SLOVENSKI STANDARD
SIST EN 2544:2001

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Aerospace series - Representation of rivets on drawings for aerospace equipment

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Luft- und Raumfahrt - Darstellung von Nieten in Zeichnungen von Luft- und Raumfahrtgeräten

Série aérospatiale - Représentation des rivets sur les dessins de matériels aérospatiaux

Ta slovenski standard je istoveten z: EN 2544:1987

ICS:

49.030.60   Kovice   Rivets

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EUROPEAN STANDARD

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EN 2544

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English version

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Representation of rivets
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CEN

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Brief history

This draft European Standard has been prepared by the European
Association of Aerospace Constructors (AECMA).
After enquiries and votes carried out in accordance with the
rules of this Association it has successively received the
approval of the National Associations and the Official Services
of the member countries of AECMA, prior to its presentation to
C.E.N.

According to the Common CEN/CENELEC Rules, following countries
are bound to implement this European Standard:

Belgium, Germany, Italy, Netherlands, Spain, United Kingdom.

1   Scope and field of application

This standard specifies the representation of rivets on drawings for aerospace equipment.

2   General

The representation of rivets on drawings shall conform to one of the following two methods:

-- either by conventional drawing of the rivets. This method is more particularly suitable for drawings containing a small number of rivets, or when the use of symbols does not offer all the safeguards for understanding.

— or by the use of symbols. This method is more specially suited for drawings containing a large number of rivets and is covered by the following clauses of this standard. It shall meet the requirements arising from microcopying and reproduction of drawings.

3   Presentation of symbols

The reference of this standard shall be quoted in all drawings containing rivets by this symbol method.

3.1 Symbols for a set rivet

A set rivet is indicated by a cross.

The quadrants of the cross contain the information regarding rivet and rivet assembly. See next paragraphs.

3.1.1 Indications in upper left hand quadrant

The following appear in this quadrant:

– letter R, indicating that the cross represents a rivet [1],

– the numerical reference allocated to the rivet in the definitions parts list of the drawing or in a table on the drawing giving the necessary information for definition of the rivet (head form, material, diameter, length, surface treatment,....).

Example:

Symbol	Significance
23 or R23	Solid rivet 23 or R23 = Rivet ident. 23 in parts list or in a table

In the case of a composite rivet, if the sleeve is covered by a numerical reference in the parts list, this reference shall be entered below that of the rivet.

Example:

Symbol	Significance
32 R32 or 35 35	Composite rivet 32 or R32 = Numerical reference of rivet in parts list or in a table 35 = Numerical reference of sleeve in parts list or in a table

3.1.2 Indications of upper right hand quadrant

This quadrant contains a letter giving the position of the pre-formed head. If the pre-formed head appears distinctly on the drawing, the letter is unnecessary.

– N for Near side

– F for Far side

Examples :

Symbol	Significance
N	Preformed head, near side
F	Preformed head, far side

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[1] The use of letter R is optional. If it is used, it shall be followed by the numerical reference allocated to the rivet.

3.1.3 Indications of lower left hand quadrant

3.1.3.1 Countersink

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

— ∇ for the near side

— $\triangle$ for the far side

If this countersink appears clearly on the drawing, indication by a triangle is unnecessary.

If the countersink angle is 100°, the triangle is sufficient. If the countersink angle is other than 100°, the value of the angle is placed on the right of the triangle.

Examples:

Symbol	Significance
∇	100° countersink, near side
$\triangle$82	82° countersink, far side
	100° countersink, both sides

3.1.3.2 Dimpling

Dimlping shall be indicated by a $\vee$ symbol orientated as follows in the quadrant:

— $\vee$ for the near side

— $\wedge$ for the far side

If this dimpling appears clearly on the drawing, indication by $\vee$ symbol is unnecessary.

If the dimpling angle is 100°, the symbol is sufficient. If the dimpling angle is other than 100°, the value of the angle is placed on the right of the symbol.

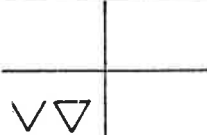If several sheets are dimpled, their number precedes the symbol

Examples:

Symbol	Significance
$\vee$	100° dimpling, near side
2/$\wedge$82	Two sheets, 82° dimpled on far side

3.1.3.3 Combined countersink and dimpling

The combination of a countersink and a dimpling shall be indicated by $\vee$ symbol and an equilateral triangle
The orientation of these symbols and the angle indication shall conform to paragraph 3.1.3.1 and 3.1.3.2 .
If appropriate, the angle shall be quoted after those symbols.

Examples:

Symbol	Significance
$\vee\triangledown$	1st sheet dimpled, 100°, on near side 2nd sheet countersunk, 100°, on near side
$\vee\triangledown$82	1st sheet dimpled, 82°, on near side 2nd sheet countersunk, 82°, on near side

3.1.4 Lower right hand quadrant
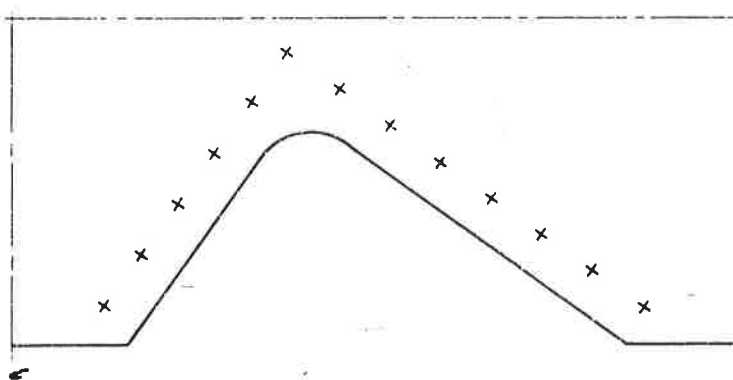
This quadrant does not contain any information.

3.2 Symbols used for a line of rivets

3.2.1 The crosses are aligned :

-- Either in the direction of the line of rivets

Example:

-- Or along the axes of the drawing

Example: