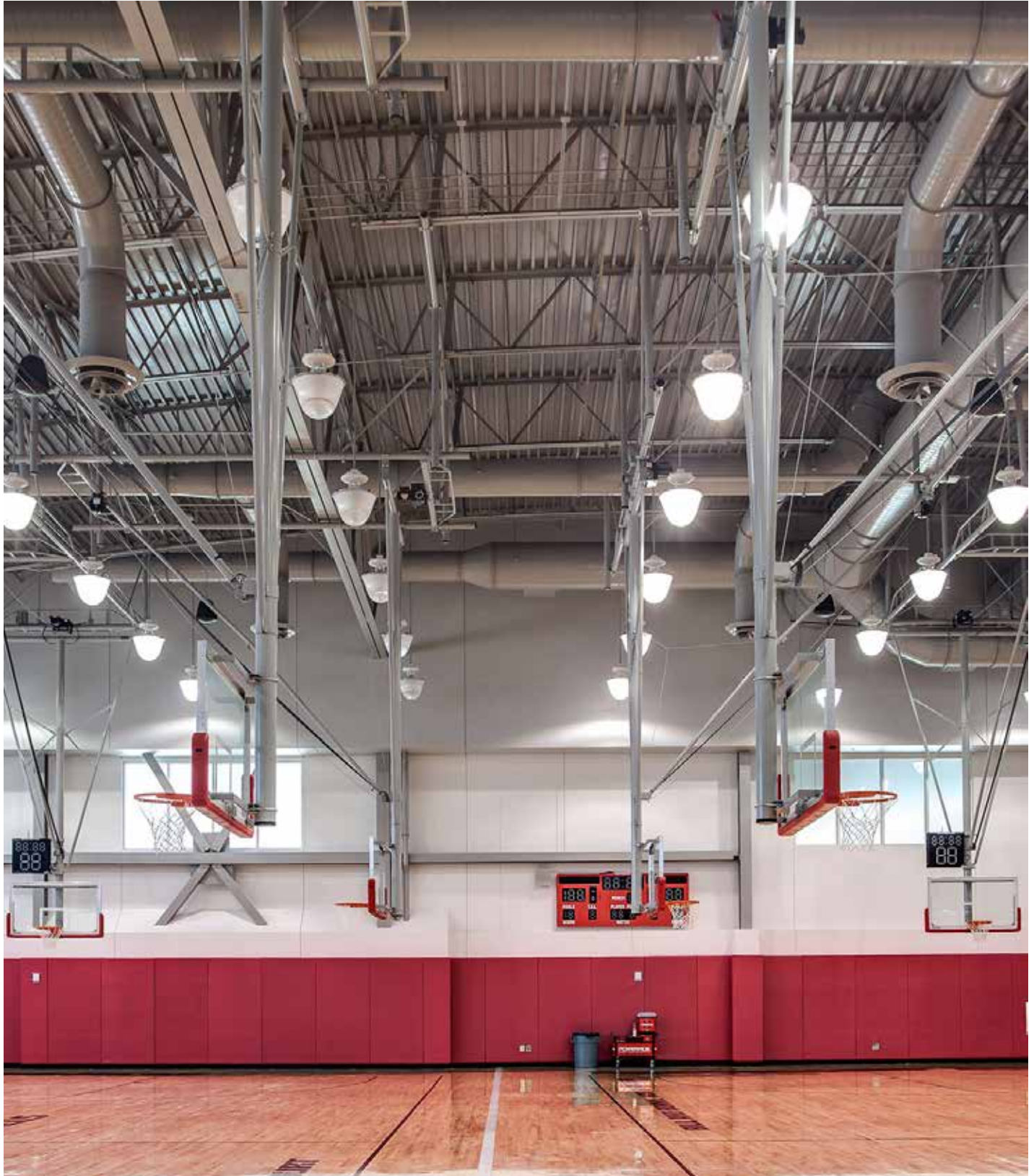
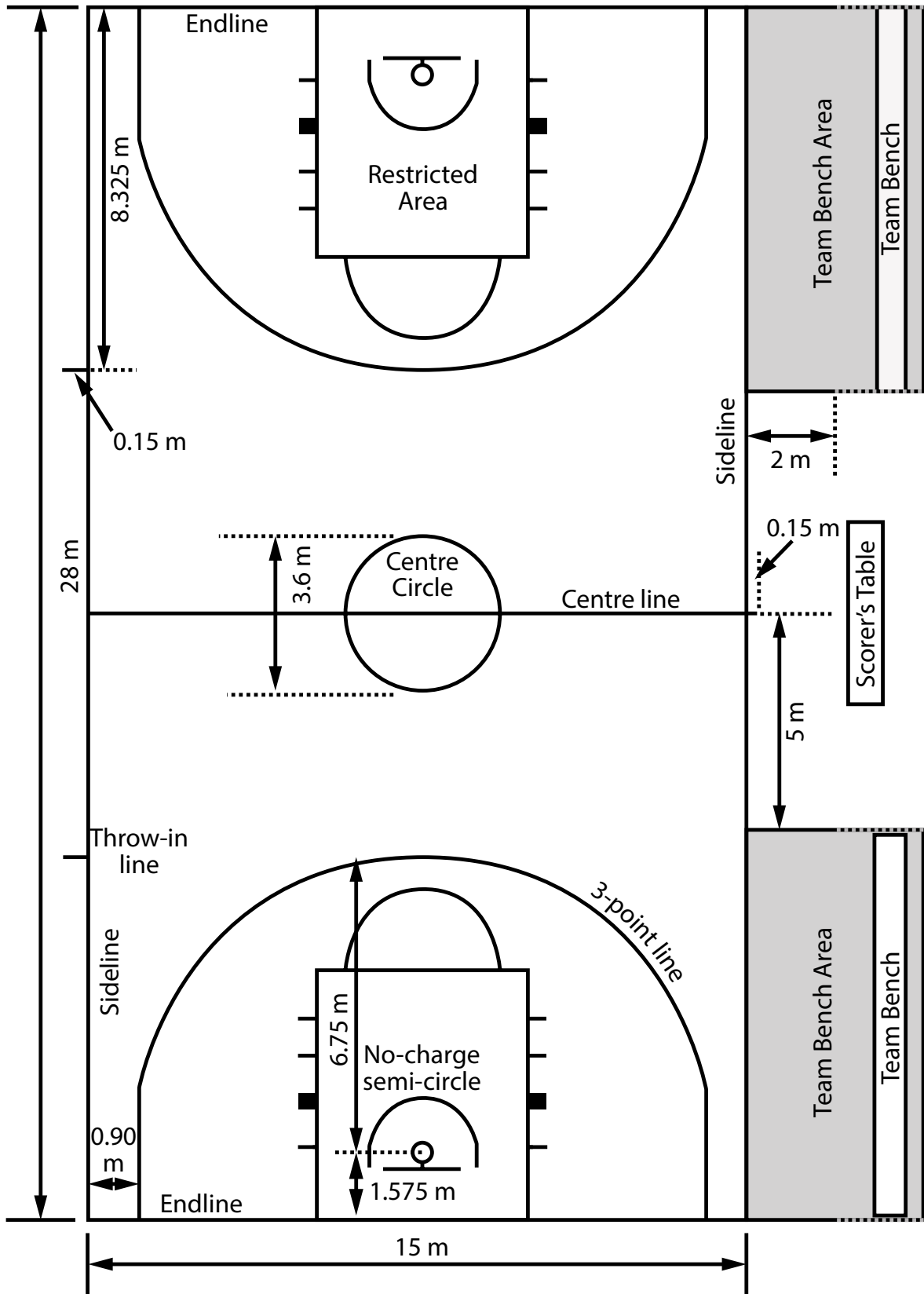


GYMNASIUM EQUIPMENT COURT DESIGN & RULES

INTERNATIONAL BASKETBALL AND VOLLEYBALL



International/Olympic (FIBA)—Basketball Court Diagram (Men's and Women's)



International/Olympic (FIBA)—Basketball Court Layout and Equipment Rules (Men's & Women's)

RULE TWO – COURT AND EQUIPMENT

Article 2 Court

2.1. Playing court

The playing court shall have a flat, hard surface free from obstructions (Diagram 1) with dimensions of 28 m in length by 15 m in width measured from the inner edge of the boundary line.

2.2. Backcourt

A team's backcourt consists of its team's own basket, the inbounds part of the backboard and that part of the playing court limited by the endline behind their own basket, the sidelines and the centre line.

2.3. Frontcourt

A team's frontcourt consists of the opponents' basket, the inbounds part of the backboard and that part of the playing court limited by the endline behind the opponents' basket, the sidelines and the inner edge of the centre line nearest to the opponents' basket.

2.4. Lines

All lines shall be drawn in white colour, 5 cm in width and clearly visible.

2.4.1. Boundary line

The playing court shall be limited by the boundary line, consisting of the endlines and the sidelines. These lines are not part of the playing court. Any obstruction including seated team bench personnel shall be at least 2 m from the playing court.

2.4.2. Centre line, centre circle and free-throw semi-circles

The centre line shall be marked parallel to the endlines from the mid-point of the sidelines. It shall extend 0.15 m beyond each sideline. The centre line is part of the backcourt. The centre circle shall be marked in the centre of the playing court and have a radius of 1.80 m measured to the outer edge of the circumference. If the inside of the centre circle is painted, it must be the same colour as the restricted areas. The free-throw semi-circles shall be marked on the playing court with a radius of 1.80 m measured to the outer edge of the circumference and with their centres at the mid-point of the free-throw lines (Diagram 2).

2.4.3. Free-throw lines, restricted areas and free-throw rebound places

The free-throw line shall be drawn parallel to each endline. It shall have its furthest edge 5.80 m from the inner edge of the endline and shall be 3.60 m long. Its mid-point shall lie on the imaginary line joining the mid-point of the 2 endlines. The restricted areas shall be the rectangular areas marked on the playing court limited by the endlines, the extended free-throw lines and the lines which originate at the endlines, their outer edges being 2.45 m from the mid-point of the endlines and terminating at the outer edge of the extended free-throw lines. These lines, excluding the endlines, are part of the restricted area. The inside of the restricted areas must be painted in one colour. Free-throw rebound places along the restricted areas, reserved for players during free throws, shall be marked as in Diagram 2.

2.4.4. 3-point field goal area

The team's 3-point field goal area (Diagram 1 and Diagram 3) shall be the entire floor area of the playing court, except for the area near the opponents' basket, limited by and including:

- The 2 parallel lines extending from and perpendicular to the endline, with the outer edge 0.90 m from the inner edge of the sidelines.
- An arc of radius 6.75 m measured from the point on the floor beneath the exact centre of the opponents' basket to the outer edge of the arc. The distance of the point on the floor from the inner edge of the mid-point of the endline is 1.575 m. The arc is joined to the parallel lines.

The 3-point line is not part of the 3-point field goal area.

2.4.5. Team bench areas

The team bench areas shall be marked outside the playing court limited by 2 lines as shown in Diagram 1. There must be 14 seats available in the team bench area for the team bench personnel which consists of the coaches, the assistant coaches, the substitutes, the excluded players and the team followers. Any other persons shall be at least 2 m behind the team bench.

2.4.6. Throw-in lines

The 2 lines of 0.15 m in length shall be marked outside the playing court at the sideline opposite the scorer's table, with the outer edge of the lines 8.325 m from the inner edge of the nearest endline.

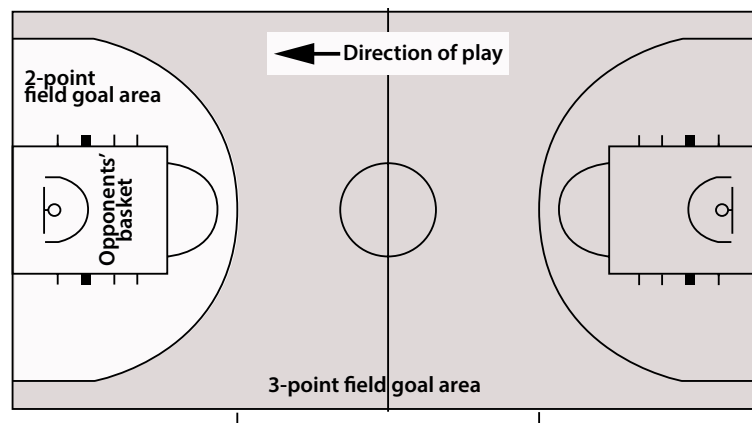
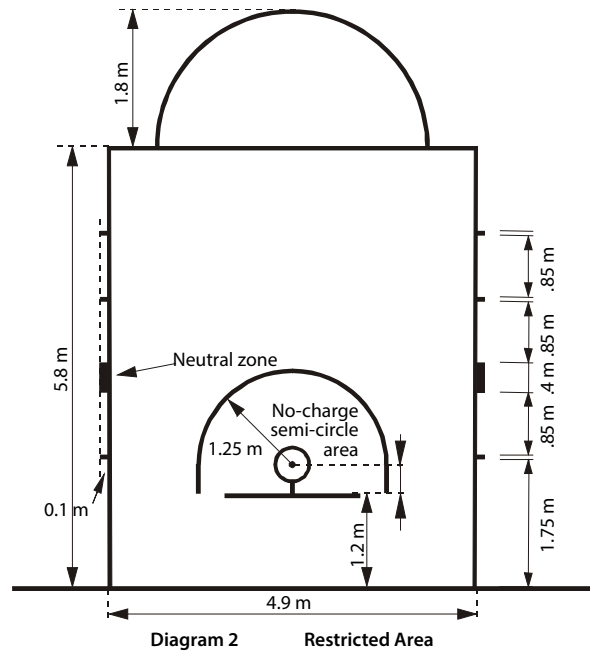
2.4.7. No-charge semi-circle areas

The no-charge semi-circle lines shall be marked on the playing court, limited by:

- A semi-circle with the radius of 1.25 m measured from the point on the floor beneath the exact centre of the basket to the inner edge of the semi-circle. The semi-circle is joined to:
- The 2 parallel lines perpendicular to the endline, the inner edge 1.25 m from the point on the floor beneath the exact centre of the basket, 0.375 m in length and ending 1.20 m from the inner edge of the endline.

The no-charge semi-circle areas are completed by imaginary lines joining the ends of the parallel lines directly below the front edges of the backboards.

The no-charge semi-circle lines are part of the no-charge semi-circle areas.



2.5 Position of the Scorer's table and substitution chairs (Diagram 4)

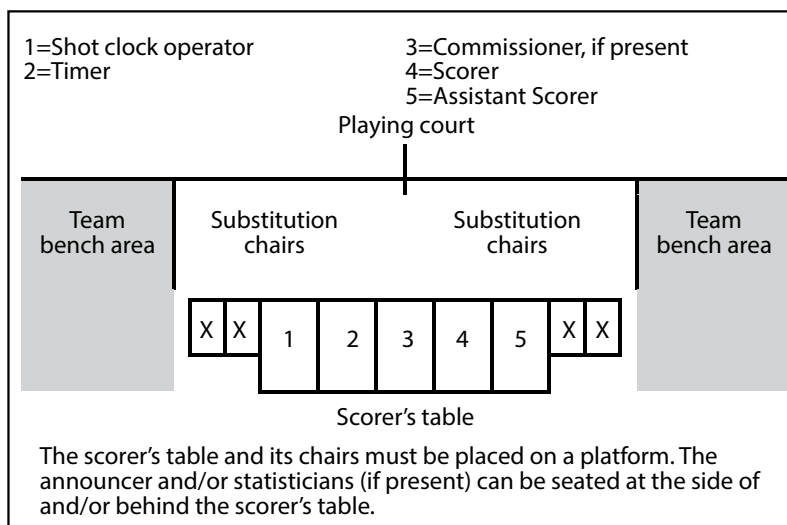


Diagram 4 Scorer's table and substitution chairs

Article 3 Equipment

The following equipment will be required:

- Backstop units, consisting of:
 - Backboards
 - Baskets comprising (pressure release) rings and nets
 - Backboard support structures including padding
- Basketballs
- Game clock
- Scoreboard
- Shot clock
- Stopwatch or suitable (visible) device (not the game clock) for timing time-outs
- 2 separate, distinctly different and loud signals, one of each for the
 - shot clock operator,
 - scorer/timer.
- Scoresheet
- Player foul markers
- Team foul markers
- Alternating possession arrow
- Playing floor
- Playing court
- Adequate lighting

Basketball Equipment Appendix

Throughout this section entitled Basketball Equipment, all references made to a timer, scorer, shot clock operator, etc. in the male gender also apply to the female gender. It must be understood that this is done for practical reasons only.

Introduction

The Basketball Equipment section of the Official Basketball Rules specifies all basketball equipment required at a game. Reference to high level competitions indicates that the equipment is essential and imperative for this level and strongly recommended for medium level and all of the other competitions. Reference to medium level competitions indicates that the equipment is essential and imperative for this level and strongly recommended for all other competitions.

This Appendix shall be used by all parties involved directly in the game as well as by basketball equipment manufacturers, local organisers and FIBA for its equipment approval programme and to establish national and international standards.

The competitions are divided into three (3) levels:

- High level competitions (Level 1):
Main FIBA official competitions, as defined in Book 2 – Chapter I of the FIBA Internal Regulations governing the FIBA Competitions. The facilities and equipment required for the following main FIBA official competitions are subject to FIBA approval (Levels 1 and 2): Olympic Tournaments; World Olympic Qualifying Tournaments for Men and Women, World Championships for Men, Women, U-19 and U-17; Zone Championships for Men and Women. All equipment at these competitions must be FIBA approved Level 1 and must display the FIBA logo in the FIBA approved layout.
- Medium level competitions (Level 2):
All other FIBA official competitions as defined in Book 2 – Chapter I of the FIBA Internal Regulations governing the FIBA Competitions, and high level competitions of the national federations.
- Other competitions (Level 3):
All other competitions not included in the above.

Notes:

1. All measurement tolerances are according to DIN ISO Standard 286 (see References [1]) except where other values are explicitly stated.
2. Reference is made to the FIBA publications “Guide to Basketball Facilities for High-Level Competitions” and “Guide to Small Basketball Facilities”.

1 Backstop unit

There shall be two (2) backstop units (Diagram 1), one (1) placed at each end of the playing court and each consisting of the following parts:

- One (1) backboard.
- One (1) basket ring with a ring mounting plate.
- One (1) basket net.
- One (1) basket support structure.
- Padding.

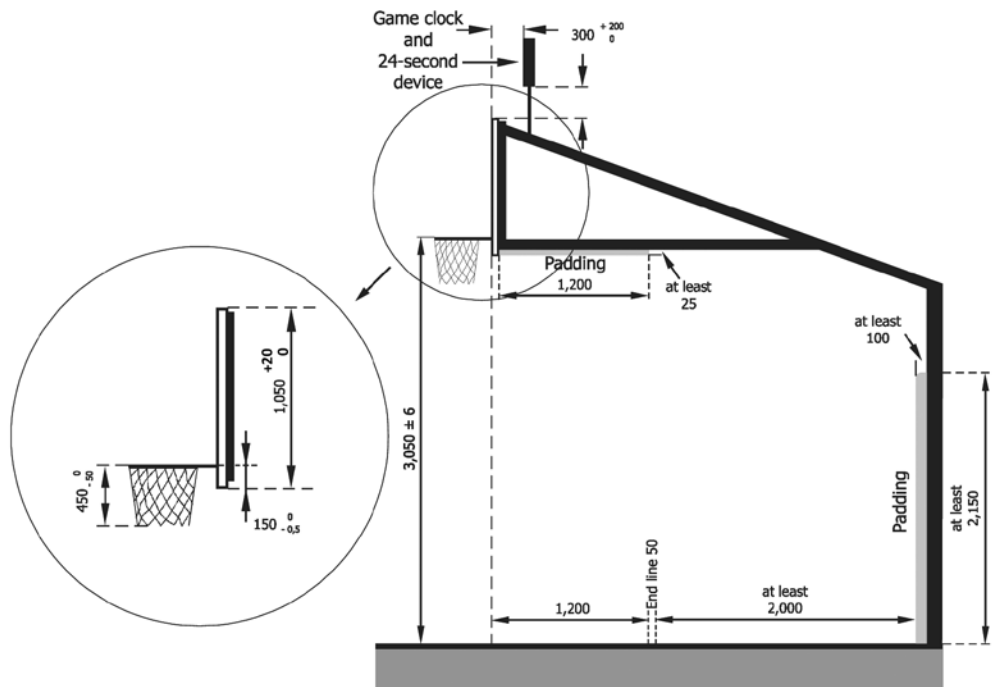


Diagram 1 Backstop unit

2 Backboard

2.1 The backboards shall be made of a suitable transparent material (for Level 1 and 2, of a tempered safety glass), made in one (1) piece, non reflective, with a flat front surface and shall:

- Have a protective framework of the backboard support structure around the outer edge.
- Be manufactured such that, if broken, the pieces of glass do not split off.

2.2 For Level 3, the backboards may be made of other material(s) painted white, but must meet the other above specifications.

2.3 The backboards shall measure 1,800 mm (+ a maximum of 30 mm) horizontally and 1,050 mm (+ a maximum of 20 mm) vertically.

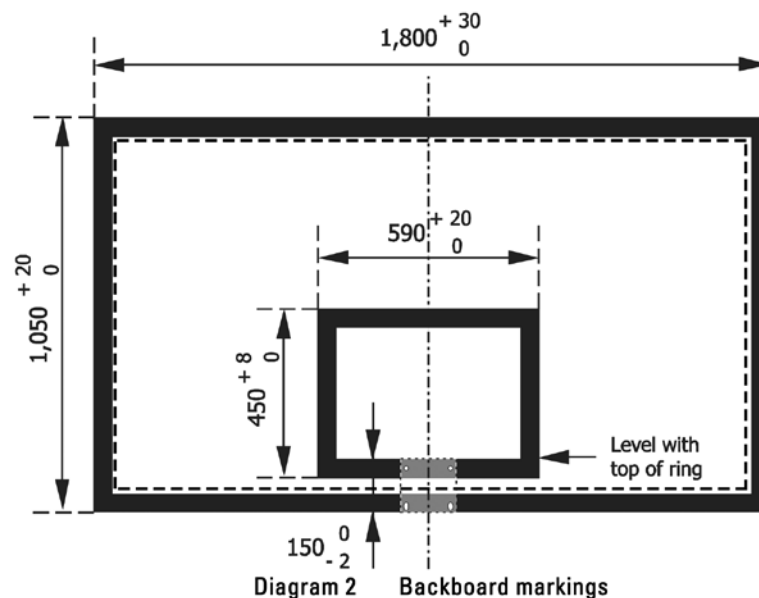
2.4 All lines on the backboards shall be:

- In white, if the backboards are transparent.
- In black, if the white painted backboards are non-transparent.
- 50 mm in width.

2.5 The borders of the backboards shall be marked with a boundary line (Diagram 2) and an additional rectangle behind the ring as follows:

- Outside dimensions: 590 mm (+ a maximum of 20 mm) horizontally and 450 mm (+ a maximum of 8 mm) vertically.
- The top edge of the base of the rectangle shall be level with the top of the ring and 150 mm (- 2 mm) above the bottom edge of the backboard.

2.6 For Levels 1 and 2, each backboard shall be equipped with lighting around its perimeter, mounted on the inside borders of the backboards and which lights up in red only when the game clock signal sounds for the end of a period. The lighting shall be a minimum of 10 mm in width and cover a minimum of 90 % along the edge of the backboard glass area.

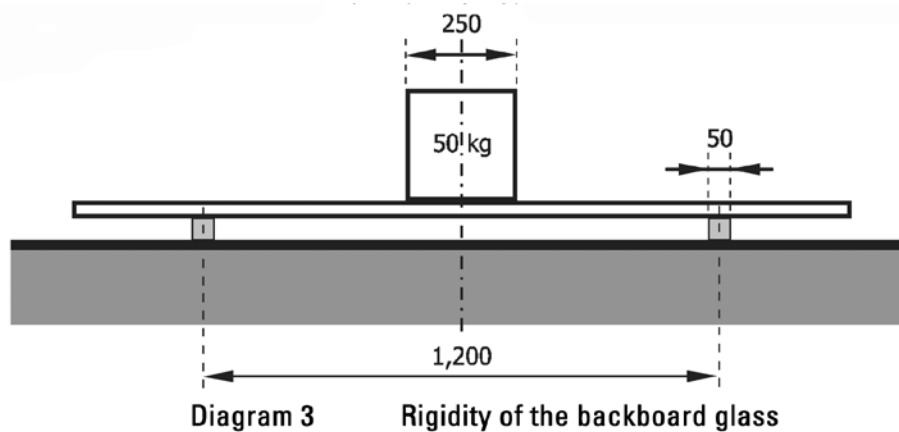


Backboard markings

2.7 The backboards shall be firmly mounted on the backboard support structures at each end of the playing court at right angles to the floor, parallel to the endlines (Diagram 1). The central vertical line on their front surfaces, extended down to the floor, shall touch the point on the floor which lies 1,200 mm from the centre point of the inner edge of each endline, on an imaginary line drawn at right angles to this endline.

2.8 Rigidity test for the backboard tempered safety glass:

- When a square-shaped weight of 50 kg (250 mm wide and high, and 1,100 mm long) is applied along the centre of the backboard glass (without its frame), which is placed horizontally on two (2) parallel wooden bars at a distance of 1,200 mm from each other (Diagram 3), the maximum vertical deformation shall be 3 mm.
- When a basketball is dropped onto the backboard, it shall rebound from it with a minimum rebounding height of 50%.



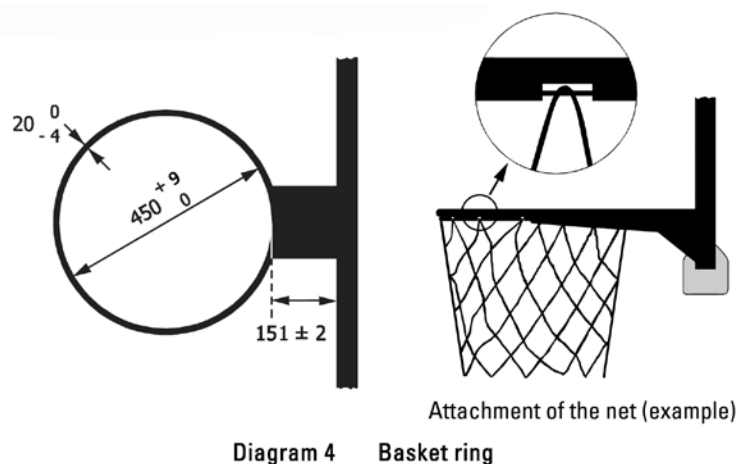
3 Basket ring

3.1 The rings shall be made of solid steel and shall:

- Have an inside diameter of a minimum of 450 mm and a maximum of 459 mm.
- Be painted orange within the following Natural Colour System (NCS) FIBA approved spectrum (see References [2]): 0080-Y70R0090-Y70R1080-Y70R
- Have its metal a minimum of 16 mm and a maximum of 20 mm in diameter.

3.2 The net shall be attached to each ring in 12 places. The fittings for the attachment shall:

- Not have any sharp edges or gaps,
- Have gaps smaller than 8 mm, to prevent fingers from entering,

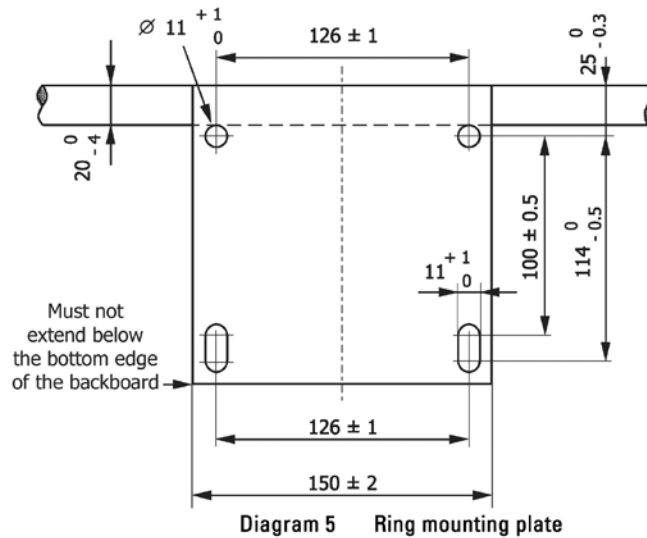


- Not be designed as hooks for Level 1 and 2.

3.3 The rings shall be fixed to the backboard support structures in such a way that any force applied to the ring cannot be transferred to the backboard itself. Therefore, there shall be no direct contact between the ring mounting plate and the backboard (Diagram 5).

3.4 The top edge of each ring shall be positioned horizontally, 3,050 mm (\pm a maximum of 6 mm) above the floor, equidistant from the two (2) vertical edges of the backboard.

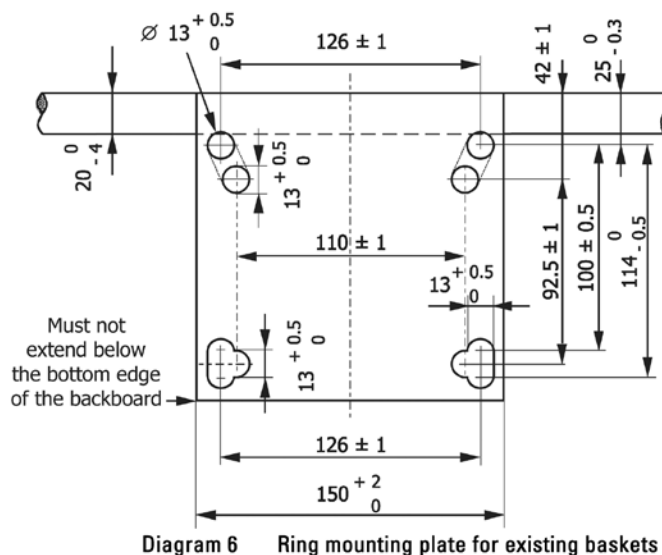
3.5 The point on the inside circumference of the ring nearest the backboard shall be 151 mm (\pm a maximum of 2 mm) from the face of the backboard. Must not extend below the bottom edge of the backboard Ring mounting plate.



3.6 For existing basket support structures, it is recommended that the ring mounting plate be fixed to the framework according to the measurements given in Diagram 6. Must not extend below the bottom edge of the backboard.

3.7 Pressure release rings with the following specifications shall be used for Levels 1 and 2 and are recommended for Level 3:

- It shall have rebound qualities close to those of the fixed ring. The pressure release mechanism shall ensure these characteristics, but not cause any damage to either the ring or the backboard. The design of the ring and its construction shall be such that the players' safety is ensured.
- The pressure release rings shall have a 'positive-lock' mechanism which must not disengage until a static load of a minimum of 82 kg and a maximum of 105 kg has been applied vertically to the top of the ring at the most distant point from the backboard. The pressure release ring mechanism shall be adjustable within the given static load range.



- When the pressure release mechanism is released, the front or the side of the ring shall rotate no more than 30 degrees and no less than 10 degrees below the original horizontal position.
- After release, and with the load no longer applied, the ring shall return automatically and instantly to its original position. No fissures and no permanent deformation of the ring should be observed.
- Both rings must have identical rebound characteristics.

3.8 The rebound/elasticity of the ring and support system should be within 35% - 50% energy absorption range of total impact energy and with a 5% differential between both baskets on the same playing court.

4 Basket net

4.1 The nets shall be made of white cord and shall be:

- Suspended from the rings.
- Manufactured so that they check the ball momentarily as it passes through the basket.
- No less than 400 mm and no more than 450 mm in length.
- Manufactured with 12 loops to attach it to the ring.

4.2 The upper section of the net shall be semi-rigid to prevent:

- The net from rebounding up through or over the ring, creating possible entanglement.
- The ball from becoming trapped in the net or rebounding back out of the net.

5 Backboard support structure

5.1 For Level 1, only mobile or floor-fixed backboard support structures shall be used. This is also recommended for Level 2. For Levels 2 and 3, ceiling or wall mounted backboard support structures may also be used. Ceiling mounted backboards shall not be used in sports halls with a suspension height exceeding 10,000 mm in order to avoid excessive vibration in the support structure.

5.2 The backboard support structure shall be:

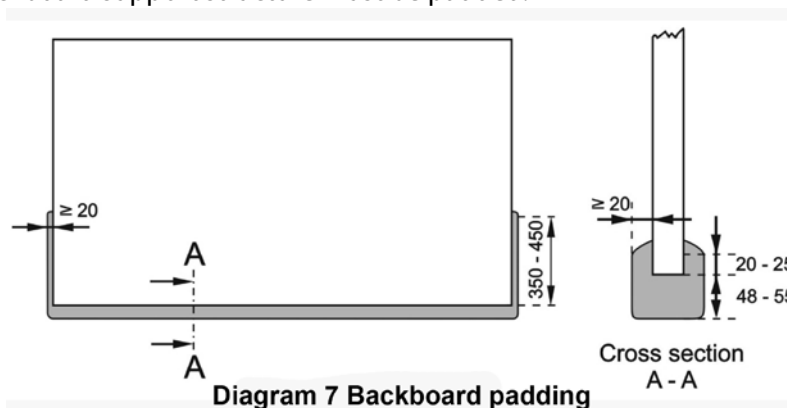
- For Levels 1 and 2, at a distance of at least 2,000 mm including padding, measured from the outer edge of the endline (Diagram 1).
- Of a bright colour, contrasting with the background, so that it is clearly visible to the players.
- Secured to the floor so as to prevent any movement. Should floor anchoring not be possible, an additional weight on the basket support base must be used to prevent any movement.
- Adjusted such as that once the top edge of the ring is at a height of 3,050 mm from the playing floor, this height cannot be changed.

5.3 The rigidity of the backboard support structure with ring shall fulfil the requirements of the EN 1270 norms.

5.4 The visible vibration of the backboard support unit shall end a maximum of four (4) seconds after a dunk shot.

6 Padding

6.1 The backboard and backboard support structure must be padded.



6.2 The padding shall be of a single solid colour and shall be the same colour on both backboards and support structures.

6.3 The padding shall be 20 to 27 mm thick from the front, back and side surface of the backboards. The padding shall be 48 to 55 mm thick from the bottom edge of the backboards.

6.4 The padding shall cover the bottom surface of each backboard and the side surface to a distance of 350 to 450 mm from the bottom. The front and back surface must be covered to a minimum distance of 20 to 25 mm from the bottom of each backboard.

6.5 The padding of the backboard support structure shall cover:

- The vertical edges on each side, to a minimum height of 2,150 mm from the floor and with a minimum thickness of 100 mm (Diagram 1).
- The bottom and side surfaces of the supporting arm of the backboard, from the back surface of the backboard over a minimum length of 1,200 mm along the arm, with a minimum thickness of 25 mm (Diagram 1).

6.6 All padding shall:

- Be constructed so as to prevent limbs from being trapped.
- Have a maximum indentation factor of 50%. This means that when a force is applied suddenly to the padding, the indentation in the padding does not exceed 50% of its original thickness.
- Pass the test according to EN 913, Annex C (see References [3]).

16 Playing court

16.1 The playing court shall be marked by:

- 50 mm lines, as per the Official Basketball Rules.
- A further boundary line (Diagram 11), in a sharply contrasting colour and having a minimum width of 2,000 mm.

The colour of the further boundary line must be the same as that of the centre circle (if painted) and the restricted areas.

16.2 The scorer's table, a minimum of 6,000 mm in length and 800 mm in height, must be placed on a platform of a minimum of 200 mm in height.

16.3 All spectators must be seated at a distance of at least 5,000 mm from the outer edge of the boundary line of the playing court.

16.4 The height of the ceiling or the lowest obstruction above the playing floor shall be a minimum of seven (7) m.

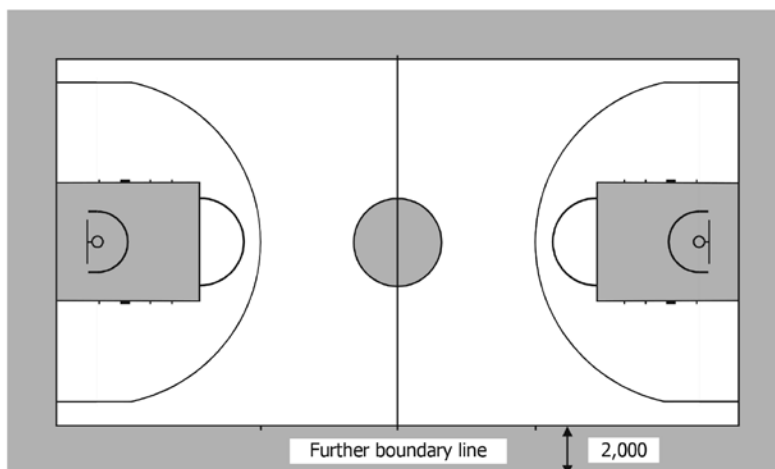


Diagram 11 Playing court

International/Olympic (FIVB)—Volleyball Court Layout and Equipment Rules (Men's & Women's)

1 PLAYING AREA

The playing area includes the playing court and the free zone. It shall be rectangular and symmetrical.

1.1 DIMENSIONS

The playing court is a rectangle measuring 18 x 9 m, surrounded by a free zone which is a minimum of 3 m wide on all sides. The free playing space is the space above the playing area which is free from any obstructions. The free playing space shall measure a minimum of 7 m in height from the playing surface.

For FIVB, World and Official Competitions, the free zone shall measure a minimum of 5 m from the side lines and 6.5 m from the end lines. The free playing space shall measure a minimum of 12.5 m in height from the playing surface.

1.2 PLAYING SURFACE

1.2.1 The surface must be flat, horizontal and uniform. It must not present any danger of injury to the players. It is forbidden to play on rough or slippery surfaces. For FIVB, World and Official Competitions, only a wooden or synthetic surface is allowed. Any surface must be previously approved by the FIVB.

For FIVB, World and Official Competitions, only a wooden or synthetic surface is allowed. Any surface must be previously approved by the FIVB.

1.2.2 On indoor courts the surface of the playing court must be of a light colour.

For FIVB, World and Official Competitions, white colours are required for the lines. Other colours, different from each other, are required for the playing court and the free zone.

1.2.3 On outdoor courts a slope of 5 mm per metre is allowed for drainage. Court lines made of solid materials are forbidden.

1.3 LINES ON THE COURT

1.3.1 All lines are 5 cm wide. They must be of a light colour which is different from the colour of the floor and from any other lines.

1.3.2 Boundary lines

Two side lines and two end lines mark the playing court. Both side lines and end lines are drawn inside the dimensions of the playing court.

1.3.3 Centre line

The axis of the centre line divides the playing court into two equal courts measuring 9 x 9 m each; however the entire width of the line is considered to belong to both courts equally. This line extends beneath the net from side line to side line.

1.3.4 Attack line

On each court, an attack line, whose rear edge is drawn 3 m back from the axis of the centre line, marks the front zone.

For FIVB, World and Official Competitions, the attack line is extended by the addition of broken lines from the side lines, with five 15 cm short lines 5 cm wide, drawn 20 cm from each other to a total length of 1.75 m. The "coach's restriction line" (a broken line which extends from the attack line to the end line of the court, parallel to the side line and 1.75 metres from it) is composed of 15 cm short lines drawn 20 cm apart to mark the limit of the coach's area of operation.

1.4 ZONES AND AREAS

1.4.1 Front zone

On each court the front zone is limited by the axis of the centre line and the rear edge of the attack line. The front zone is considered to extend beyond the side lines to the end of the free zone.

1.4.2 Service zone

The service zone is a 9 m wide area behind each end line. It is laterally limited by two short lines, each 15 cm long, drawn 20 cm behind the end line as an extension of the side lines. Both short lines are included in the width of the service zone.

In depth, the service zone extends to the end of the free zone.

1.4.3 Substitution zone

The substitution zone is limited by the extension of both attack lines up to the scorer's table.

1.4.4 Libero Replacement zone

The Libero Replacement zone is part of the free zone on the side of the team benches, limited by the extension of the attack line up to the end line.

1.4.5 Warm-up area

For FIVB, World and Official Competitions, the warm-up areas, sized approximately 3 x 3 m, are located in both of the benchside corners, outside the free zone.

1.4.6 Penalty area

A penalty area, sized approximately 1 x 1 m and equipped with two chairs, is located in the control area, outside the prolongation of each end line. They may be limited by a 5 cm wide red line.

2 NET AND POSTS

2.1 HEIGHT OF THE NET

2.1.1 Placed vertically over the centre line there is a net whose top is set at the height of 2.43 m for men and 2.24 m for women.

2.1.2 Its height is measured from the centre of the playing court. The net height (over the two side lines) must be exactly the same and must not exceed the official height by more than 2 cm.

PART 2 - SECTION 1: GAME

2.2 STRUCTURE

The net is 1 m wide and 9.50 to 10 metres long (with 25 to 50 cm on each side of the side bands), made of 10 cm square black mesh.

For FIVB, World and Official Competitions, in conjunction with specific competition regulations, the mesh may be modified to facilitate advertising according to marketing agreements.

At its top a horizontal band, 7 cm wide, made of two-fold white canvas, is sewn along its full length. Each extreme end of the band has a hole, through which passes a cord, fastening the band to the posts for keeping its top taut. Within the band, a flexible cable fastens the net to the posts and keeps its top taut.

At the bottom of the net there is another horizontal band, 5cm wide, similar to the top band, through which is threaded a rope. This rope fastens the net to the posts and keeps its lower part taut.

2.3 SIDE BANDS

Two white bands are fastened vertically to the net and placed directly above each side line. They are 5 cm wide and 1 m long and are considered as part of the net.

2.4 ANTENNAE

An antenna is a flexible rod, 1.80 m long and 10 mm in diameter, made of fibreglass or similar material. An antenna is fastened at the outer edge of each side band. The antennae are placed on opposite sides of the net. The antennae are considered as part of the net and laterally delimit the crossing space.

2.5 POSTS

2.5.1 The posts supporting the net are placed at a distance of 0.50-1.00 m outside the side lines. They are 2.55 m high and preferably adjustable.

For all FIVB, World and Official Competitions, the posts supporting the net are placed at a distance of 1 m outside the side lines.

2.5.2 The posts are rounded and smooth, fixed to the ground without wires.

There shall be no dangerous or obstructing devices.

2.6 ADDITIONAL EQUIPMENT

All additional equipment is determined by FIVB regulations.

