SLOVENSKI STANDARD
SIST EN 3298:2001

01-januar-2001

Aerospace series - Inserts, thin wall, self-locking - Installation and removal procedure

Aerospace series - Inserts, thin wall, self-locking - Installation and removal procedure

Luft- und Raumfahrt - Gewindeeinsätze, dünnwandig, selbstsichernd - Ein- und Ausbauverfahren

Série aérospatiale - Douilles filetées, a paroi mince, a freinage interne - Procédure d'installation et d'extraction

Ta slovenski standard je istoveten z: **EN 3298:1998**

ICS:

49.030.99 Drugi vezni elementi Other fasteners

SIST EN 3298:2001 **en**

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Descriptors: aircraft industry, joining adaptor, installation, specifiation, crimping tool, crimping : mechanic, inspection, operating requirement

English version

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This European Standard was approved by CEN on 18 September 1997.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 3298:1998 E

Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries and votes carried out in accordance with the rules of this Association, this Standard has successively received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 1998, and conflicting national standards shall be withdrawn at the latest by July 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies the conditions of installation and removal (hole serration profile, tools, swaging procedure) of self-locking thin wall inserts defined by EN standards, for aerospace applications.

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 3236 Aerospace series - Inserts, thin wall, self-locking, short, in heat resisting nickel base alloy NI-P100HT (Inconel 718), silver plated internal threads [1)]

EN 3237 Aerospace series - Inserts, thin wall, self-locking, long, in heat resisting nickel base alloy NI-P100HT (Inconel 718), silver plated internal threads [1)]

EN 3676 Aerospace series - Inserts, thin wall, self-locking - Design standard [1)]

1) Published as AECMA Prestandard at the date of publication of this standard

3 Hole serration profile (short inserts)

Table 1 and figures 1 and 2 provide details of the insert part number and associated bolt thread in relation to the serration profile in the counterbore of the installation hole.

Table 1

Dimensions in millimetres

Associated bolt thread	Short inserts	Dimensions					K		R_2	J Number of serrations
		AA	AB	AC	AD	AE°	max.	min.	max.	
MJ5×0,8	EN 3236-050	0,41	7,46	7,25	0,13	114,5	2,65	2,02	0,25	18
MJ6×1	EN 3236-060	0,28	8,55	8,30	0,10	82,0	2,75	2,12		24
MJ7×1	EN 3236-070	0,25	9,51	9,30		83,0	3,05	2,42		27
MJ8×1	EN 3236-080	0,27	10,50	10,25		83,3	3,25	2,62		28
MJ10×1,25	EN 3236-100		12,48	12,25		84,3	3,65	3,02		33

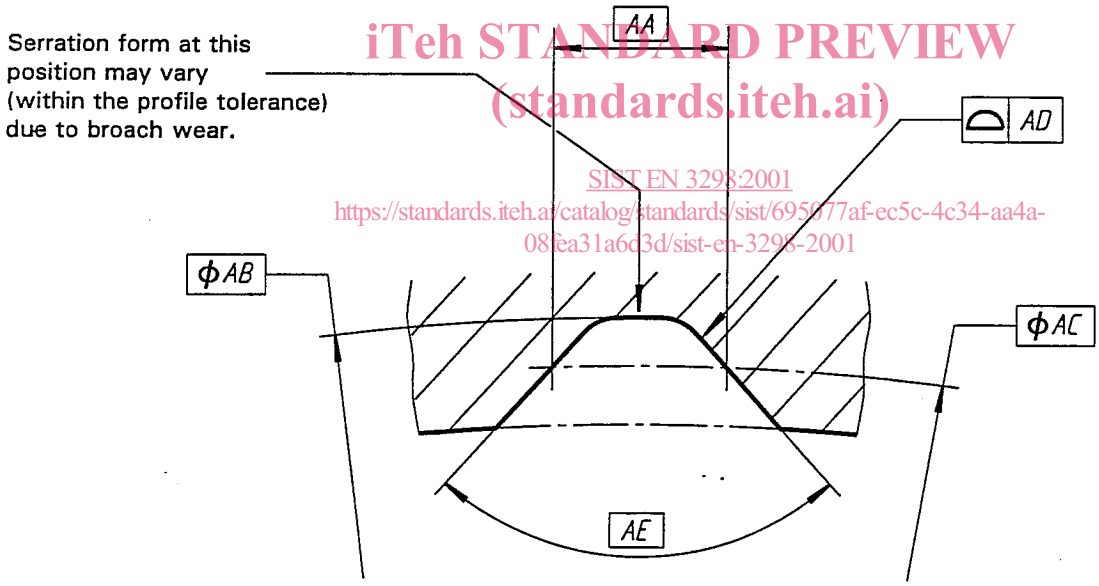

Figure 1

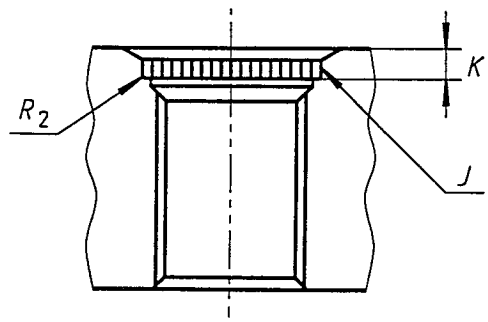

Figure 2

4 Inspection requirements before installation

Prior to installation check the installation hole, counterbore and serrations (when applicable) to receive the insert are free from burrs and any foreign objects, grease, oil, etc.

Inspect insert to be installed and ensure that it is clean and free from protective grease, etc.

Inserts installed in aluminium or magnesium alloy components shall be lightly smeared externally with a suitable compound to prevent electrolytic corrosion.

5 Installation tools

5.1 General

The tools and their methods of application described in this standard are not mandatory and show only the basic principles to be observed to achieve the satisfactory installation and subsequent swaging or removal of the inserts.

The minimum dimensional requirements provided shall be achieved and on no account shall the design of the tools or their methods of application be such that damage may occur to the threads or the locking zone of the insert or the component into which it is being installed.

Always ensure the appropriate tool/insert size combinations have been chosen for either the insertion or swaging of the insert to enable correct installation of the insert.

5.2 Drive tools for installation

The driving feature shall be "tri-lobed" but at its end, the shape may vary depending on the manufacturer.

Figure 3 shows an example of the drive tool configuration and table 2 gives the tool dimensions related to insert diameter code to ensure the correct tool size is used for installing the insert into the installation hole.

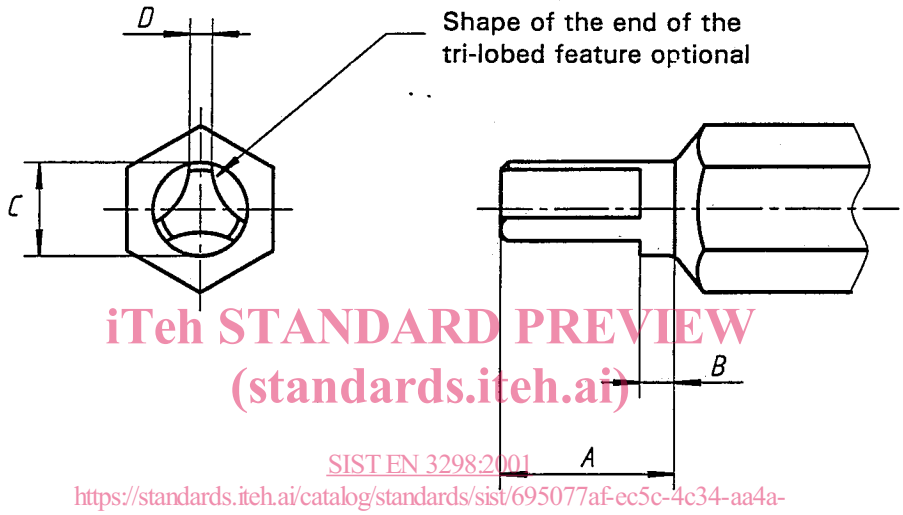

Figure 3

Table 2

Dimensions in millimetres

Insert diameter code	*A* ± 0,4	*B* ± 0,4	*C* ± 0,125	*D* ± 0,15
050	7,30	2,50	4,435	1,05
060	8,50	2,70	5,325	1,30
070	10,50	3,10	6,325	1,55
080	12,50	3,50	7,175	1,75
100	16,00	4,20	9,015	2,25

5.3 Swage tools

Table 3 gives the tool dimensions related to insert diameter code to ensure the correct tool size is used for swaging the insert into the component. Figure 4 shows an example of the swage tool configuration.

The swage tool has a protective polyamide washer, see figure 4, which acts as a stop during the swaging operation and helps to protect the surface of the component from damage, this shall be replaced when dimension "*E* max." is exceeded.

The use of incorrect tools will cause damage to the insert and surrounding material and may also cause the flange(s) of the component to be distorted.

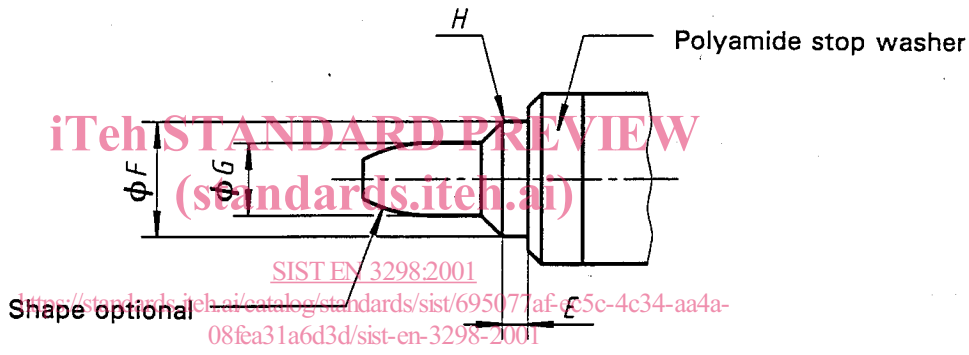

Figure 4

Table 3

Dimensions in millimetres

Insert diameter code	*E* ± 0,175	*F* ± 0,015	*G* ± 0,125	Radius *H* ± 0,25
050	2,255	5,975	3,775	0,65
060	2,455	6,995	4,575	0,80
070	2,655	8,005	5,575	1,0
080	3,055	9,025	6,275	1,0
100	3,755	11,085	7,775	1,15