



## PREAMBLE

The Facilities Rules are intended to provide the best possible environment for competitive use and training. These Rules are not intended to govern issues related to the general public. It is the responsibility of the owner or controller of a facility to provide supervision of activities of the public.

## FR 1 GENERAL

FR 1.1 FINA Olympic Standard Pools. All World Championships (except the Masters World Championships) and Olympic Games must be held in pools that comply with Rules FR 3, FR 6, FR 8, and FR 11.

FR 1.2 FINA General Standard Pools. Other FINA events should be held in FINA Olympic Standard Pools, but the Bureau may waive certain standards for existing pools if they do not materially interfere with the competitions.

FR 1.3 FINA Minimum Standard Pools. All other events held under FINA Rules should be conducted in pools that comply with all of the minimum standards contained in this Part.

FR 1.4 In order to protect the health and safety of persons using swimming facilities for the purposes of recreation, training and competition, owners of public pools or pools restricted only to training and competition must comply with the requirements established by law and the health authorities in the country where the pool is situated.

## FR 2 SWIMMING POOLS

### FR 2.1 Length

FR 2.1.1 50.0 metres. When touch panels of Automatic Officiating Equipment are used on the starting end, or additionally on the turning end, the pool must be of such length that ensures the required distance of 50.0 metres between the two panels.

FR 2.1.2 25.0 metres. When touch panels of Automatic Officiating Equipment are used on the starting end, or additionally on the turning end, the pool must be of such length that ensures the required distance of 25.0 metres between the two panels.

### FR 2.2 Dimensional Tolerances

FR 2.2.1 Against the nominal length of 50.0 metres, a tolerance of plus 0.03 metre in each lane minus 0.00 metre on both end walls at all points from 0.3 metre above to 0.8 metre below the surface of the water is allowed. These measurements should be certified by a surveyor or other qualified official, appointed or approved by the Member in the country in which the pool is situated. Tolerances cannot be exceeded when touch panels are installed.

FR 2.2.2 Against the nominal length of 25.0 metres, a tolerance of plus 0.03 metre in each lane minus 0.00 metre on both end walls at all points from 0.3 metre above to 0.8 metre below the surface of the water is allowed. These measurements should be



certified by a surveyor or other qualified official, appointed or approved by the Member in the country, in which the pool is situated. Tolerances cannot be exceeded when touch panels are installed.

FR 2.3 Depth - A minimum depth of 1.35 metres, extending from 1.0 metre to at least 6.0 metres from the end wall is required for pools with starting blocks. A minimum depth of 1.0 metre is required elsewhere.

#### FR 2.4 Walls

FR 2.4.1 End walls shall be parallel and form right angles to the swimming course and to the surface of the water, and shall be constructed of solid material, with a non slip surface extending 0.8 metre below the water surface, so as to enable the competitor to touch and push off in turning without hazard.

**FR 2.4.2 Rest ledges along the pool walls are permitted; they must be not less than 1.2 metres below the water surface, and may be 0.1 metre to 0.15 metre wide.**

FR 2.4.3 Gutters may be placed on all four walls of the pool. If end wall gutters are installed, they must allow for attachment of touch panels to the required 0.3 metre above the water surface. They must be covered with a suitable grill or screen.

FR 2.5 Lanes shall be at least 2.5 metres wide, with two spaces of at least 0.2 metre outside of the first and last lanes.

#### FR 2.6 Lane Ropes

FR 2.6.1 Lane ropes shall extend the full length of the course, secured at each end wall to anchor brackets recessed into the end walls. The anchor shall be positioned so that the floats at each end wall of the pool shall be on the surface of the water. Each lane rope will consist of floats placed end-to-end having a minimum diameter of 0.05 metre to a maximum of 0.15 metre.

In a swimming pool the colour of the lane ropes should be as follows:

- Two (2) GREEN ropes for lanes 1 and 8
- Four (4) BLUE ropes for lanes 2, 3, 6 and 7
- Three (3) YELLOW ropes for lanes 4 and 5

The floats extending for a distance of 5.0 metres from each end of the pool shall be of RED colour.

There shall not be more than one lane rope between each lane. The lane ropes shall be firmly stretched.

FR 2.6.2 At the 15-metre mark from each end wall of the pool the floats shall be distinct in colour from the surrounding floats.

FR 2.6.3 In 50 metre pools the floats shall be distinct to mark 25 metres.

FR 2.6.4 Lane numbers of soft material may be placed on the lane ropes at the start and turning end of the pool.

FR 2.7 Starting Platforms shall be firm and give no springing effect. The height of the platform above the water surface shall be from 0.5 metre to 0.75 metre. The surface area shall be at least 0.5 metre x 0.5 metre and covered with non-slip material.



Maximum slope shall not be more than 10°. The platform shall be constructed so as to permit the gripping of the platform by the swimmer in the forward start at the front and the sides; it is recommended that, if the thickness of the starting platform exceeds 0.04 metre, grips of at least 0.1 metre width on each side and 0.4 metre width in the front be cut out to 0.03 metre from the surface of the platform. Handgrips for the forward start may be installed on the sides of the starting platforms. Handgrips for backstroke starts shall be placed within 0.3 metre to 0.6 metre above the water surface both horizontally and vertically. They shall be parallel to the surface of the end wall, and must not protrude beyond the end wall. The water depth from a distance of 1.0 metre to 6.0 metres from the end wall must be at least 1.35 metres where starting platforms are installed. Electronic read-out boards may be installed under the blocks. Flashing is not allowed. Figures must not move during a Backstroke start.

FR 2.8 Numbering - Each starting block must be distinctly numbered on all four sides, clearly visible. Lane number 1 shall be on the right-hand side when facing the course from the starting end with exception of 50m events, which may start from the opposite end. Touch panels may be numbered on the top part.

FR 2.9 Backstroke Turn Indicators - Flagged ropes suspended across the pool, minimum 1.8 metres and maximum 2.5 metres above the water surface, from fixed standards placed 5.0 metres from each end wall. Distinctive marks must be placed on both sides of the pool, and where possible on each lane rope, 15.0 metres from each end wall.

FR 2.10 False Start Rope shall be suspended across the pool not less than 1.2 metres above the water level from fixed standards placed 15.0 metres in front of the starting end. It shall be attached to the standards by a quick release mechanism. The rope must effectively cover all lanes when activated.

FR 2.11 Water Temperature shall be 25° - 28°. During competition the water in the pool must be kept at a constant level, with no appreciable movement. In order to observe health regulations in force in most countries, inflow and outflow is permissible as long as no appreciable current or turbulence is created.

FR 2.12 Lighting - Light intensity over starting platforms and turning ends shall not be less than 600 lux.

FR 2.13 Lane Markings shall be of a dark contrasting colour, placed on the floor of the pool in the centre of each lane.

Width: minimum 0.2 metre, maximum 0.3 metre.

Length: 46.0 metres for 50 metre long pools;

21.0 metres for 25 metre long pools.

Each lane line shall end 2.0 metres from the end wall of the pool with a distinctive cross line 1.0 metre long and of the same width as the lane line. Target lines shall be placed on the end walls or on the touch panels, in the centre of each lane, of the same width as the lane lines. They shall extend without interruption from the deck edge (curb), to the floor of the pool. A cross line 0.5 metre long shall be placed 0.3 metre below the water surface, measured to the centre point of the cross line.

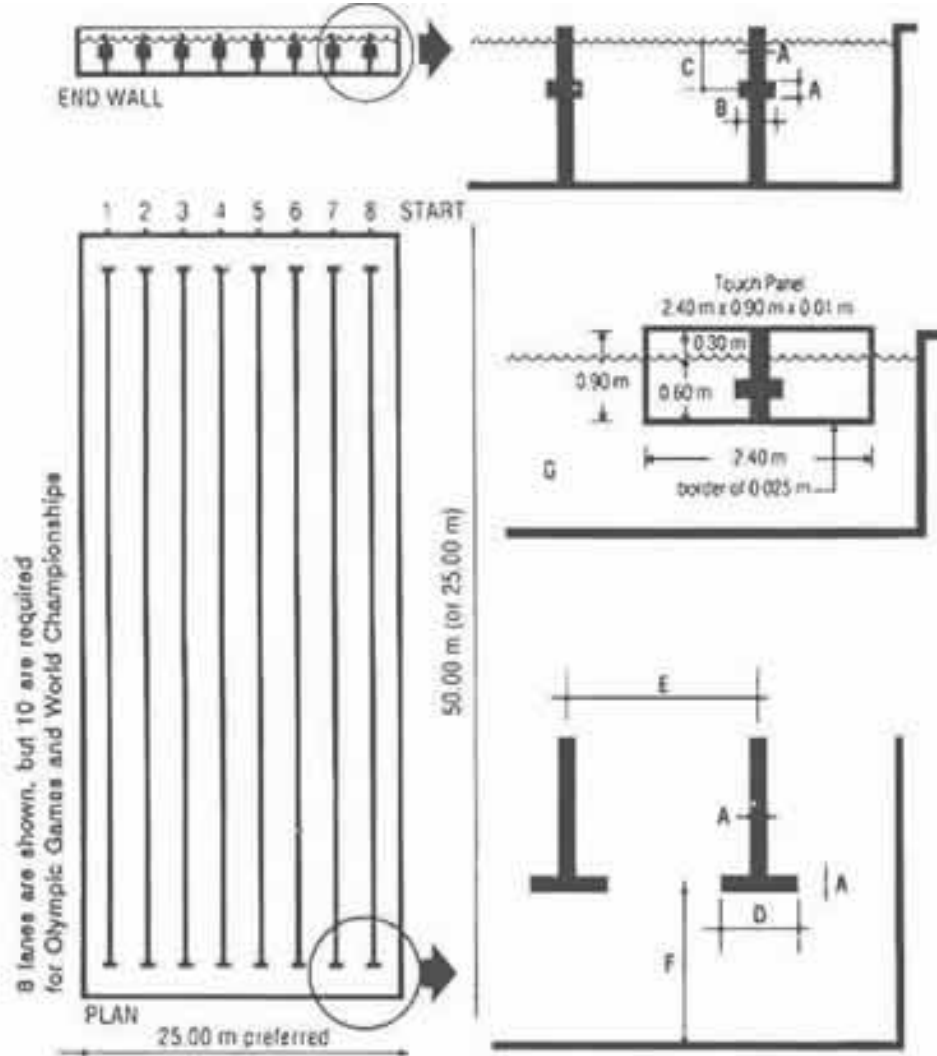
For 50m pools constructed after 1 January 2006, cross lines 0.5 metre long shall be placed at the 15 metre mark from each end of the pool.



FR 2.14 Bulkheads – When a bulkhead serves as an end wall, it must extend the full width of the course and present a solid smooth, non-slippery stable vertical surface on which touch pads may be mounted extending not less than 0.8m below and 0.3m above the surface of the water, and must be free of hazardous openings above or below the waterline which may be penetrated by a swimmer’s hands, feet, toes or fingers. A bulkhead must be of a design that provides for the free movement of officials along its length without such movement creating any appreciable current or water turbulence.

#### POOL DIAGRAM

WIDTH OF LANE MARKINGS, END LINES, TARGETS	A	0.25 m ±	
		0.05	
LENGTH OF END WALL TARGETS	B	0.50 m	<b>FINA</b>
DEPTH TO CENTRE OF END WALL TARGETS	C	0.30 m	
LENGTH OF LANE MARKER CROSS LINE	D	1.00 m	<b>LANE</b>
WIDTH OF RACING LANES	E	2.50 m	<b>MARKINGS</b>
DISTANCE FROM END OF LANE LINE TO END WALL	F	2.00 m	
TOUCH PAD	G	2.40 m x 0.90 x 0.01 m	



### FR 3 SWIMMING POOLS FOR OLYMPIC GAMES AND WORLD CHAMPIONSHIPS

Length: 50.0 metres between the Automatic Officiating Equipment touch panels, except for the World Swimming Championships (25m), which shall be 25.0 metres between the Automatic Officiating Equipment touch panels at the starting end and the wall or touch panels at the turning end.

FR 3.1 Dimensional Tolerances as in FR 2.2.1.

FR 3.2 Width: 25.0 metres for Olympic Games and World Championships.

FR 3.3 Depth: 2.0 metres (minimum).



FR 3.4 Walls: as in FR 2.4.1.

FR 3.5 Pools for Olympic Games and World Championships must be equipped with flush walls at both ends.

FR 3.6 Number of lanes: 8 (eight).

FR 3.7 Lanes shall be 2.5 metres wide with 2 spaces 2.5 metres wide outside of lanes 1 and 8. There must be a lane rope separating these spaces from lanes 1 and 8 respectively for Olympic Games and World Championships.

FR 3.8 Lane Ropes: as in FR 2.6.

FR 3.9 Starting Platforms: as in FR 2.7.

Except the surface area shall be at least 0.5 metres wide X 0.6 metres in length and covered with non-slip material. False start control equipment must be installed.

FR 3.10 Numbering: as in FR 2.8.

FR 3.11 Backstroke turn indicators: as in FR 2.9.

FR 3.12 False Start Rope: as in FR 2.10.

FR 3.13 Water temperature: as in FR 2.11.

FR 3.14 Lighting: Light intensity over the whole pool shall not be less than 1500 lux.

FR 3.15 Lane markings: as in FR 2.13. The distance between the centre points of each lane shall be 2.5 metres.

FR 3.16 If the swimming pool and the diving well are in the same area the minimum distance separating the pools shall be 5.0 metres.

#### **FR 4 AUTOMATIC OFFICIATING EQUIPMENT**

FR 4.1 Automatic and Semi-Automatic Officiating Equipment records the elapsed time of each swimmer and determines the relative place in a race. Judging and timing shall be to 2 decimal places (1/100 of a second). Equipment that is installed shall not interfere with the swimmers' starts, turns, or the function of the overflow system.

FR 4.2 The Equipment must:

FR 4.2.1 Be activated by the starter.

FR 4.2.2 Have no exposed wires on the pool deck, if possible.



FR 4.2.3 Be able to display all recorded information for each lane by place and by lane.

FR 4.2.4 Provide easy digital reading of a swimmer's time.

FR 4.3 Starting devices

FR 4.3.1 The starter shall have a microphone for oral commands.

FR 4.3.2 If a pistol is used, it shall be used with a transducer.

FR 4.3.3 Both the microphone and the transducer shall be connected to loudspeakers at each starting block where both the starter's commands and the starting signal can be heard equally and simultaneously by each swimmer.

FR 4.4 Touch panels for Automatic Equipment

FR 4.4.1 The minimum measurement of the touch panels shall be 2.4 metres wide and 0.9 metre high, and their thickness shall be 0.01 metre  $\pm$  0.002 metre. They shall extend 0.3 metre above and 0.6 metre below the surface of the water. The equipment in each lane shall be connected independently, so it may be controlled individually. The surface of the panels shall be of a bright colour and shall bear the line markings approved for the end walls.

FR 4.4.2 Installation - The touch panels shall be installed in a fixed position in the centre of the lanes. The panels may be portable, allowing the pool operator to remove them when there are no competitors.

FR 4.4.3 Sensitivity - The sensitivity of the panels shall be such that they cannot be activated by water turbulence, but will be activated by a light hand touch. The panels shall be sensitive on the top edge.

FR 4.4.4 Markings - The markings on the panels shall conform with and superimpose on the existing markings of the pool. The perimeter and edges of the panels shall be defined by a 0.025 metre black border.

FR 4.4.5 Safety - The panels shall be safe from the possibility of electrical shock and shall not have sharp edges.

FR 4.5 With Semi-Automatic Equipment, the finish shall be recorded by buttons pushed by timekeepers at the finish touch of the swimmer.

FR 4.6 The following accessories are essential for a minimum installation of Automatic Equipment:

FR 4.6.1 Printout of all information, which can be regenerated during a succeeding race.

FR 4.6.2 Spectator readout board.

FR 4.6.3 Relay take-off judging to 1/100 of a second. Where overhead video cameras are installed they may be reviewed as a



supplement to the automatic system's judgement of relay take-off. For the differential in the relays take-off the manufacturer of the device shall be consulted.

FR 4.6.4 Automatic lap counter.

FR 4.6.5 Readout of splits.

FR 4.6.6 Computer summaries.

FR 4.6.7 Correction of erroneous touch.

FR 4.6.8 Automatic rechargeable battery operation possibility.

FR 4.7 For Olympic Games and World Championships the following accessories are also essential:

FR 4.7.1 The spectator electronic read-out board shall contain at least ten (10) lines of thirty-two (32) characters, each capable of displaying both letters and numbers. Each character shall have a minimum height of 360 mm. Each line –matrix scoreboard shall be able to scroll up or down, with blink function, and each full matrix scoreboard shall be programmable, and capable of showing animation. The board must have a minimum size of 7.5 m width by 3.6m height.

FR 4.7.2 There shall be an air-conditioned control centre, with dimensions of a least 6.0 metres x 3.0 metres, located between 3.0 metres and 5.0 metres from the finish wall, with an unobstructed view of the finish wall at all times during the race. The referee must have easy access to the control centre during the competition. At all other times the control centre shall be able to be secured.

FR 4.7.3 Video-tape timing system.

FR 4.8 Semi-Automatic Equipment may be used as a backup to the Automatic Officiating Equipment at FINA or other major events if there are three buttons per lane, each operated by a separate official (in which case other finish judges shall not be required). An inspector of turns may operate one of the buttons.

## **FR 5 DIVING FACILITIES**

FR 5.1 Springboard Diving

FR 5.1.1 The boards shall be at least 4.8 metres long and 0.5 metre wide. At all FINA Events the type of springboard shall be determined by FINA.

FR 5.1.2 The boards shall be provided with a satisfactory non-slip surface.

FR 5.1.3 The springboards shall be provided with movable fulcrums easily adjustable by the diver.

FR 5.1.4 The vertical distance from the level of the platform, which supports the fulcrum assembly to the level of the top of the springboard, shall be 0.365 meter. The distance from the front edge of the fulcrum assembly (which is 0.676 meter long) to the



front edge of the supporting platform shall be a maximum of 0.68 meter. If the front edge of the platform projects past this point then the top surface past this point must be sloped down at a rate of 1 vertical to 3 horizontal.

FR 5.1.5 The minimum distance recommended from the rear to the centre line of the fulcrum shall be to the recommendation of the manufacturer of the springboard.

FR 5.1.6 The springboards shall be installed dead level at the leading edge when the movable fulcrum is in all positions.

FR 5.1.7 The springboards should be placed on either one or both sides of the platform. For Synchronised Diving, it is preferred that at least two springboards at the same height shall be placed side by side and no objects should obstruct the visibility in any part of the dive between the divers.

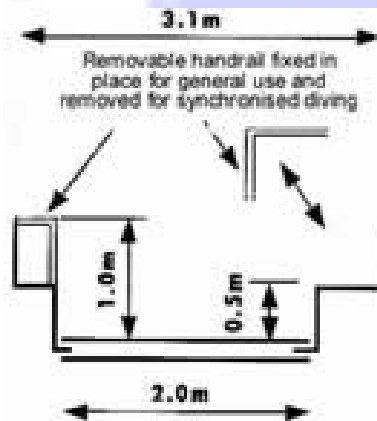
## FR 5.2 Platform Diving

FR 5.2.1 Each platform shall be rigid and horizontal.

FR 5.2.2 The minimum dimensions of the platform shall be:

0.6m to 1.0m platform	0.6m width	5.0m length
2.6m to 3.0m platform	0.6m width (preferred 1.5m)	5.0m length
0.5m platform	1.5m width	6.0m length
7.5m platform	1.5m width	6.0m length
10.0m platform	3.0m width	6.0m length

On 10m platforms, with a width of less than 3m, only the handrails on each side for a distance of at least 3.0m back from the front edge of the platform may be shaped as detailed below. It is recommended that an easily removable section of handrail be included for general use, which can be removed for synchronised diving (see diagram).





FR 5.2.3 The preferred thickness of the front edge of the platform shall be 0.2 metre but not exceeding 0.3 metre, and can be vertical or inclined at an angle to the vertical inside the plummet line.°angle not greater than 10

FR 5.2.4 The surface and the front edge of the platform shall be covered throughout with a resilient non-slip surface. The two surfaces shall be covered separately in order to achieve a clean 90° angle or as described in FR 5.2.3.

FR 5.2.5 The front of 10.0 metre and 7.5 metre platforms shall project at least 1.5 metres beyond the edge of the pool. For 2.6 metre -3.0 metre and 5.0 metre platforms a projection of 1.25 metres is acceptable, and for 0.6 metre - 1.0 metre platforms a projection of 0.75 metre is acceptable.

FR 5.2.6 Where a platform is directly underneath another platform the platform above shall project a minimum of 0.75 metre (preferred 1.25 metres) beyond the platform below.

FR 5.2.7 The back and sides of each platform (except a 1.0 metre platform) shall be surrounded by handrails with a minimum clearance of 1.8 metres between pairs. The minimum height shall be 1.0 metre and they shall be with at least two crossbars placed outside the platform beginning 0.8 metre from the front edge of the platform.

FR 5.2.8 Each platform shall be accessible by suitable stairs (not ladders).

FR 5.2.9 It is preferable that a platform is not constructed directly under any other platform.

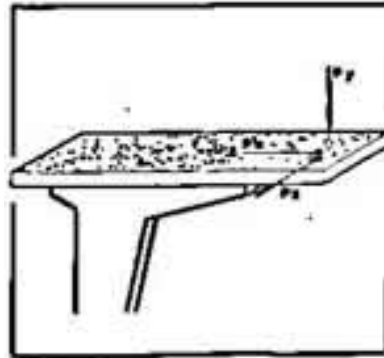
FR 5.2.10 Requirements for the supporting structure. For platforms and supporting structure of the springboards the design load is  $p = 350$  kiloponds (kilograms force) per lineal metre.

In addition to the static requirements and for the comfort and safety of the user with respect to the movement of the towers, the following limits shall be observed, with respect to the platforms and springboard supports.

Fundamental frequency of platforms 10.0 Hz

Fundamental frequency of tower 3.5 Hz

Oscillation of total structure 3.5 Hz





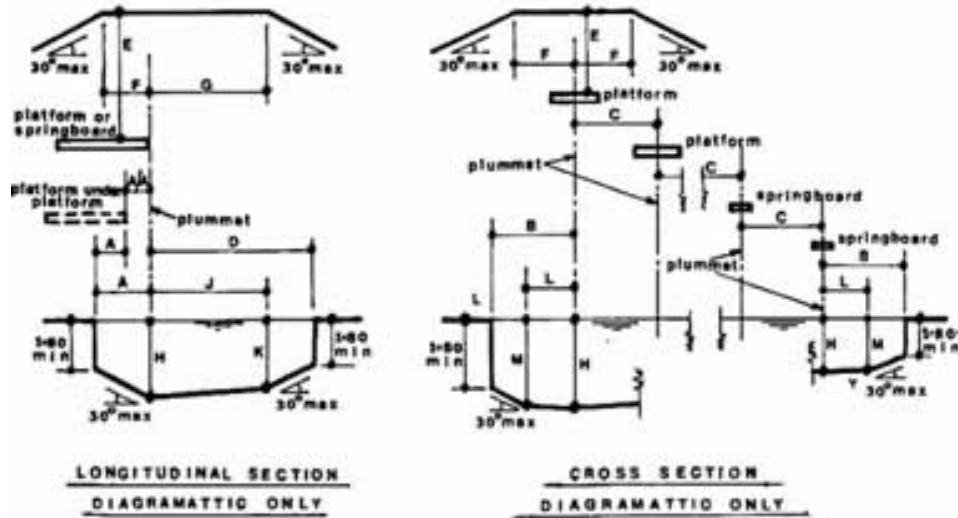
The spatial deformation of the front edge of the platforms as a result of  $P_x = P_y = P_z = 100$  kiloponds (kilograms force) shall be a maximum of 1 mm (see drawing).

These requirements can be met most adequately by a reinforced concrete structure. The proof of the dynamic behaviour is to be provided together with the static calculations for the whole structure.

### FR 5.3 General Requirements

FR 5.3.1 For pools designed and constructed after March 1991 the minimum dimensions in metres for diving facilities as detailed on the “FINA Dimensions for Diving Facilities” table and on the “Diving Facilities Diagram” (see next pages) shall prevail, using, as a basic measuring point of reference, the plummet line, which is a vertical line extending through the centre of the front edge of the springboard or platform. It is recommended that the preferred dimensions be used for projects considered to have an important status.

### DIVING FACILITIES DIAGRAM



FR 5.3.2 The dimensions C from plummet to adjacent plummet in the “FINA Dimensions for Diving Facilities” table apply to platforms with widths as detailed in FR 5.2.2. If platform widths are increased then the dimensions C shall be increased by half the additional widths.

FR 5.3.3 The height of the springboards and each platform above the water level may vary by plus 0.05 metre minus 0.00 metre from the heights prescribed in the Rules.

FR 5.3.4 The end of a 5 metre platform must not project beyond the ends of the 3 metre springboards.



FR 5.3.5 In the area of full water depth, the bottom of the pool may rise up to 2%. In the diving pool, the depth of water shall not be less than 1.8 metres at any point.

FR 5.3.6 In outdoor pools, springboards and platforms are recommended to face north in the northern hemisphere and south in the southern hemisphere.

FR 5.3.7 The minimum illumination at a level of 1 metre above the water surface shall not be less than 600 lux.

FR 5.3.8 Sources of natural and artificial illumination shall be provided with controls to prevent glare.

Celsius. °FR 5.3.9 The water temperature shall be not less than 26

FR 5.3.10 Mechanical surface agitation shall be installed under the diving facilities to aid the divers in their visual perception of the surface of the water. In pools equipped with an underwater bubble machine, the machine should only be used for this purpose if it creates sufficient water agitation when working with a very low pressure; otherwise a horizontal water sprinkler system should only be used.

FR 5.3.11 Individual diving:

FR 5.3.11.1 The judges will be placed side by side in a line on either side of the springboard / platform by the Referee.

FR 5.3.11.2 When seven (7) / five (5) judges are used, four (4) / three (3) judges will be on the side closest to the competition.

FR 5.3.11.3 No judge shall be seated behind the front edge of the springboard or platform.

FR 5.3.11.4 The numbering of the judge chairs will be clockwise when facing the springboard / platform.

FR 5.3.11.5 In the 1 metre springboard competitions, normal chairs shall be used.

FR 5.3.11.6 In the 3 metre springboard competitions, the judges shall be seated at a height of not lower than two (2) metres above the water level.

FR 5.3.11.7 In the 10 metres platform competitions, the chairs from the 3m springboard competitions can be used but if at all possible, the judges shall be seated at an even higher level.

FR 5.3.11.8 To assist the judges in the 3 metre springboard and 10 metre platform competitions, the judge chairs must be positioned as far back from the edge of the pool as is practical.

FR 5.3.12 Synchronised diving:

FR 5.3.12.1 Two (2) execution judges will be placed on either side of the springboard / platform.

FR 5.3.12.2 The numbering of the execution judge chairs will be clockwise when facing the springboard / platform, namely E 1 and E 2 on the left side and E 3 and E 4 on the right side.



FR 5.3.12.3 In between the execution judges on either side of the pool, the synchronised judges will be placed in a line.

FR 5.3.12.4 Two (2) synchronised judges will be on the side closest to the competition springboard / platform, and the other three (3) synchronised judges on the opposite side.

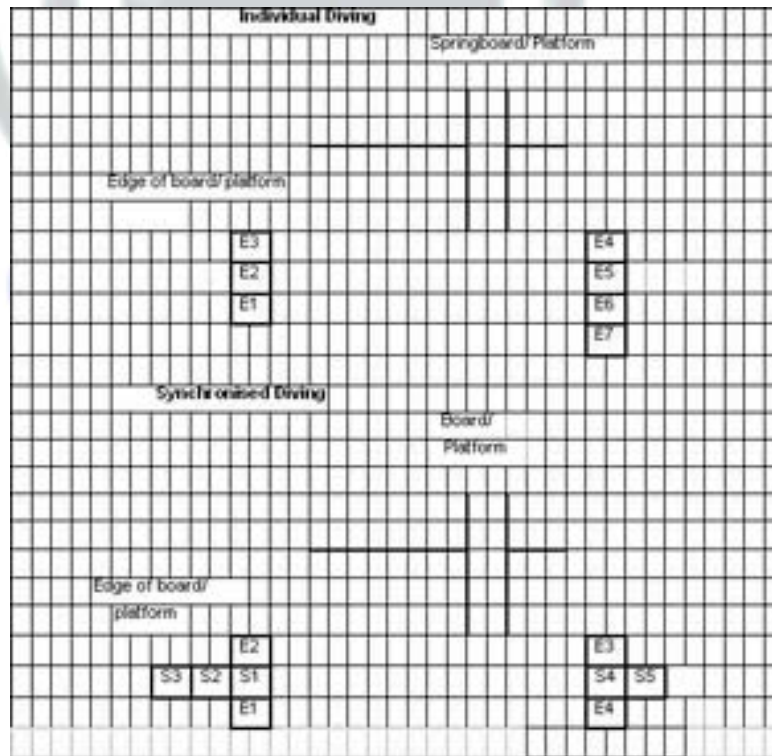
FR 5.3.12.5 The numbering of the synchronised judge chairs will start on the left-hand side of the pool with the lowest chair being S 1, and the highest chair on the right-hand side of the pool being S 5.

FR 5.3.12.6 In the synchronised competitions, the synchronised judges closest to the pool edge, shall be seated at a height of not lower than 2.0 metres above the water level.

FR 5.3.12.7 The subsequent heights for the remaining synchronised judges must increase no less than 0.5 metre per seat.

FR 5.3.12.8 There shall be no interference or movement in front of the judge chairs.

FR 5.3.12.9 The above recommendations are outlined in the sketch below.



## FR 6 DIVING FACILITIES FOR OLYMPIC GAMES AND WORLD CHAMPIONSHIPS

FR 6.1 For Olympic Games and World Championships FR 5 in total shall apply, however the light intensity at a level of one metre above the water surface shall not be less than 1500 lux.

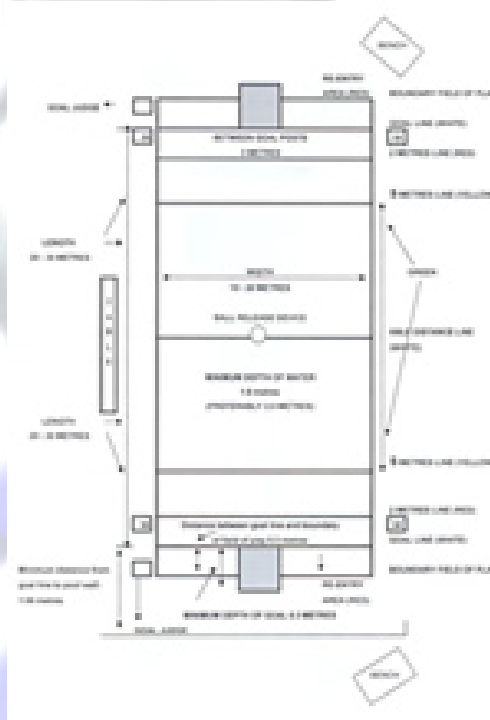


FR 6.2 In regard to dimensions for diving facilities preferred measurements given in the on the “FINA Dimensions for Diving Facilities” table must be observed.

FR 6.3 See FR 3.16.

## FR 7 POOLS FOR WATER POLO

FR 7.1



FR 7.2 Field of play. The distance between the respective goal lines shall be 30.0 metres for games played by men and 25.0 metres for games played by women. The width of the field of play shall be 20.0 metres. The depth of the water shall be nowhere less than 1.8 metres, preferably 2.0 metres.

FR 7.3 The water temperature shall not be less than 26° plus 1° minus 1° Centigrade.

FR 7.4 The light intensity shall not be less than 600 lux.

FR 7.5 Exception from FR 7.2 may be allowed on the discretion of the federation controlling the match.

## FR 8 WATER POLO POOLS FOR OLYMPIC GAMES AND WORLD CHAMPIONSHIPS

FR 8.1 Exceptions from the requirements in FR 7.2 are not allowed.



FR 8.2 The water temperature shall be as in FR 7.3.

FR 8.3 The light intensity shall not be less than 1500 lux.

FR 8.4 In Olympic Games, World Championships and FINA events fresh water shall be used.

## **FR 9 EQUIPMENT FOR WATER POLO POOLS**

FR 9.1 Distinctive marks shall be provided on both sides of the field of play to denote the goal lines, lines 2.0 metres and 5.0 metres from that line, and half distance between the goal lines. These markings shall be clearly visible throughout the game. As uniform colours the following are recommended for these markings: goal line and half distance line - white; 2.0 metres from goal line - red; 5.0 metres from goal line – yellow. A red or other visible coloured sign shall be placed on the end of the field of play 2.0 metres from the corner of the field of play on the side (opposite to the official table). The boundary of the field of play at both ends is 0.3 metre behind the goal line. The minimum distance from the goal line to the pool wall shall be 1.66 metres.

FR 9.2 Sufficient space shall be provided to enable the referees to have free way from end to end of the field of play. Space shall also be provided at the goal lines for the goal judges.

FR 9.3 Goals: The goal posts and crossbar must be of wood, metal or synthetic (plastic) with rectangular sections of 0.075 metre, square with the goal line and painted white. The goal posts must be fixed, rigid and perpendicular at each end of the playing space, equal distances from the sides and at least 0.3 metre in front of the ends of the field of play or of any obstruction. Any standing or resting place for the goalkeeper other than the floor of the pool is not permitted.

FR 9.4 The inner sides of the goal posts must be 3.0 metres apart.

FR 9.5 The underside of the crossbar must be 0.9 metre above the water surface when the water is 1.5 metres or more in depth, and 2.4 metres above the bottom of the pool when the depth of the water is less than 1.5 metres.

FR 9.6 Limp nets must be attached to the goal fixtures to enclose the entire goal space, securely fastened to the goal posts and crossbar and allowing not less than 0.3 metre clear space behind the goal line everywhere within the goal area.

FR 9.7 Automatic Officiating Equipment

## **FR 10 POOLS FOR SYNCHRONISED SWIMMING**

FR 10.1 For the figure section of competition two areas each 10.0 metres long by 3.0 metres wide are to be provided. Each area is to be close to a wall of the pool with the 10.0 metres long side parallel to and not greater than 1.5 metres from the pool wall. One of these areas is to be of 3.0 metres minimum depth and the other area is to be of 2.5 metres minimum depth.

FR 10.2 For the routine section of competition a minimum area of 12 meters by 25 meters is required, within an area of which 12 meters by 12 meters must have a minimum depth of 2.5 meters. The depth of the remaining area shall be 1.8 meters minimum.



FR 10.3 Where the water depth is more than 2.0 metres, the depth at the pool wall may be 2.0 metres and then sloped down to reach the general depth at 1.2 metres maximum from the pool wall.

FR 10.4 The areas for figure competition in FR 10.1 can occupy the same area of the pool as that used for routine competition.

FR 10.5 If there are no lane markings as described in FR 2.13, the floor of the pool must be marked with contrasting lines in one direction, following the length of the pool.

FR 10.6 The water must be of sufficient clarity for the bottom of the pool to be visible.

FR 10.7 The water temperature shall not be less than 26° plus 1° minus 1° Centigrade.

## **FR 11 POOLS FOR SYNCHRONISED SWIMMING IN OLYMPIC GAMES AND WORLD CHAMPIONSHIPS**

FR 11.1 For the routine section of competition at Olympic Games and World Championships a minimum area of 20.0 metres by 30.0 metres is required, within which an area of 12.0 metres by 12.0 metres must have a minimum depth of 3.0 metres. The depth of the remaining area shall be 2.5 metres minimum. The sloped area from 3.0 metres depth to 2.5 metres depth should be over a minimum distance of 8.0 metres.

FR 11.2 The water temperature shall be as in FR 10.7.

FR 11.3 The light intensity shall not be less than 1500 lux.

FR 11.4 Automatic officiating equipment, as listed in FR 12 shall be available.

## **FR 12 AUTOMATIC OFFICIATING EQUIPMENT**

The minimum installation consists of:

FR 12.1 same number of score recorder units as judges (figure: 5 up to 20; routine 5 up to 14)

FR 12.2 the results may only be transferred after confirmation by the referee or appointed official

FR 12.3 result unit (computer) with result recording and back up system. Only FINA approved programmes and systems are allowed.

FR 12.4 print out system for all recorded information, start lists and result lists;

FR 12.5 A judges evaluation system based on the recorded results (FR 12.3). Only FINA TSSC approved programmes and system are allowed.

FR 12.6 scoreboard control unit with a scoreboard; of a minimum of 10 lines containing 32 digits (or scoreboard as described in Rule FR 4.7.1). The scoreboard must be able to display all recorded information and the running time;



FR 12.7 for each judge flash cards in case of failure of the electronic system.

### **FR 13 SOUND EQUIPMENT AND PRESENTATION STANDARDS**

The sound equipment should include, at minimum:

FR 13.1 Amplifier-mixer system.

FR 13.2 A cassette deck and back up units.

FR 13.3 High quality microphones and microphone stations for announcements and ceremonies.

FR 13.4 Good quality air speakers of size, number and placement to obtain uniform clear sound to both the field of competition area and audience.

FR 13.5 UW speakers for clear and uniform underwater sound above all interfering noise and at levels acceptable to the competitors.

FR 13.6 Isolation and impedance matching transformer systems for the UW speakers if speakers with metallic shells are used.

FR 13.7 Sound volume (decibel) meter for monitoring music sound levels.

FR 13.8 Patch cords for interconnecting equipment properly, speaker extension lines adequate for placing speakers for optimal sound distribution.

FR 13.9 Fusing systems as needed to protect speakers and other equipment.

FR 13.10 Grounding lines to ensure safe grounding of all equipment.

FR 13.11 Safety materials to minimize potential of injury to person or equipment from stepping on or tripping over electrical or speaker lines.

FR 13.12 A stopwatch.

FR 13.13 Tools and meters as needed for initial special hookups and emergency repairs.

FR 13.14 Systems for communication between officials and sound desk.

FR 13.15 A system for monitoring underwater sound continuously.