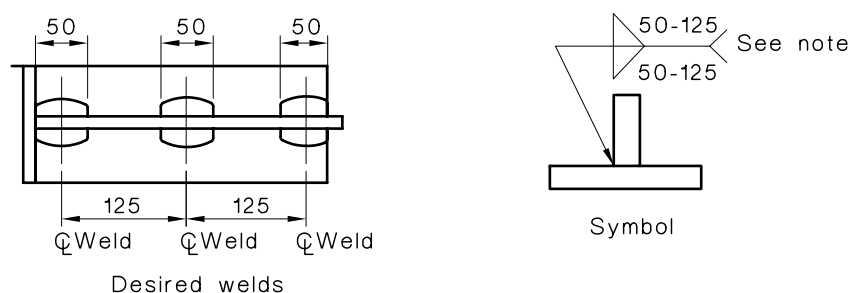


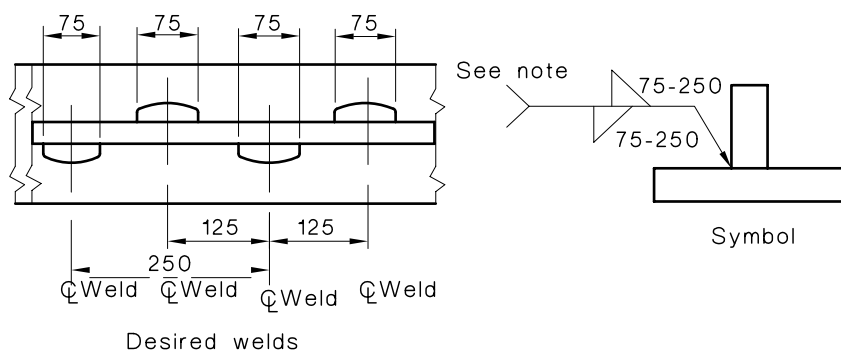
FIGURE 3.4 APPLICATION OF DIMENSIONS TO FILLET WELD SYMBOLS



(a) Length and pitch of increments of intermittent welding



(b) Length and pitch of increments of chain intermittent welding



(c) Length and pitch of increments of staggered intermittent welding

NOTE: If required by actual length of the joint, the length of the increment of the welds at the end of the joint should be increased to terminate the weld at the end of the joint.

FIGURE 3.5 APPLICATION OF DIMENSIONS TO INTERMITTENT FILLET WELD SYMBOLS

3.3.3 Specific lengths

Specific lengths of fillet welding may be indicated by symbols in conjunction with dimension lines (see Figure 3.6, and also Figure 2.19(a) and (c)).

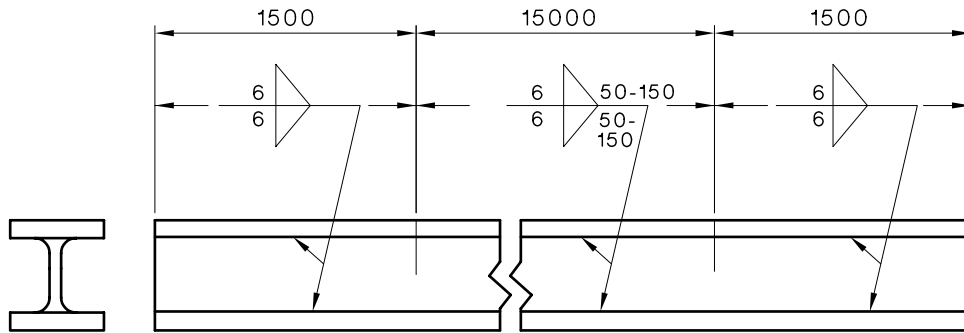


FIGURE 3.6 INDICATION OF SPECIFIC LENGTHS OF FILLET WELDS

3.4 EXTENT OF FILLET WELDING

3.4.1 Hatching

Where it is desired to show the extent of fillet welding graphically, the location of the weld may be shown by hatching (see Figure 3.7).

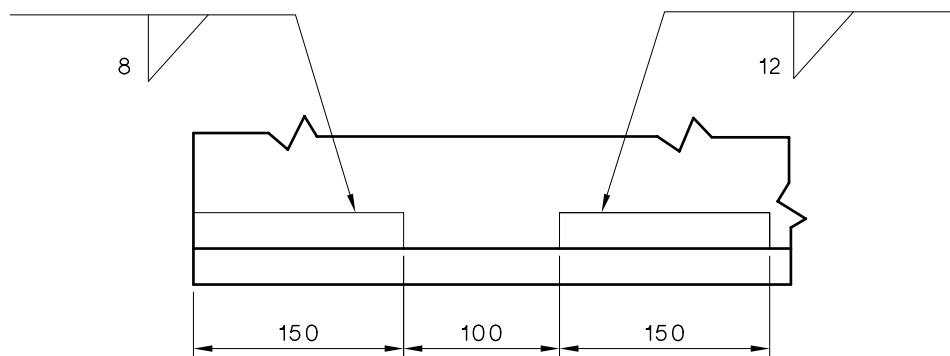


FIGURE 3.7 EXTENT OF FILLET WELDING SHOWN BY HATCHING

3.4.2 Welds beyond abrupt changes

Fillet welding extending beyond abrupt changes in the direction of the welding shall be indicated by means of additional arrows pointing to each section of the joint to be welded, as shown in Figure 2.20(a), except where the weld-all-around symbol is used.

3.5 DIMENSIONING OF INTERMITTENT FILLET WELDING

Dimensioning of intermittent fillet welding shall be as follows:

- The pitch (centre-to-centre spacing) of intermittent fillet welding shall be shown as the distance between centres of increments on one side of the joint (see Figure 3.5).
- The pitch (centre-to-centre spacing) of intermittent fillet welding shall be shown to the right of the length dimension (see Figure 3.5).
- Dimensions of chain intermittent fillet welding shall be shown on both sides of the reference line. Chain intermittent fillet welds shall be opposite each other as shown in Figure 3.5(b).
- Dimensions of staggered intermittent fillet welding shall be shown on both sides of the reference line using the convention shown in Figure 3.5(c).