

1. **TITLE:** DESIGN OF POOL TANK
2. **DATE ISSUED:** 1 July 1996 **ISSUE:** 3
3. **PURPOSE:** To establish safety guidelines for the design of pool tank. *Note: For competition swimming pool design refer the FINA Handbook.*
4. **DESCRIPTION:**
 - 4.1 **Pool Depth**
Abrupt changes in water depth should be avoided particularly where bathers can stand.
 - 4.1.1 In water depth where people can stand slip resistant surfaces should be provided where there is an abrupt change of depth.
 - 4.1.2 Changes in gradient of the pool floor should be highlighted with a contrasting colour such as contrast tiles or painted lines.
 - 4.1.3 Gradient for the pool floor should not be steeper than 1 :15, particularly in water less than 1.6 metres.
 - 4.1.4 Changes in gradient of the pool floor where the depth is 1.6 metres or greater should be highlighted by an appropriate sign (refer also AS 2416 sign 215).
 - 4.1.5 Where a diving pool is provided in the main pool, the transition from shallow to deep water may need to be steeper than 1:15. Where this occurs special markings and appropriate signage should highlight this abrupt change in depth. (refer also AS 2416, sign 215).
 - 4.2 **Leisure and Pool Depths**
 - 4.2.1 The depth of water in pools designed for leisure activities such as tarzan ropes, climbing nets, flying foxes, water slides, flumes, inflatables, interactive play equipment and wave pools should be considered and be appropriate for the activity, at all times ensuring the safety of the public.
 - (a) **Tarzan Ropes**
The depth of water over which a tarzan rope should be installed will depend upon the height of the take off , the length of the rope, the horizontal distance between the take off and the rope fixing point and therefore the pendulous arc. Minimum water depth should be 1.8m.
 - (b) **Climbing Ropes**
The depth of water over which climbing ropes or cargo nets are installed will depend upon the height to which a user can climb to re enter the water. The minimum depth of water should be 2.0m (refer also Guideline FD8).
 - (c) **Flying Foxes**
 - i) The take off point should be at the edge of the pool ensuring the user is over adequate water depth immediately after take off whereby falling from the equipment into the water would not result in the user striking the bottom of the pool causing injury.
 - ii) The depth of water over which the user travels will depend upon the users height above the surface of the water. The greater the height, the greater is the required depth of water.
 - iii) The Flying Fox should be designed to allow the user to finish in the water a minimum of 2.0m of horizontal distance before the pool edge.

d) Water Slide

- i) The depth of water into which a user completes the ride will depend upon the design of the water slide and the body of water used at the end of the slide, eg. a dedicated pool, a multipurpose pool or a splash down.
- ii) The rider should not be propelled to the opposite pool wall when exiting the slide.

e) Inflatable

The depth of water in which an inflatable is located will be dependent upon the size of the inflatable and the age and size of the potential users. The depth of water should take into consideration the potential for the user to fall off, slide off or dive.

f) Interactive Play Equipment (Children's Playground in Shallow Water)

The depth of water in which interactive water play equipment is installed is generally in the vicinity of 0.2m to 0.4m, depending upon equipment design.

g) Wave Pools

The size of waves to be generated and the activities which will be conducted in the pool particularly when the waves are off will determine the depth of water and floor gradients of a wave pool. The minimum depth of water is usually 1.6m.

h) Rivers

Lazy or rapid rivers should have a constant depth throughout the length of the watercourse. Typical water depths are from 0.75m to 1.2m.

4.3 Surfaces

4.3.1 All areas where bathers enter the pool or congregate during activities need to have a slip-resistant and non-abrasive surface. These include:

- steps and ramps
- beach entry
- pool floor at shallow end of competition/lap pools where bathers can stand.
- learners pool
- toddlers pool

4.3.2 Where tiles are used, the tiles should conform to the International Standard Grade C slip resistance.

4.4 Siting of Pools**4.4.1**

- a)** Toddlers and learners pools should be situated away from the deep end of a pool or diving pools.
- b)** Where this is not possible, effective transparent barriers, and appropriate signage should be provided.
- c)** These barriers should not interfere with the line of sight for supervision.

4.4.2 Water of 1.2m depth or greater should not be situated near main entry points to pool hall, major traffic flow areas or change room entry. Where this is not possible effective barriers, and appropriate signage should be provided.

4.5 Fittings and Fixtures

4.5.1 Any fixture or fitting in the pool wall (eg. lane rope anchors) and the pool floor (eg. inflatable tie downs) should be fitted flush and have no sharp protruding edges.

4.5.2 Where fittings and fixtures are located in a tiled surface, the tiles should be flush with the fitting and have no sharp and protruding edges.

4.6 Gutters and Wet Deck

Where a wet deck gutter system is used, it should:

- a]** Not allow water to flow on to the pool concourse
- b]** The grate must be neat fitting with no gaps between adjoining grate sections and no raised or buckled slats
- c]** In wave pools the grate should be fixed to prevent dislodging during wave motion
- d]** Curved grating systems should be flush fitting