



IALA RECOMMENDATION

R0106 (E-106) RETROREFLECTING MATERIAL ON AIDS TO NAVIGATION MARKS WITHIN THE IALA MARITIME BUOYAGE SYSTEM

Edition 2.1

June 2017

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DOCUMENT HISTORY

Revisions to this document are to be noted in the table prior to the issue of a revised document.

Date	Details	Approval
May 1998	1 st issue	Council session 19
7 December 2005	Edition 1.1. Formatted to reflect IALA documentation hierarchy	Council session 37
16 June 2017	Annex A, Pages 4-6 Edition 2. New tables added to Annex A for Standard and Comprehensive codes.	Council session 64
September 2020	Edition 2.1 Editorial corrections.	

THE COUNCIL

RECALLING:

- 1 The function of IALA with respect to Safety of Navigation, the efficiency of maritime transport and the protection of the environment.
- 2 Article 8 of the IALA Constitution regarding the authority, duties and functions of the Council.

RECOGNIZING:

- 1 that some Authorities require only a method (the Standard Code) whereby an aid can be detected with a degree of identification, especially for lateral marks. Others, such as the Scandinavian countries with complicated channels and archipelagos frequented by small craft, require a method (the Comprehensive Code) giving more detailed identification of an aid.
- 2 that, as retroreflecting material which appears as black by day shows as white when illuminated at night, blue material should be used in the Comprehensive Code as being the best compromise where black day colour is appropriate.

NOTING:

- 1 that the use of retroreflecting material on aids to navigation is becoming increasingly widespread particularly in the case of unlighted aids where the projection of a light by a user, (which may range from a hand-held spotlight to a powerful searchlight), can assist to locate an aid and enhance identification of that aid.
- 2 the need to harmonise the ways in which retroreflecting material are used.

ADOPTS the Recommendation described below as the codes to be used for marking aids to navigation by retroreflecting material,

CONSIDERING the proposals of the IALA Engineering and Sustainability Committee and the results of trials carried out to determine how retroreflecting material could be best displayed on aids to navigation to give the optimum information to the mariner without incurring undue increased maintenance problems for the Authority,


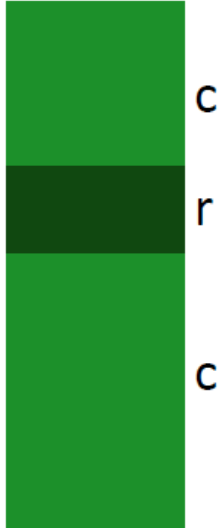
INVITES members and marine aids to navigation authorities worldwide to implement the provisions of the Recommendation,

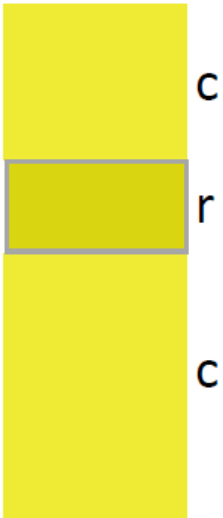
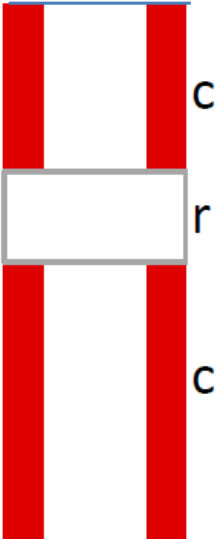
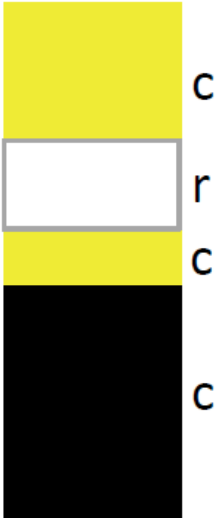
RECOMMENDS that National members and other appropriate Authorities providing marine aids to navigation services comply with either the Standard Code or Comprehensive Code set out below, as appropriate and promulgate this information through maritime publications.


1. STANDARD CODE

C: Colour of the Mark

R: Retroreflecting Material

Aspect by Night	Type of Mark and Code
	<p>Red Lateral Marks</p> <p>One red band or red shape; i.e. a square in Buoyage Region A or a triangle in Buoyage Region B.</p>
	<p>Green Lateral Marks</p> <p>One green band or green shape; i.e. a triangle in Buoyage Region A or a square in Buoyage Region B.</p> <p>In principle, green buoys should carry only one green band</p>

Aspect by Night	Type of Mark and Code
	<p>Yellow Special Marks</p> <p>One yellow band or a yellow X, or yellow symbol. Only one yellow band may be used on a special mark.</p>
	<p>Safe Water Marks</p> <p>White bands, letters, numerals or symbols.</p>
	<p>Cardinal Marks</p> <p>(e.g. South Cardinal Marks)</p> <p>White bands, letters, numerals or symbols.</p>

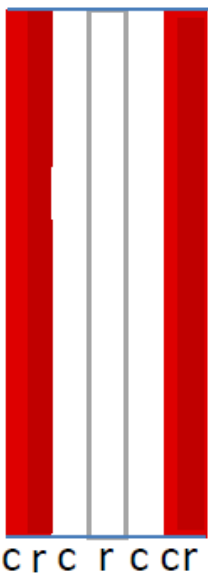
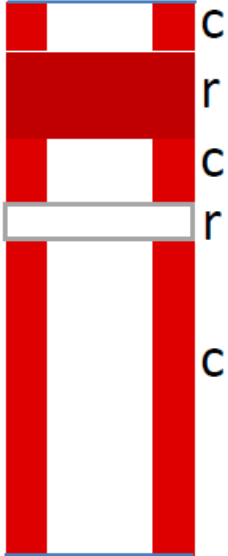
Aspect by Night	Type of Mark and Code
	<p>Isolated Danger Marks</p> <p>White bands, letters, numerals or symbols.</p>


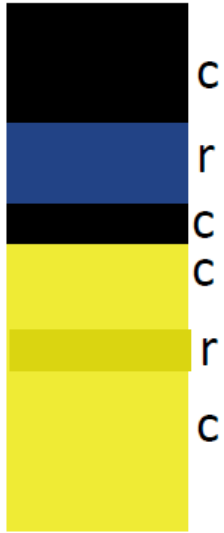

2. COMPREHENSIVE CODE



C: Colour of the Mark

R: Retroreflecting Material


Green and red lateral marks, and yellow special marks, are the same as those in the Standard Code.

Aspect by Night		Type of Mark and Code
		<p>Safe Water Marks</p> <p>A combination of Red and White horizontal bands or stripes. At least one band or stripe of each colour.</p> <p>The red bands or stripes must be at least twice the width of the white bands or stripes.</p> <p>The separation distance between the colours must be at least twice the width of the white bands or stripes.</p>

Aspect by Night	Type of Mark and Code
	<p>Isolated Danger Marks</p> <p>Blue and red horizontal bands or stripes. At least one band of each colour.</p> <p>The blue and red bands should be of equal width and separated by a distance at least equal to the width of a band.</p>
	<p>North Cardinal Marks</p> <p>A horizontal blue band on the black portion of the mark and a horizontal yellow band on the yellow portion of the mark.</p> <p>The blue bands must be at least twice the width of the yellow bands.</p> <p>The separation distance must be at least twice the width of the yellow bands.</p>
	<p>East Cardinal Marks</p> <p>Two horizontal blue bands on the upper black portion of the mark.</p>

Aspect by Night	Type of Mark and Code
	<p style="text-align: center;">South Cardinal Marks</p> <p>A horizontal yellow band on the yellow portion of the mark and a horizontal blue band on the black portion of the mark.</p> <p>The blue bands must be at least twice the width of the yellow bands.</p> <p>The separation distance must be at least twice the width of the yellow bands.</p>
	<p style="text-align: center;">West Cardinal Marks</p> <p>Two horizontal yellow bands on the upper yellow portion of the mark.</p>

Aspect by Night	Type of Mark and Code
	<p>Red Preferred Channel Lateral Marks</p> <p>Two horizontal red bands separated by a central green band on upper part of the buoy indicates a preferred channel to Starboard in Region A and a preferred channel to Port in Region B.</p> <p>The green and the red bands should be of equal width and separated by a distance at least equal to the width of a band.</p>
	<p>Green Preferred Channel Lateral Marks</p> <p>Two horizontal green bands separated by a central red band on upper part of the buoy indicates a preferred channel to Port in Region A and a preferred channel to Starboard in Region B.</p> <p>The green and the red bands should be of equal width and separated by a distance at least equal to the width of a band.</p>

Aspect by Night	Type of Mark and Code
 <p>CRC CRC CRC CRC CRC CRC</p>	<p><i>Emergency Wreck Mark</i> Vertical yellow band on yellow portion and vertical blue band on blue portion of the mark.</p>