

Swimming pool equipment

Part 5: Additional specific safety requirements and test methods for lane lines and dividing line

Public Review Draft

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Part 5: Additional specific safety requirements and test methods for lane lines and dividing line

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Foreword

This draft Kenya Standard has been prepared by the Aquatic Facilities Subcommittee in accordance with the standard development procedures.

There is need to ensure safety of pool users in aquatic facilities when using pool equipment. The draft standard outlines general safety requirements, test methods, instruction, information and marking with regard to swimming pool equipment.

This draft standard is Part 5 of a series of standards on swimming pool equipment.

In the development of this draft standard the following document was referred to:

BS EN 13451-5:2014 Swimming pool equipment Part 5: Additional specific safety requirements and test methods for lane lines and dividing line

Acknowledgement is hereby made for the assistance derived from this source.

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

Compliance with a Kenya Standard does not of itself confer immunity from legal obligations.

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1 Scope

This draft Kenya Standard specifies safety requirements for lane lines and dividing line in addition to the general safety requirements of KS 2793-1:2018 and should be read in conjunction with it.

The requirements of this specific standard take priority over those in KS 2793-1:2018

This part of KS 2793 is applicable to manufactured lane lines for use in competition and training and dividing line for use in classified swimming pools.

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.

KS 2793-1:2018, Swimming pool equipment- Part 1: General safety requirements and test methods

3 Terms and definitions

For the purposes of this document, the terms and definitions given in KS 2793-1:2018 and the following apply.

3.1

lane line

linear floating device that divides the water surface into areas to mark swimming lanes

3.2

dividing line

device located on the water surface that divides the water surface into different areas

4 Lane lines

4.1 Safety requirements

4.1.1 Design

Lane lines shall extend over the full length of the swimming lane.

Where floats are fitted, they shall extend over the full length as an unbroken series without gaps.

NOTE Dimensional requirements for competitive use, stipulated by the governing body FINA (Federation Internationale Natation Amateur), are given in [1] for information.

4.1.2 Structural integrity

The lane line, its fixings and the tensioning device shall withstand a tensile force of 15 kN.

4.1.3 Tensioning device

A device shall be fitted to tension the lane line after mounting in such a way that it maintains a straight position.

4.1.4 Safety link

A safety link designed to break at a force of $(7,5 \pm 1,2)$ kN shall be fitted on each lane line.

4.1.5 Entrapment

The dimension of any variable opening shall comply with the requirements in accordance with KS 2793-1:2018 4.7

4.1.6 Crushing

If floats are used, a device (e.g. a spring) shall be fitted to maintain their continuity without gaps. Parallel front surfaces of two adjacent floats should be avoided.

4.1.7 Buoyancy

The lane lines shall have a positive buoyancy in such a way that at least one half to maximum two thirds of the height of the device float above the water surface.

4.1.8 Safe operation

The lane lines, the tensioning device and the fixings shall be designed in such a way that a self-loosening action is not possible.

4.2 Test methods

The requirements of 4.1 shall be verified by the most appropriate method: measurement, visual examination or practical tests.

5 Dividing lines**5.1 General**

A lane line according to Clause 4 may be used as dividing line. In this case the requirements given in Clause 4 is applicable.

A dividing line assembly consists of a rope, two rope holders and a tensioning device.

5.2 Forms

The following forms exist:

- Form A: plastic rope;
- Form 8: steel wire rope made of coated steel wire;

- Form C: steel wire rope made of coated steel wire provided with floats or floating markers (plastic balls, small flags, signs);
- Form D: semi-rigid hose.

5.3 Safety requirements

5.3.1 General

When being used or assembled, all accessible edges of the diving ropes shall be rounded to a radius of not less than 1 mm.

5.3.2 Diving rope

Dividing lines shall have a thickness of at least 20 mm (excluding any floats). The breaking force shall be not less than 20 000 N.

The elongation of the dividing line shall not exceed 2,5 %.

Dividing lines shall be able to float or shall be provided with floats having a diameter of $d \geq 80$ mm.

Markers having the shape of plastic ball shall have a diameter of $d \geq 80$ mm.

Wire ropes shall be provided with a coating having a thickness of at least 1 mm.

The rope surface, the floats and the markers shall be in a colour that contrasts with the water.

5.3.3 Diving rope holders

Both rope holders shall each withstand a stress parallel to the water surface of 20 000 N without undergoing permanent deformation.

The diving rope holders shall not constitute a tripping hazard in the pool surround or at the pool edge.

5.3.4 Tensioning devices

Accessible openings of turnbuckles shall not exceed 8 mm.

5.4 Test method

5.4.1 General

Unless otherwise specified in 5.4.2 and 5.4.3, compliance with the requirements specified in 5.3 is verified, for example, by measurement and inspection.

5.4.2 Testing of diving ropes

The breaking force and elongation of steel wire ropes (form 8 and form C) are tested in accordance with EN 12385-1 and that of form A and form Din accordance with EN ISO 2307.

5.4.3 Testing of diving rope holders

The rope holder is installed or firmly clamped as befits the design of the casing, after which a quasi-static tensile load of 20 000 N is applied horizontally for 10 s in the direction of the dividing line. There shall be no visible deformation after the load is removed.

5.5 Marking

Dividing lines shall be clearly marked with the name or the sign of the manufacturer, supplier or importer.

At his own responsibility, the manufacturer may refer to KS 2793-5 to prove compliance of the dividing lines with this standard.

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