



ENGINEERED
FOR HOCKEY

FIH approved field equipment

HOCKEY5s REBOUND BOARDS

Performance & quality requirements

VER. 1.3

1 Introduction

Rebound boards are an integral part of HOCKEY5s; they define the playing area and are used tactically by players as a way of moving the ball around the court. Rebound boards therefore need to allow a ball to rebound in a predictable and consistent way; whilst also ensuring their design does not create a hazard to players or those installing or moving them. Additionally, the boards need to be of sufficient quality to withstand repeated ball impacts and exposure to the climate.

As part of the FIH's strategy to develop the game and provide reassurance to those investing in hockey facilities, the FIH Quality Programme has developed this guide that defines the quality requirements for HOCKEY5s rebound boards.

This Standard refers to International (ISO) and European (EN) standards. Where equivalent or similar national or regional standards exist, they may also be used to demonstrate compliance with the quality requirements of this Standard.

2 Background

The Rules of HOCKEY5s (clause 1.4) state:

Boundary-boards, ideally with a height of 25 cm, mark the side-lines and back-lines but not the goal-lines; the boards are placed against the outside of the lines.

HOCKEY5s may be played with different size boundary-boards or even no boards at all.

Boundary-boards ideally should enable a true rebound in terms of the speed and angle of the ball onto and off the boards. They should be able to be carried and joined easily, with non-hazardous fixings, such that they are stable structures and give a true rebound along their full length. Their construction should ideally be of materials which are weather-proof and resistant to court watering.

3 Approval process

For a rebound board to be registered as an FIH Approved product the following process needs to be followed:

1. The board manufacturer (or supplier) shall become a member of the FIH Quality Programme (see Appendix B and contact facilities@FIH.ch for details).
2. The board manufacturer should submit three representative sections of the board to a test institute able to undertake all the necessary tests, to the standards of accuracy and reproducibility stipulated by the FIH. Ideally the test institute should operate an ISO accredited quality management programme.
3. The results obtained should be reported in English and be sent to the FIH by the test institute, for review.
4. If a board is found to meet the quality levels detailed in this guide, they shall be granted the right to be designated a *FIH Approved HOCKEY5s Rebound Board*.

5. A board type shall remain approved providing the manufacturer remains a member of the FIH Quality Programme; no boards are found to be non-compliant with this guide; and the specification and construction of the board does not change.

4 Classes of approved rebound board

There are two classes of FIH Approved Rebound Board:

Class 1 Rebound Boards

Class 1 boards are 250mm high (as recommended for higher level competitions) and incorporate some form of structure to ensure board alignment. They are most commonly used for competitions and tournaments, where alignment of the boards is visually important.

Class 1 boards may be free standing, socketed or, where applicable, fence mounted.

Class 2 Rebound Boards

Class 2 boards weigh less than 10 kg and are designed to be easy to move and erect. They are most often used on courts that are set out on full-size fields, where the boards have to be laid out and removed quickly between sessions of play.

Class 2 boards may be lower in height than those normally used for higher level competitions.

Note: Individual competition rules will normally specify if the boards have to be 250mm high.

5 Construction & performance criteria

5.1 Board height

Class 1 Rebound Boards

The vertical height of the boards should be 250 ± 10 mm.

The rebound board should be vertical or inclined towards the playing surface with an angle of no more than 6° from the vertical.

Class 2 Rebound Boards

The vertical height of the boards should be between 150 mm and 250 mm.

The rebound board should be vertical or inclined towards the playing surface with an angle of no more than 6° from the vertical.

5.2 Rebound from the boards

- 5.2.1 When tested using the procedure described in the Appendix A1, the horizontal rebound in either test position should be ≥ 1.2 m, and the variation between the two test positions should be less than 250 mm.

5.2.2 When tested using the procedure described in the Appendix A2, the ball rebounds from the board should not lift from the playing surface to a height greater than 25 mm over a distance of between 0.5m and 1.5 m from the board.

5.2.3 The rebound characteristics of the boards should be consistent (± 125 mm) irrespective of whether they are dry or wet.

5.3 Board alignment

Class 1 Rebound Boards

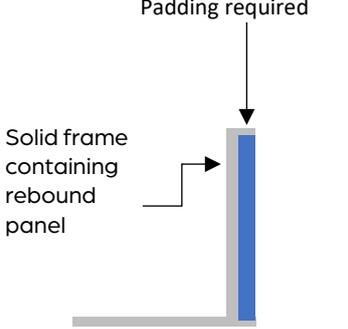
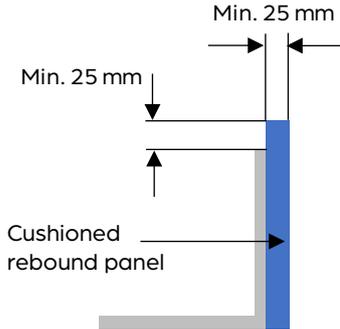
The boards should be designed so they do not move excessively out of alignment as a result of balls repeatedly striking them. Excessive movement is considered to mean, that when tested using the procedure described in Appendix A, the boards deviate from alignment so there is a step between adjacent boards of ≥ 15 mm, or a length of boarding bows over a 2m length by ≥ 50 mm.

6 Safety in use

There should be no bracing structures on the rear of the boards that may cause a trip hazard to a player stepping over the board in an uncontrolled manner.

The boards (including any free standing weights) should be designed so that there are no crushing, shearing, finger entrapment or cutting hazards. This should be verified using the procedures described in EN 913.

The top of the board should be padded to prevent injury in the event of a player falling onto it. The padding should be at least 25 mm thick and a minimum of 25mm wide or the width or the board, whichever is less.

 <p>Padding required</p> <p>Solid frame containing rebound panel</p>	 <p>Min. 25 mm</p> <p>Min. 25 mm</p> <p>Cushioned rebound panel</p>	
<p>Support frame and/or rigid panel frame – padding required</p>	<p>Cushioned rebound panel protrudes above support frame – no additional padding required</p>	<p>Total foam construction, no additional padding required</p>

7 Quality of materials & durability

The design of the rebound panel and materials used in its construction should be robust enough to withstand repeat hockey ball impacts. The ability of the foam to achieve this should be covered by a manufacturer's guarantee.

All materials should be non-toxic and comply with all national environmental and toxicology regulations. Where there are no applicable regulations, the materials should satisfy the requirements of Table 2, Category III of European Standard EN 71-3 and the European Commission REACH Regulations, etc.

The use of chlorofluorocarbon (CFC) foams is not permitted.

When selecting materials, consideration should be given to the eventual disposal of the boards having regard to future recycling where possible, and to any possible environmental impact through disposal.

Support frames should be made from plastic, non-corrosive metals (aluminum, galvanized or powder coated steel, etc). Powder coating should be undertaken in accordance with EN 12206 or EN 13438, as appropriate. Galvanized treatments to steel components should be applied in accordance with EN ISO 1461.

Vinyl covers should be manufactured from UV resistant rip-stop grade PVC or similar. Velcro fasteners, etc should be double stitched.

If the boards are being described as being manufactured from flame retardant foam, this should be validated using an internationally recognised test method, such as BS 6807 using Crib 5.

8 Assembly, installation, and maintenance instructions

The manufacturer should provide comprehensive written instructions for assembly, installation, transportation, and safe storage of the boards.

9 Warranty

The boards should be supplied with a manufacturer's warranty that provides cover against manufacturing defects and the premature failure (excluding misuse or vandalism) of materials. The minimum duration of the warranty shall be two years (noting manufacturers may include a disclaimer against premature failure due to abuse, misuse, and lack of maintenance).

APPENDIX A – TEST METHODS

The test apparatus comprises:

- A means of projecting the ball along the test surface, without spin, at a velocity of $7.5 \pm 1\text{m/s}$ ($\approx 25\text{ km/h}$);
- Video camera and measuring scale capable of determining the distance the ball rebounds, and whether it bounces off the surface after its impact with the board;
- FIH Approved Hockey Ball

Test surface

Dry non-filled (Global category) hockey turf

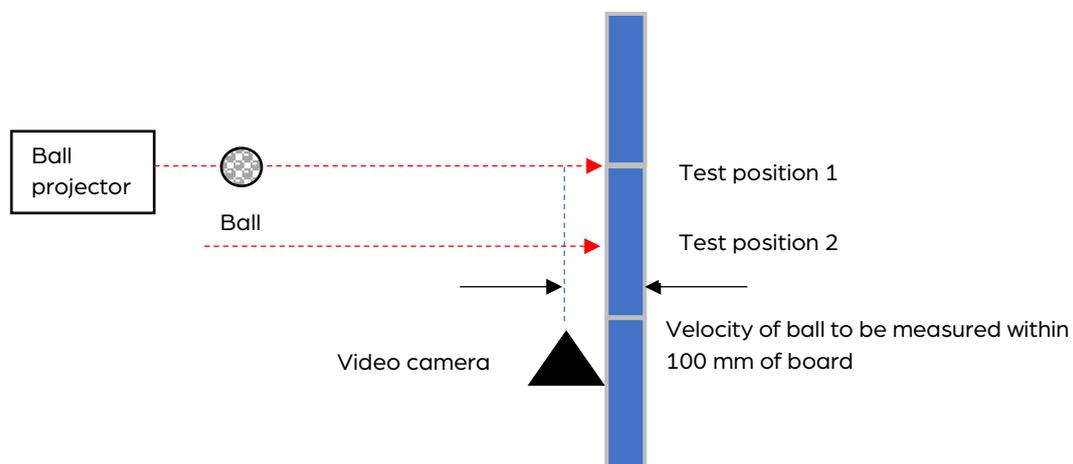
Rebound boards & test positions

Tests should be made on a section comprising three boards or a length of at least 4m, whichever is longer.

Tests should be made at the joint between two boards, and the central point of the middle board.

A1. Test procedure – horizontal rebound

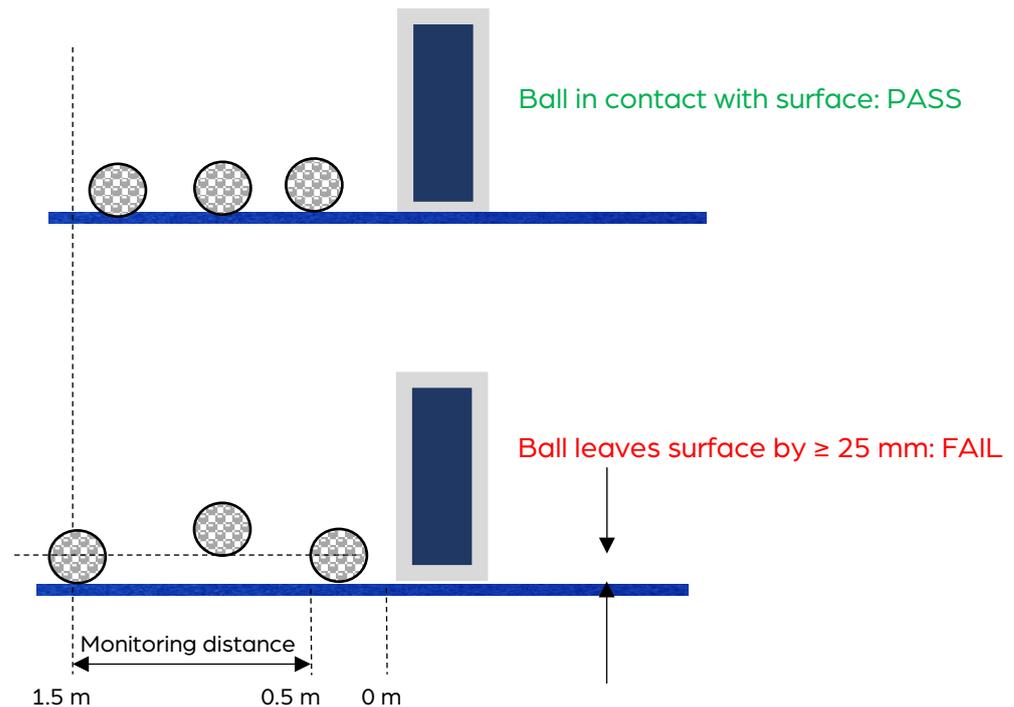
- 1 Adjust the ball firing device so the ball is rolling smoothly along the surface, before it strikes the rebound board and has a horizontal velocity of 7.5 m/s.



- 2 At each test position, project the ball onto the board and record the distance it rebounds. Repeat the procedure five times.
- 3 For each test position calculate the mean rebound distance.
- 4 Calculate the variation in rebound between the two test positions.

A2. Test procedure – vertical rebound

- 1 Adjust the ball firing device so the ball is rolling smoothly along the surface, without spin, before it strikes the rebound board and has a horizontal velocity of 7.5 m/s.
- 2 At each test position, project the ball onto the board and review the rebound of the ball from the boards to determine if the ball lifts from the surface. Repeat the procedure five times.

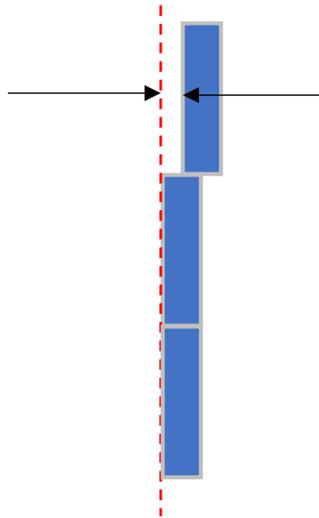


Test procedure – board alignment (class 1 boards only)

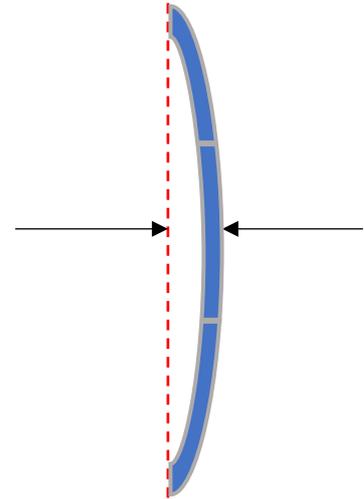
Fire 20 balls onto the board at each of the two positions detailed in A1 and determine



Boards aligned
after test – pass



Step between boards
after test ≥ 15 mm – fail



Bow after test ≥ 50 mm
over 2.0m length – fail

Appendix B – Membership of FIH Quality Programme Manufacturers of Sports Equipment

The **FIH Quality Programme** provides consistent and dependable industry standards for a range of equipment and facilities used by the game of hockey.

As a manufacturer of FIH Approved field equipment a company becomes part of an exclusive group that is working in partnership with the FIH to ensure the quality and performance of Hockey equipment.

In addition to demonstrating their commitment to hockey and showcasing industry best practices, they benefit from:

- The **right to use FIH Approved logos** on their approved boards and packaging



- **Input into industry development** through attendance at FIH technical meetings and the ability to provide feedback on any changes made to the *FIH Hockey Equipment Standards*.
- **Increased worldwide exposure and marketing** through recognition by the FIH of your boards and your presence on the FIH's website. Information will include company name, website, and a list of FIH Approved equipment you manufacture.

Membership criteria

Either manufacturers or brand owners¹ of hockey equipment satisfying the requirements of this Standard may apply to join the FIH Quality Programme, subject to the following conditions:

1. The rebound boards are manufactured under a quality management system (ISO 9001 or similar) at the time of application and for the duration of the board's approval.

2. The manufacturing company complies with all national and local employment laws and the *United Nations Convention on the Rights of the Child*.
3. Payment of the appropriate annual licensing fee, as advised by the FIH.

Suppliers of white label products that have previously been shown to comply with this Standard may also apply for FIH Approval of the product under their own name, subject to them entering a separate licensing contract to the manufacturer and payment of the appropriate licensing fee.

Notes:

1. Brand owners are defined as companies that own the intellectual properties rights to a goal but outsource the manufacturing to a third-party company.

FIH Field Equipment Standards

Whilst every effort has been made to ensure the accuracy of the information contained in this series of publications, any party who makes use of any part of the Standard in the development of a hockey facility shall indemnify the International Hockey Federation (FIH), its servants, consultants or agents against all claims, proceedings, actions, damages, costs, expenses and any other liabilities for loss or damage to any property, or injury or death to any person that may be made against or incurred by the FIH arising out of or in connection with such use.

Compliance with the requirements detailed in the Standard by a User does not of itself confer on that User immunity from their legal obligations.

Compliance with the requirements detailed in the Standards by a User constitute acceptance of the terms of this disclaimer by that User.

FIH reserve the right to amend, update or delete sections of the Standard at any time, as they deem necessary.

Any questions about this document should be addressed to:

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