STANDARDIZATION AGREEMENT

ACCORD DE NORMALISATION

STANAG 3158

DAY MARKING OF AIRFIELD RUNWAYS AND TAXIWAYS - AATMP-05

MARQUAGE DE JOUR DES PISTES ET VOIES DE CIRCULATION DES AÉRODROMES –AATMP-05

EDITION/ÉDITION 9
11 March/mars 2015
NSO/0331(2015)ATM/3158

NORTH ATLANTIC TREATY ORGANIZATION

ORGANISATION DU TRAITÉ DE L'ATLANTIQUE NORD

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Publié par
le BUREAU OTAN DE NORMALISATION (NSO)

11 March/mars 2015

STANAG 3518
Edition/Édition 9

LETTER OF PROMULGATION

STATEMENT

The enclosed NATO Standardization Agreement (STANAG), which has been ratified by member nations, as reflected in the NATO Standardization Document Database (NSDD), is promulgated herewith.

IMPLEMENTATION

This STANAG is effective upon receipt and ready to be used by the implementing Nations and NATO bodies.

The partner nations are invited to adopt this STANAG.

SUPERSEDED DOCUMENTS

This STANAG supersedes the following document:

STANAG 3158 Edition 8

ACTIONS BY NATIONS

Nations are invited to examine their ratification of the STANAG and, if they have not already done so, advise the NSO of their intention regarding its implementation.

Nations are requested to provide to the NSO their actual STANAG implementation details.

LETTRE DE PROMULGATION

DÉCLARATION

L'accord de normalisation OTAN (STANAG) ci-joint, qui a été ratifié par les pays membres dans les conditions figurant dans la Base de données des documents de normalisation OTAN (NSDD), est promulgué par la présente.

MISE EN APPLICATION

Ce STANAG entre en vigueur dès réception et est prêt à être mis en application par les pays et les organismes OTAN d'exécution.

Les pays partenaires sont invités à adopter ce STANAG.

DOCUMENTS ANNULÉS ET REMPLACÉS

Ce STANAG annule et remplace le document suivant :

STANAG 3158 Édition 8

MESURES À PRENDRE PAR LES PAYS

Les pays sont invités à examiner l'état d'avancement de la ratification du STANAG et à informer, s'ils ne l'ont pas encore fait, le NSO de leur intention concernant sa mise en application.

Les pays sont priés de fournir au NSO des informations détaillées sur la mise en application effective de ce STANAG.

SECURITY CLASSIFICATION

This STANAG is a NATO UNCLASSIFIED document to be handled in accordance with C-M(2002)60.

CLASSIFICATION DE SÉCURITÉ

Ce STANAG est un document OTAN SANS CLASSIFICATION qui doit être traité conformément au C-M(2002)60.

RESTRICTION TO REPRODUCTION

RESTRICTION CONCERNANT LA REPRODUCTION

Edvardas MAŽEIKIS
Major General, LTUAF
Director, NATO Standardization Office

Edvardas MAŽEIKIS
Général de division aérienne, LTUAF
Directeur du Bureau OTAN de normalisation

STANAG 3158 Edition/Édition 9

DAY MARKING OF AIRFIELD RUNWAYS AND TAXIWAYS -

MARQUAGE DE JOUR DES PISTES ET VOIES DE CIRCULATION DES AÉRODROMES

AIM

The aim of this NATO standardization agreement (STANAG) is to respond to the following interoperability requirements.

BUT

Le présent accord de normalisation OTAN (STANAG) a pour but de répondre aux exigences d'interopérabilité suivantes.

INTEROPERABILITY REQUIREMENTS

To adopt the day marking for airfield runways and taxiways as required in AATMP-05

EXIGENCES D'INTEROPÉRABILITÉ

Adopter le marquage de jour des pistes et voiesde circulation des aérodromes défini dans l'AATMP-05

AGREEMENT

Participating Nations agree to implement the following standard.

ACCORD

Les pays participants conviennent de mettre en application la norme suivante.

AATMP-05 Edition A

AATMP-05, Édition A

OTHER RELATED DOCUMENTS

none

AUTRES DOCUMENTS CONNEXES

néant

NATIONAL DECISIONS

The national decisions regarding the ratification and implementation of this STANAG are provided to the NSO.

The national responses are recorded in the NATO Standardization Document Database (NSDD).

DÉCISIONS NATIONALES

Les décisions nationales concernant la ratification et la mise en application du présent STANAG sont communiquées au NSO.

Les réponses nationales sont consignées dans la Base de données des documents de normalisation OTAN (NSDD).

IMPLEMENTATION OF THE AGREEMENT

Nations are invited to report on their effective implementation of the STANAG using the form in Annex H to AAP-03(J).

MISE EN APPLICATION DE L'ACCORD

Les pays sont invités à rendre compte de la mise en application effective du présent accord au moyen du formulaire figurant à l'Annexe H à l'AAP-03(J).

Partner nations are invited to report on the adoption of the STANAG using the form in Annex G to AAP-03(J).

Les pays partenaires sont invités à rendre compte de l'adoption du présent STANAG au moyen du formulaire figurant à l'Annexe G à l'AAP-03(J).

REVIEW

This STANAG is to be reviewed at least once every three years. The result of the review is recorded within the NSDD.

Nations and NATO bodies may propose changes, at any time, through a standardization proposal to the tasking authority (TA), where the changes will be processed during the review of the STANAG.

RÉEXAMEN

Le présent STANAG doit être réexaminé au moins une fois tous les trois ans. Le résultat de ce réexamen est consigné dans la NSDD.

Les pays et les organismes OTAN peuvent, à tout moment, proposer des modifications en soumettant une proposition de normalisation à l'autorité de tutelle (TA), qui traitera ces modifications lors du réexamen du STANAG.

TASKING AUTHORITY

This STANAG is supervised under the authority of:

AUTORITÉ DE TUTELLE

Le présent STANAG est sous la responsabilité de :

AIR TRAFFIC MANAGEMENT COMMITTEE (ATMC)

CUSTODIAN

The custodian of this STANAG is:

PILOTE

Le pilote du présent STANAG est :

Ms J Campbell
HQ AFCESA/CEOA
Tyndall AFB
FL, USA

FEEDBACK

Any comments concerning this STANAG shall be directed to:

INFORMATIONS EN RETOUR

Tous les commentaires concernant le présent STANAG doivent être adressés à :

NATO Standardization Office (NSO)

Bureau OTAN de normalisation (NSO)

Boulevard Léopold III
1110 BRUXELLES – Belgique

NATO STANDARD

AATMP-05

DAY MARKING OF AIRFIELD RUNWAYS AND TAXIWAYS

Edition A Version 1
MARCH 2015

NORTH ATLANTIC TREATY ORGANIZATION

ALLIED AIR TRAFFIC MANAGEMENT PUBLICATION

Published by the
NATO STANDARDIZATION OFFICE (NSO)

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

11 March 2015

1. The enclosed Allied Air Traffic Management Publication AATMP-05, Edition A, Version 1, DAY MARKING OF AIRFIELD RUNWAYS AND TAXIWAYS, which has been approved by the nations in the Air Traffic Management Committee, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 3158.

2. AATMP-05, Edition A, Version 1 is effective upon receipt.

3.

4. This publication shall be handled in accordance with C-M(2002)60.

Edvardas MAŽEIKIS
Major General, LTUAF
Director, NATO Standardization Office

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RESERVED FOR NATIONAL LETTER OF PROMULGATION

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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Table of Contents

CHAPTER 1.
Introduction

1.1 Purpose

AATMP-05 establishes standards for the day marking of airfield runways and taxiways including:

a. Aircraft Arresting System Marking

b. VOR, TACAN and Inertial Navigation System (INS) Markings

c. Restricted Use and Hazardous Area Markings

The provisions of this agreement do not apply to airfields where tone-down measures have been incorporated in accordance with STANAG 3534.

1.2 Scope

The requirements for runway and taxiway markings shall be in compliance with the standards and recommended practices of the International Civil Aviation Organization (ICAO) Annex 14, (Volume I, Aerodrome Design and Operations), Fifth Edition - July 2009, including aviation surface colours, except as otherwise indicated.

These requirements apply to all initial markings and to the re-marking when required. Continue maintaining (cleaning and repainting) existing markings until it becomes necessary to remove them for other reasons (e.g. excessive paint build-up or reconstruction of the pavement). When this event occurs, remark the runway in accordance with this standard.

Note: *ICAO Annex 14, Fifth Edition - July 2009, contains changes that affect to the following areas in AAMPT-05:*

a. Taxiway centre line marking (enhanced),

b. Mandatory instruction marking,

c. Colours of markings, and

d. Renumbering of adopted ICAO sections at paragraphs 6.d and 6.e.

CHAPTER 2.

Runway Marking

All operational runways shall be marked. The runway markings shall be aviation surface white and may be retroreflective except where otherwise specified in this STANAG. These runway markings are as follows:

a. **Centreline Markings (Mandatory)**.

b. **Runway Threshold Markings (Mandatory)**.

c. **Runway Designation Markings (Numbering) (Mandatory)**.

d. **Touchdown Zone/ Aiming Point Marking** (Permissive except Mandatory for paved instrument runways where the code number is 2, 3 or 4).

e. **Runway Side Stripe Markings (Permissive)**.

f. **Displaced Threshold Markings, Temporary/ Permanent (Mandatory)**. The colour of these markings shall be non-retroreflective aviation surface white except where national authority may require the chevrons and arrows to be retroreflective aviation surface yellow.

g. **Aircraft Arresting System Markings (Permissive)**. When an aircraft arresting system cable is installed on an operational runway surface, its location should be marked by a series of discs painted on the runway along the line of the pendant cable. The discs should be 3 m (10 feet) in diameter and should be spaced at 7.5 m (25 feet) between centres. They should be arranged in two groups symmetrically disposed about the runway centreline. The centre of the innermost discs in each group should be 3.75 m (12.5 feet) from the runway centreline. The number of discs required will be determined by the width of the runway or by the distance between the side stripes, if present. The colour of the discs should be aviation surface yellow (see Annex C). If the pavement is equipped with a sacrificial pad beneath the cable, the discs may be divided at the equator for the width of the sacrificial pad.

CHAPTER 3.

Taxiway Marking

All operational taxiways shall be marked. The markings shall be aviation surface yellow and may be retroreflective except for mandatory instruction markings, which are red with white numbering. Holding position markings may be of any conspicuous colour. The taxiway markings are as follows:

a. **Centreline Markings (Mandatory)**.

b. **Runway Holding Position Markings (Mandatory)**.

c. **Intermediate Holding Position Markings (Permissive)**.

d. **Instruction Marking (Mandatory)**. Instruction marking, for taxiway width exceeding 60M, shall be in accordance with ICAO Annex 14, Section 5.2.16.

e. **Taxiway Edge Markings (Permissive)**. Taxiway edge markings, if installed, shall be in accordance with ICAO Annex 14, Sections 5.5.5 and 7.2.

CHAPTER 4.

VOR, TACAN and Inertial Navigation System (INS) Markings

The markings for VOR, TACAN and INS are as follows:

a. **VOR and TACAN Equipment Checkpoint Marking (Permissive)**.

b. **INS Equipment Fixpoint/ Checkpoint Marking (Permissive)**. These markings, if installed, shall be as shown in Annex B.

(1) **Fixpoint Markings – Method A**. The fixpoint marking consists of a bar typically 3.0 m (10 feet) long and 0.2 m (8 inches) wide. A circle typically 0.6 m (24 inches) outside diameter and 0.2 m (8 inches) inside diameter is centered at the midpoint of the bar. The fixpoint bars are located on each side of the extended runway centreline at the designated distance in the displaced threshold area from the transverse stripe. The longitudinal axes of the bars shall be oriented perpendicular to the runway centreline. The colour of the markings shall be aviation surface white.

(2) **INS Checkpoint Markings – Method B**. The checkpoint markings consist of a circle typically 0.9 m (3 feet) inside diameter with the letters INS and numeral typically 0.3 m (12 inches) high. The checkpoint markings are located at nose wheel parking spots on aprons and ramps, engine run up areas adjacent to runway ends, hammer heads, and taxiway and apron holding position lines. White contrasting colours shall be used for the border, numerals, and letters on dark-coloured pavements, and black contrasting colours shall be used on light-coloured pavements.

c. Three dimensional position information will be given in terms of the operational datums as defined in STANAG 2211 and ACE Directive 80-4, and also WGS 84 where that is not operational geodetic datum.

(1) **Lateral**: in geographic co-ordinates to an accuracy on one hundredth of a minute of arc.

(2) **Vertical**: in feet, to an accuracy of ten feet above mean sea **level on the local vertical datum.**

NOTE: Methods A and B shall be offset so as not to interfere with other markings in the area.

CHAPTER 5.

Restricted Use and Hazardous Area Markings

Restricted use and hazardous areas on or adjacent to the runway and taxiway surfaces should be marked for better recognition. The operating authority shall determine if there is adequate visual distinction between the operational runway and taxiway surfaces and the restricted use or hazardous area. If it has been determined that visual distinction is inadequate and full strength pavement can not be easily differentiated from shoulder or blast pavement, or taxiway edge markings do not provide adequate definition of the operational surface, restricted use area markings shall be applied to the non-operational area. These markings shall be non-retroreflective aviation surface yellow and shall have the following characteristics:

a. **Runway Shoulder Markings (Mandatory)**. These markings shall consist of stripes which are 0.9 m (3 feet) wide extending outboard at an angle of 45 degrees from the edge of the operational surface for not less than 1.5 m (5 feet) measured perpendicular to the runway edge and to within 1.5 m (5 feet) of the outer edge of the shoulder, or for a distance of 7.5 m (25 feet), whichever is less. The stripes shall be not more than 30 m (100 feet) apart. The stripes on each side of the runway should lie on a line forming a chevron with the apex on the runway centreline, and pointing toward the midpoint of the runway. See Annex E, Figures E-1 and E-2.

b. **Taxiway Shoulder Markings (Mandatory)**. These markings shall consist of a series of aviation surface yellow stripes, which are perpendicular to and extend outward from the taxiway edge not less than 1.5 m (5 feet). The stripes shall be not less than 0.9 m (3 feet) wide and spaced not more than 30 m (100 feet) apart, and on curved edges not more than 15 m (50 feet) apart as shown in Annex C, Figures C-1 and C-2. Blast pavement striping shall be at least 15 m (50 feet) long or the width of the blast pavement if less than 15 m (50 feet).

c. **Paved Pre-threshold Area Markings (Permissive)**. The requirement for these markings shall be in accordance with ICAO Annex 14, Section 7.3, except that the chevron at the approach end of the area may fit the remaining area length.

d. **Closed Runways and Taxiways Markings (Mandatory)**. These marking shall be in accordance with ICAO Annex 14, Section 7.1.

ANNEX A.

Related Documents

ACE Dir. 80-04	POSITION REFERENCING IN ACE
STANAG 2111 IGEO	GEODETIC DATUMS, PROJECTIONS, GRIDS AND GRID REFERENCES
STANAG 3534 AS	AIRFIELD MARKING, LIGHTING AND TONE-DOWN SYSTEMS FOR NON-PERMANENT/DEPLOYED OPERATIONS
STANAG 3316 AS	AIRFIELD LIGHTING
STANAG 3970 AS	CONTENT AND FORMAT OF FLIGHT INFORMATION PUBLICATION (FLIP) TERMINAL HIGH/LOW INSTRUMENT APPROACH PROCEDURES, INSTRUMENT DEPARTURE PROCEDURES AND AERODROME DIAGRAMS/LAYOUTS
ICAO Annex 14	VOLUME I, AERODROME DESIGN AND OPERATIONS
WGS 84	WORLD GEODETIC SYSTEM 84 TRANSFORMATION

ANNEX B.

Lexicon

For the purpose of this STANAG, the following definitions apply (other terms are defined in ICAO Annex 14):

a. **Aircraft Arresting System Marking**.

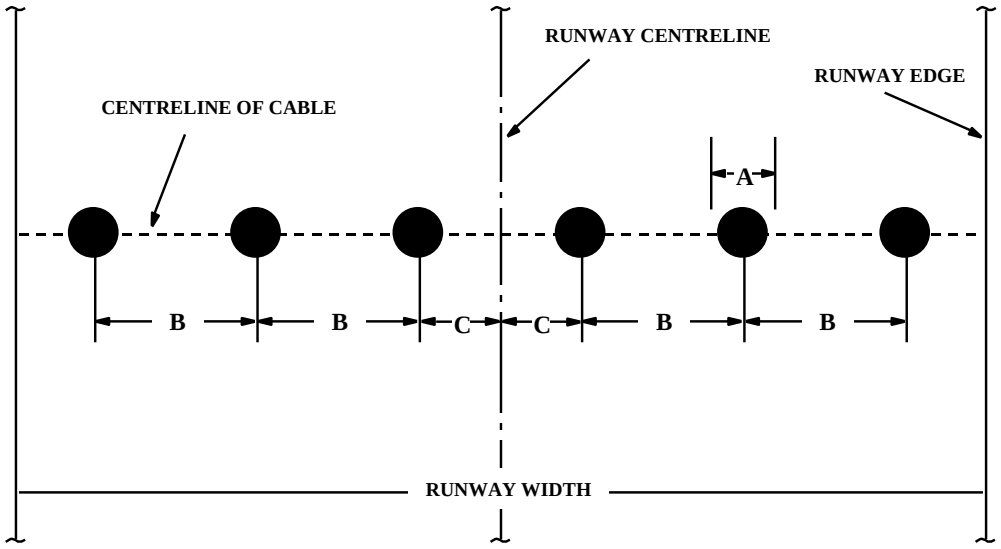
Markings on the runway surface to indicate to pilots the location of the aircraft arresting barrier or pendant cable.

b. **Inertial Navigation System (INS) Fixpoint/Checkpoint Marking**.

The marking designated to start the inertial navigation equipment for plotting the aircraft's flight path.

ANNEX C.

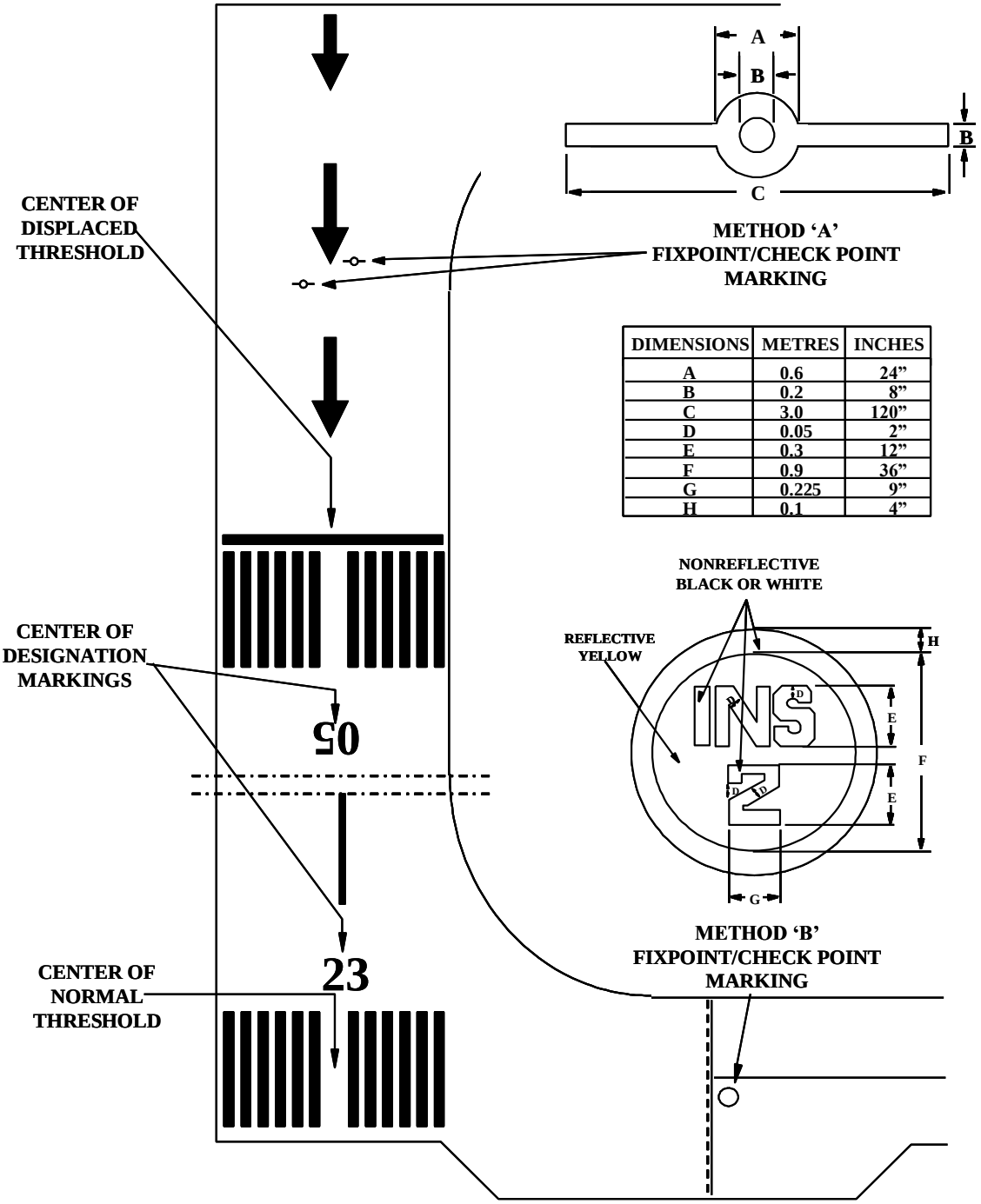
Aircraft Arresting System Markings



DIMENSIONS	METRES	FEET
A	3.0	10
B	7.5	25
C	3.75	12.5

ANNEX D.

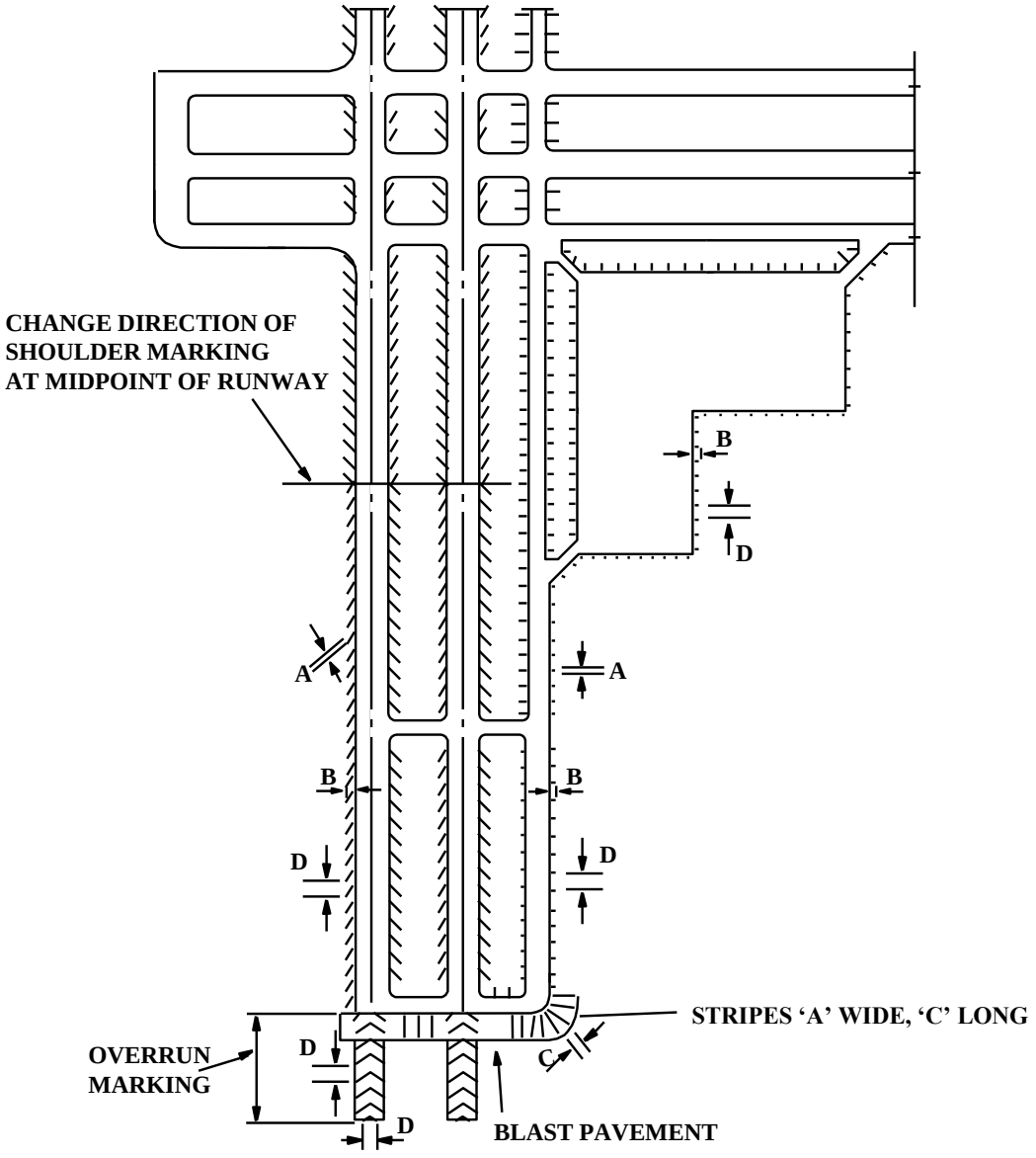
INS FIXPOINT/CHECKPOINT MARKINGS



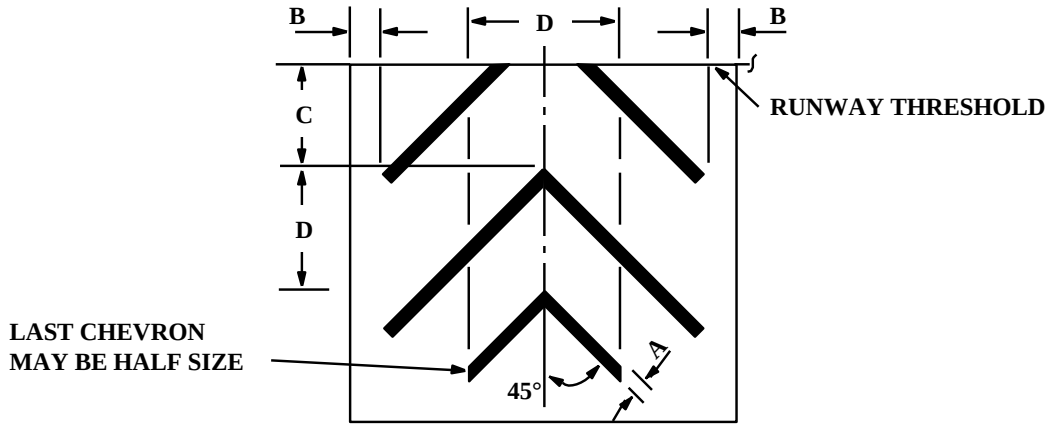
DIMENSIONS	METRES	INCHES
A	0.6	24"
B	0.2	8"
C	3.0	120"
D	0.05	2"
E	0.3	12"
F	0.9	36"
G	0.225	9"
H	0.1	4"

ANNEX E.

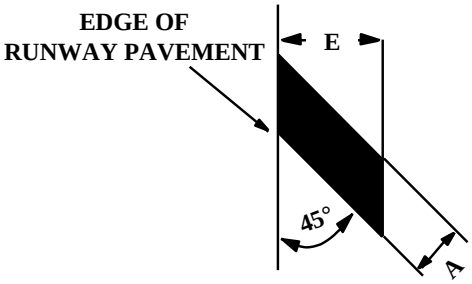
Restricted Use and Hazardous Area Markings



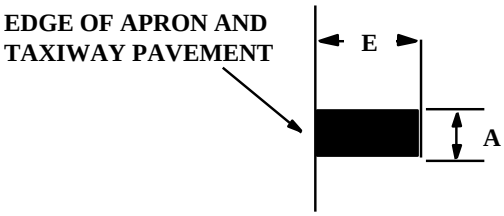
DIMENSIONS	METRES	FEET
A	0.9 min.	3 min.
B	1.5 min.	5 min.
C	15 max.	50 max.
D	30 max.	100 max.



RUNWAY OVERRUN MARKING & CHEVRON DETAIL



RUNWAY SHOULDER MARKING DETAIL



TAXIWAY & APRON SHOULDER MARKING DETAIL

DIMENSIONS	METRES	FEET
A	0.9 min.	3 min.
B	7.5 max.	25 max.
C	15	50
D	30	100
E	1.5 min.	5 min.