BS ISO 17689:2015

BSI Standards Publication

Space systems — Interface control documents between ground systems, ground support equipment and launch vehicle with payload

bsi.

...making excellence a habit.™

Document Sharing Hub

National foreword

This British Standard is the UK implementation of ISO 17689:2015.

The UK participation in its preparation was entrusted to Technical Committee ACE/68, Space systems and operations.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

© The British Standards Institution 2015.
Published by BSI Standards Limited 2015

ISBN 978 0 580 84207 8

ICS 49.140

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 November 2015.

Amendments/corrigenda issued since publication

Date	Text affected

Documents
Document Sharing Hub

Full document details: BS ISO 17689:2015

INTERNATIONAL STANDARD

ISO 17689

First edition
2015-10-15

Space systems — Interface control documents between ground systems, ground support equipment and launch vehicle with payload

Systèmes spatiaux — Documents de contrôle d'interface entre les systèmes au sol, l'équipement de soutien au sol et le véhicule de lancement de charge utile

Reference number
ISO 17689:2015(E)

Documents
Document Sharing Hub

© ISO 2015

Full document details: BS ISO 17689:2015

COPYRIGHT PROTECTED DOCUMENT

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

© ISO 2015 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO 17689:2015

Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Terms and definitions **1**
3 General **3**
4 Requirements to ICD execution **7**
4.1 Requirements to item ICD execution 7
4.2 Requirements to execution of summary list of launch site ICD 14
5 ICD development, validation and verification stages **14**
5.1 Working stages 14
5.2 Verification and validation procedures 16
Bibliography **17**

© ISO 2015 – All rights reserved

Documents
Document Sharing Hub
Full document details: BS ISO 17689:2015

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

© ISO 2015 – All rights reserved
Documents
Document Sharing Hub
Full document details: BS ISO 17689:2015

Introduction

This International Standard is intended for application at realization of interstate, intergovernmental or non-governmental space activity, between operators of some country and different organizations on the basis of their space activity contracts.

Interfaced (connected) devices development by two and more designers (commands, organizations, developers of other specializations, etc.) creates a need for coordination between them to prevent interfaces discrepancy for unlimited possibilities of design (construction) perfection during the creation of space technics.

This International Standard establishes basic requirements for interface control documents (ICD) writing and interface control procedures for the following items included in launch system: payload, launch vehicle, ground support equipment (according to ISO 14625:2007) and launch site (buildings with technical systems). Notably

a) ICD between payload and launch vehicle (according to ISO 15863:2003),

b) ICD between ground support equipment and payload (this International Standard),

c) ICD between ground support equipment and launch vehicle (this International Standard),

d) ICD between items of ground support equipment (this International Standard), and

e) ICD between ground support equipment and launch site (this International Standard).

ICD enables systematic creation (development), operation and management of interfaces b) to e) at all stages of life cycle of launch system. It is necessary for the purpose of guarantee of launch system normal functioning, prevention of accident and reduces of acceptable risk at joint space projects and services of space vehicles insertion into space.

Application of this International Standard at design and development stages will improve control and compatibility of all interfaces [b) to e)].

Application of this International Standard at operation stage will improve launch system safety and facilitate control of interfaces.

© ISO 2015 – All rights reserved

Documents
Document Sharing Hub
Full document details: BS ISO 17689:2015

Documents
Document Sharing Hub

INTERNATIONAL STANDARD ISO 17689:2015(E)

Space systems — Interface control documents between ground systems, ground support equipment and launch vehicle with payload

1 Scope

This International Standard is applied for organizations developing ground support equipment and also for operators performing space activity.

Interface control documents format defined here does not contain the descriptions regarding various properties of ground support equipment (i.e. performance, functions or endurance to launch mechanical environment or quality assurance provisions) which are defined in technical specifications.

Control of interfaces, independently of its frequency or depth, cannot replace stages of parameters definition of high-quality production and development of technical requirements of project, design and development. Interfaces control is used as a control process that can provide necessary verification of successful finishing of design at a stated in contract period.

This International Standard establishes basic requirements for interface control documents (ICD) writing and interface control procedures for the following items included in launch system: payload, launch vehicle, ground support equipment (according to ISO 14625:2007) and launch site (buildings with technical systems). Notably

a) ICD between payload and launch vehicle (according to ISO 15863:2003),

b) ICD between ground support equipment and payload (this International Standard),

c) ICD between ground support equipment and launch vehicle (this International Standard),

d) ICD between items of ground support equipment (this International Standard), and

e) ICD between ground support equipment and launch site (this International Standard).

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
interface control document for ground support equipment
document which describes mechanical, hydraulic, pneumatic, thermal, electric and other parameters of interfaces between ground support equipment and launch vehicle, items of ground support equipment, ground support equipment and launch site objects (building constructions with technical systems), and which is used to control these parameters

2.2
ground support equipment
units and systems necessary for the prelaunch operations and operations for launch of payload and launch vehicle (rocket fuelling systems, gas supply systems, thermostating systems, launch pad, units for LV installation on launch pad, ground support equipment control systems, etc.)

© ISO 2015 – All rights reserved

Documents
Document Sharing Hub
Full document details: BS ISO 17689:2015