



NSAI
Standards

Irish Standard
I.S. EN 4691-1:2017

Aerospace series - Tie rod with integrated bolts - Part 1: Technical specification

I.S. EN 4691-1:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN 4691-1:2017

Published:

2017-10-11

This document was published under the authority of the NSAI and comes into effect on:

2017-10-29

ICS number:

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeán Náisiúnta na hÉireann

National Foreword

I.S. EN 4691-1:2017 is the adopted Irish version of the European Document EN 4691-1:2017, Aerospace series
- Tie rod with integrated bolts - Part 1: Technical specification

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN 4691-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2017

ICS 49.035

English Version

Aerospace series - Tie rod with integrated bolts - Part 1: Technical specification

Série aérospatiale - Bielle avec axes intégrés - Partie 1 :
Spécification technique

Luft- und Raumfahrt - Zug-Druck-Stange mit
integrierten Bolzen - Teil 1: Technische
Lieferbedingungen

This European Standard was approved by CEN on 25 June 2016.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	7
4 Symbols and abbreviations	8
5 Required characteristics, inspections and test methods	9
6 Allowable static loads	10
7 Allowable dynamic loads	17
8 Assembly load locking clip EN 4692	22
9 Adjustment-torque	23
10 Technical requirements	24
11 Qualification	30
12 Condition on delivery	31
13 Material	31
Annex A (normative) Sampling	37
A.1 Acceptance test samples	37
A.2 Qualification test samples	38
Annex B (informative) Standard evolution form	54

European foreword

This document (EN 4691-1:2017) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, 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 April 2018, and conflicting national standards shall be withdrawn at the latest by April 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Aerospace and Defence Standardization (ASD-STAN) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent.

USA: US 8371767

China: CN 10104431

Japan: JP 4885140

Russia: RU 2389914

South Africa: ZA 2007/03913

Canada: 2584387

South Korea: 7011559

ASD-STAN takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured ASD-STAN that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with ASD-STAN. Information may be obtained from:

GMT Gummi-Metall-Technik GmbH

Liechtersmatten 5

D-77815 Bühl

TRIGUM Engineering GmbH

Brunskamp 4

D-21220 Seevetal/Maschen

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. ASD-STAN shall not be held responsible for identifying any or all such patent rights.

1 Scope

This standard specifies the required characteristics, inspection and test methods, qualification and acceptance conditions for rod assemblies with two adjustable ends with integrated bolts, designed to withstand static and dynamic loads possible for interior and substructure in the temperature range from – 55 °C to 85 °C. It is applicable whenever referenced.

For a complete overview see EN 4691-2.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

DIN 53504, *Testing of rubber — Determination of tensile strength at break, tensile stress at yield, elongation at break and stress values in a tensile test*

DIN 65271, *Aerospace series — Elastomeric semi-finished products and parts — Technical specification*

EN 571-1, *Non-destructive testing — Penetrant testing — Part 1: General principles*

EN 2004-1, *Aerospace series — Test methods for aluminium and aluminium alloy products — Part 1: Determination of electrical conductivity of wrought aluminium alloys*

EN 2424, *Aerospace series — Marking of aerospace products*

EN 2825, *Aerospace series — Burning behaviour of non metallic materials under the influence of radiating heat and flames — Determination of smoke density*

EN 2826, *Aerospace series — Burning behaviour of non metallic materials under the influence of radiating heat and flames — Determination of gas components in the smoke*

EN 3844 (all parts), *Aerospace series — Flammability of non metallic materials*

EN 4691-2, *Aerospace series — Tie rod with integrated bolts — Part 2: Overview construction kit*

EN 4692, *Aerospace series — Tie rod with integrated bolts — Locking clip*

EN 4693, *Aerospace series — Tie rod with integrated bolts — Assembly Code A, B and C*

EN 4694, *Aerospace series — Tie rod with integrated bolts — Assembly Code D, E and F*

EN 4695, *Aerospace series — Tie rod with integrated bolts — Assembly Code G, H and K*

EN 9100, *Quality Management Systems — Requirements for Aviation, Space and Defense Organizations*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

EN 10204, *Metallic products — Types of inspection documents*

EN ISO 75-2, *Plastics — Determination of temperature of deflection under load — Part 2: Plastics and ebonite (ISO 75-2)*

EN ISO 175, *Plastics — Methods of test for the determination of the effects of immersion in liquid chemicals (ISO 175)*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-