INTERNATIONAL STANDARD

ISO 5845-2

First edition
1995-11-01

Technical drawings — Simplified representation of the assembly of parts with fasteners —

Part 2:
Rivets for aerospace equipment

Dessins techniques — Représentation simplifiée d'assemblage de pièces au moyen d'éléments de fixation —

Partie 2: Rivets pour constructions aérospatiales

Reference number
ISO 5845-2:1995(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 5845-2 was prepared by Technical Committee ISO/TC 10, *Technical drawings, product definition and related documentation*, Subcommittee SC 6, *Mechanical engineering documentation*.

ISO 5845 consists of the following parts, under the general title *Technical drawings — Simplified representation of the assembly of parts with fasteners*:

— *Part 1: General principles*

— *Part 2: Rivets for aerospace equipment*

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Introduction

ISO 5845 has been devised to provide a universal means of communication among the various parties involved in the design and manufacture, in general, as well as the installation of fasteners.

The representation of rivets on technical drawings should conform to one of the following two methods, which must meet requirements for microcopying and reproduction:

a) conventional drawing of rivets (according to ISO 128); this method is particularly suitable for drawings containing a small number of rivets, or when the use of symbols may not provide complete understanding.

b) symbolic representation; this method is best suited to drawings containing a large number of rivets (see clause 4).

Requirements within industries vary considerably; in recognition of this fact, ISO 5845 is presented in two parts. Part 1 is mainly devoted to structural metal work. Part 2 is mainly devoted to aerospace equipment. Both are recommended for application to other fields as well.

This page intentionally left blank

Technical drawings — Simplified representation of the assembly of parts with fasteners —

Part 2:
Rivets for aerospace equipment

1 Scope

This part of ISO 5845 specifies the representation in front view of rivets shown on drawings for aerospace equipment.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 5845. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 5845 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 128:1982, *Technical drawings — General principles of presentation.*

ISO 129:1985, *Technical drawings — Dimensioning — General principles, definitions, methods of execution and special indications.*

ISO 5845-1:1995, *Technical drawings — Simplified representation of the assembly of parts with fasteners — Part 1: General principles.*

ISO 6433:1981, *Technical drawings — Item references.*

ISO 7573:1983, *Technical drawings — Item lists.*

ISO 10209-1:1992, *Technical product documentation — Vocabulary — Part 1: Terms relating to technical drawings: general and types of drawings.*

ISO 10209-2:1993, *Technical product documentation — Vocabulary — Part 2: Terms relating to projection methods.*

3 Definitions

For the purposes of this part of ISO 5845, the definitions given in ISO 10209-1 and ISO 10209-2 apply.

4 Presentation of graphical symbols

A reference to this part of ISO 5845 shall be quoted on all drawings containing rivets represented by the following method.

4.1 Symbolic representation for a set (installed) rivet

The symbolic representation for a set rivet consists of a cross (see ISO 5845-1) indicating its position (see figure 1). This representation shall be supplemented by relevant information regarding the rivet and the rivet assembly (see 4.1.1 to 4.1.4).

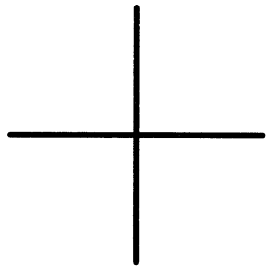


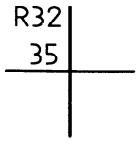
Figure 1

4.1.1 Information in the upper lefthand quadrant

The upper lefthand quadrant shows the item reference number assigned to the rivet in the item list of the drawing (see ISO 6433 and ISO 7573) or in a table on the drawing giving the necessary information for the definition of the rivet (identifying number, head form, material, diameter, length, surface treatment, etc.). This number shall be preceded by the capital letter R.

In the case of a composite rivet with a sleeve (see figure 2) the item reference number assigned to the sleeve in the item list shall be entered below that of the rivet.

EXAMPLES

Symbolic representation	Interpretation
	Solid rivet R23 = Rivet, item reference 23 in a separate item list or in a table on the drawing
	Composite rivet R32 = Rivet, item reference 32 in a separate item list or in a table on the drawing 35 = Sleeve, item reference 35 in a separate item list or in a table on the drawing

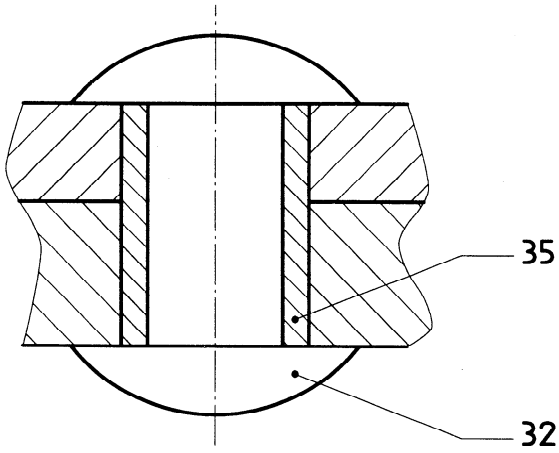


Figure 2

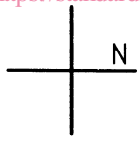
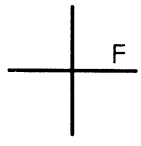
4.1.2 Information in the upper righthand quadrant

This quadrant contains a capital letter giving the position of the preformed head:

— N for preformed head on the near side;

— F for preformed head on the far side.

EXAMPLES

Symbolic representation	ISO 5845-2:1995 Interpretation
	Preformed head of the rivet on the near side
	Preformed head of the rivet on the far side

4.1.3 Information in the lower lefthand quadrant

This quadrant contains information on the position of either a countersink (4.1.3.1) or a dimpling (4.1.3.2) or a combination of both (4.1.3.3). The symbolic representation is drawn in continuous thick lines, type A, in accordance with ISO 128.

4.1.3.1 Countersink

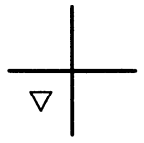
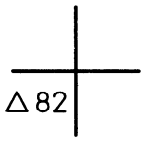
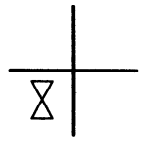
A countersink to be made to the parts to be riveted shall be indicated by an equilateral triangle orientated as follows in the quadrant:

— ▽ for a countersink on the near side;

— △ for a countersink on the far side.

If the countersink angle is 100°, the triangle alone is sufficient. If the countersink angle is other than 100°, the value of the angle in degrees shall be placed on the right of the triangle.

EXAMPLES

Symbolic representation	Interpretation
	100° countersink on the near side
	82° countersink on the far side
	100° countersink on both sides

4.1.3.2 Dimpling

Dimpling of the sheets to be riveted (see figure 3) shall be indicated by an open isosceles triangle orientated as follows in the quadrant:

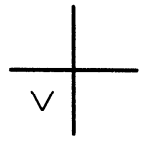
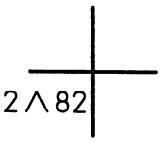
— ∨ for dimpling on the near side;

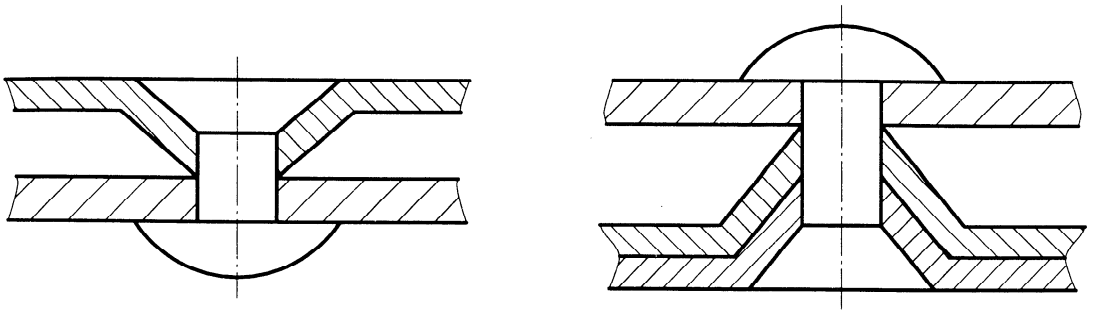
— ∧ for dimpling on the far side.

If the dimpling angle is 100°, the open triangle alone is sufficient. If the dimpling angle is other than 100°, the value of the angle in degrees shall be placed on the right of the open triangle.

If several sheets are dimpled, the number of sheets shall precede the open triangle.

EXAMPLES

Symbolic representation	Interpretation
	100° dimpling on the near side [see figure 3 a)]
	Two sheets, dimpled 82° on the far side [see figure 3 b)]



a) 100° dimpling on the near side

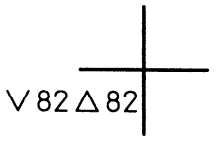
b) Two sheets dimpled 82° on the far side

Figure 3

4.1.3.3 Combined countersink and dimpling

The combination of a countersink on one part and a dimpling on the other shall be indicated by an open triangle and an equilateral triangle. The combination of these triangles and the angle indication shall be in accordance with 4.1.3.1 and 4.1.3.2.

EXAMPLES

Symbolic representation	Interpretation
	First sheet dimpled 100° on the near side Second sheet countersunk 100° on the far side
	First sheet dimpled 82° on the near side Second sheet countersunk 82° on the far side

4.1.4 Lower righthand quadrant

This quadrant shall not contain any information.

4.2 Symbolic representation of a line of rivets

4.2.1 The crosses shall be aligned along the axes of the drawing; the number of rivets may optionally be indicated (see figure 4).