

5 Pool dimensions and tolerances

5.1 General requirements. Design dimensions shall comply with specifications in this standard. The pool shall be constructed to these design dimensions within the tolerances listed in 5.1.1.

5.1.1 Construction tolerances. There shall be construction tolerances allowed on dimensional designs. The overall length, width and depth shall be limited to a tolerance of plus or minus 3 inches (± 7.6 cm). All other dimensions shall be limited to a tolerance of plus or minus 2 inches (± 5.1 cm), unless otherwise specified.

5.2 Perimeter shape. No limits are specified for shape of pools except that consideration shall be given to shape from the standpoint of circulation of the swimming pool water and safety to the user.

5.3 Walls - requirements

5.3.1 Walls in the shallow area and deep area of the pool shall not slope greater than 11° (1:5 slope ratio) to a transition point. The transition point shall not be less than 2 feet and 9 inches (83.8 cm) below the waterline. See figure 1.

5.3.2 As shown in figure 2, at the depths of (a) and (b), the walls are permitted to join the floor.

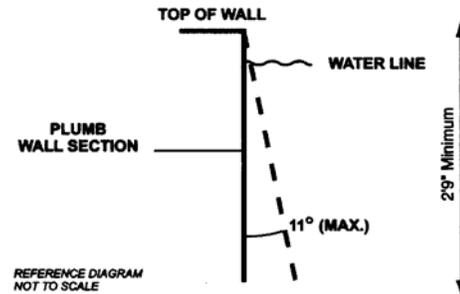


Figure 1- Maximum allowable wall slope

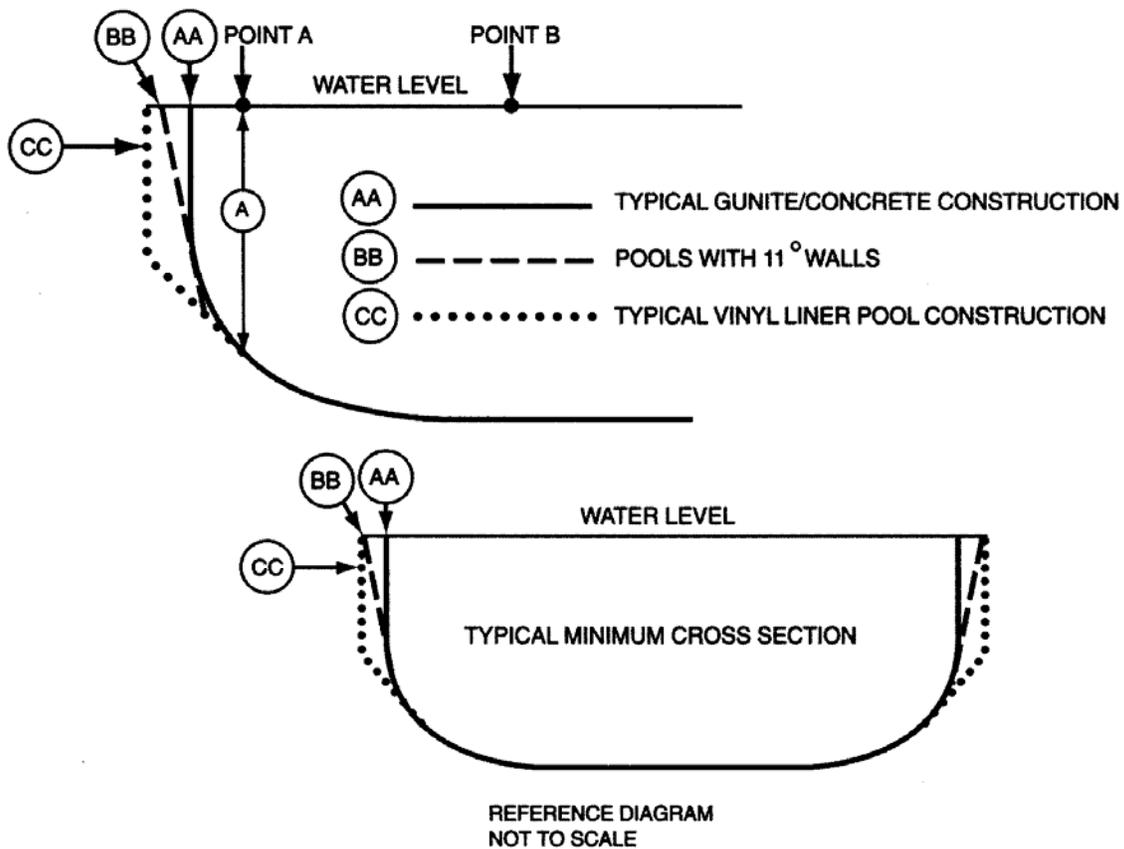


Figure 2- Typical pool design configurations

5.3.3 The walls of Type I pool, when defining the minimum diving water envelope, shall be plumb or outside of Type 1 water geometry. (See figure 3, table 1.)

5.4 Maximum allowable wall slope

5.4.1 Maximum allowable wall slope shall not slope greater than 11° from plumb.

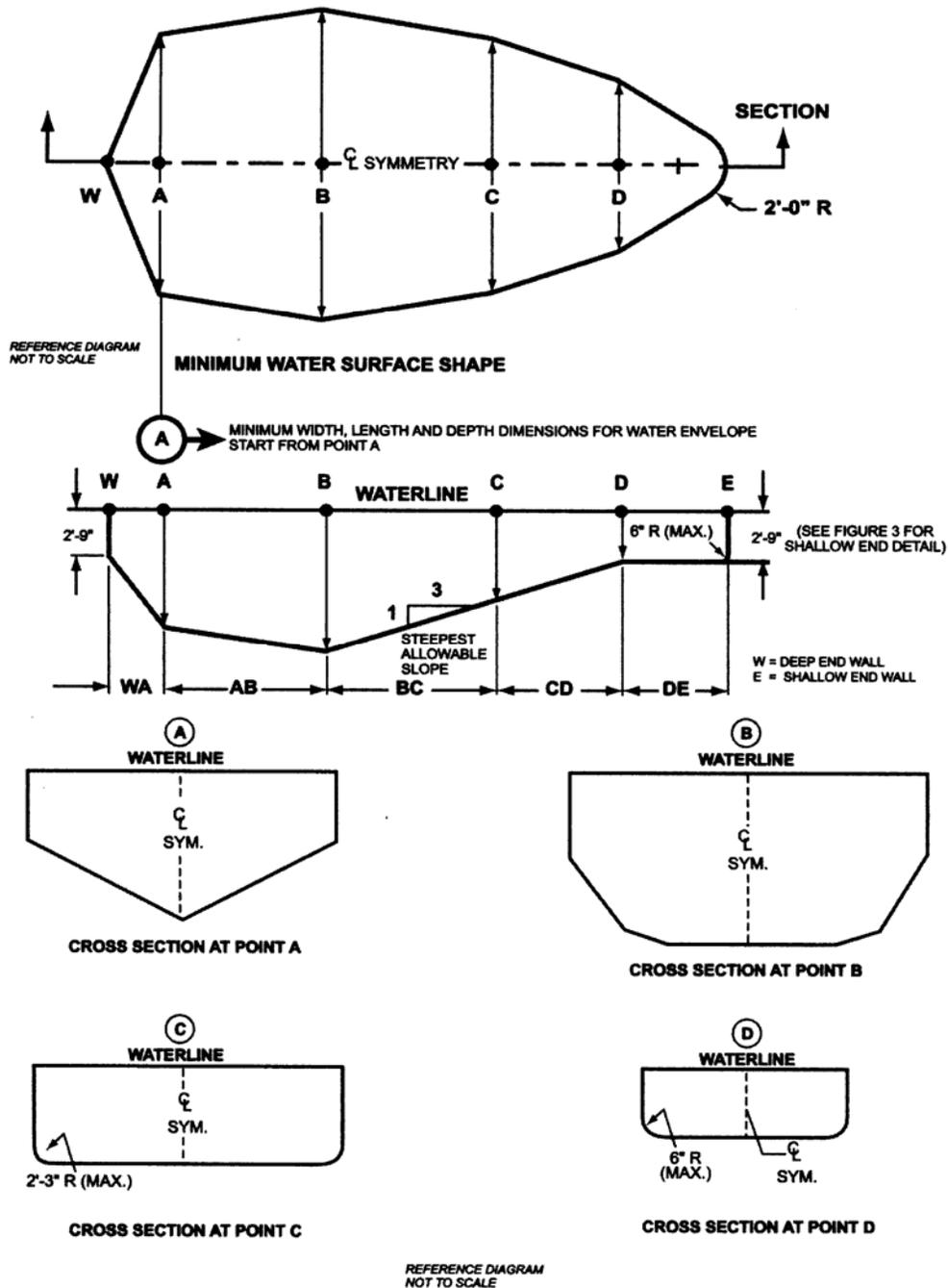


Figure 3- Minimum water envelope

Table 1- Minimum water envelope

Pool type	Minimum depths at point				Minimum widths at point				Minimum lengths between points					
	A	B	C	D	A	B	C	D	WA	AB	BC	CD*	DE	WE
O	Manufactured diving equipment is prohibited													
I	6'-0"	7'-6"	5'-0"	2'-9"	10'-0"	12'-0"	10'-0"	8'-0"	1'-6"	7'-0"	7'-6"	Varies	6'-0"	28'-9"
II	6'-0"	7'-6"	5'-0"	2'-9"	12'-0"	15'-0"	12'-0"	8'-0"	1'-6"	7'-0"	7'-6"	Varies	6'-0"	28'-9"
III	6'-10"	8'-0"	5'-0"	2'-9"	12'-0"	15'-0"	12'-0"	8'-0"	2'-0"	7'-6"	9'-0"	Varies	6'-0"	31'-3"
IV	7'-8"	8'-6"	5'-0"	2'-9"	15'-0"	18'-0"	15'-0"	9'-0"	2'-6"	8'-0"	10'-6"	Varies	6'-0"	33'-9"
V	8'-6"	9'-0"	5'-0"	2'-9"	15'-0"	18'-0"	15'-0"	9'-0"	3'-0"	9'-0"	12'-0"	Varies	6'-0"	36'-9"

NOTE:

- *Minimum length between points CD may vary based upon water depth at point D and the slope between points C & D.
- Figure 3 drawings are not to scale. (For pool types, see Glossary.)

5.5 Offset ledges

5.5.1 Offset ledges shall be a maximum of 8 inches (20.3 cm) wide.

5.5.1.1 Offset ledges, located less than 42 inches (1067 mm) below waterline shall be proportionately less than 8 inches (20.3 cm) wide and fall within 11° from plumb, measured from the top of the waterline. See figure 4.

5.6 Floor slopes. Floor slopes shall be reasonably uniform and comply with 5.6.1 through 5.6.3.

5.6.1 The slope of the floor from the shallow end wall towards the deep area shall not exceed 1 foot in 7 feet (30 cm: 213 cm) to the point of the first slope change as shown in figure 5.

5.6.2 Changes in slope between shallow and deep areas shall be at a minimum water depth of 2 feet 9 inches (83.8 cm) and be at least six feet (182.9 cm) from the shallow end, except as specified in 6.3.

5.6.3 The slope of the floor from the point of the first slope change toward the deep end shall not exceed 1 foot in 3 feet (30 cm: 91 cm).

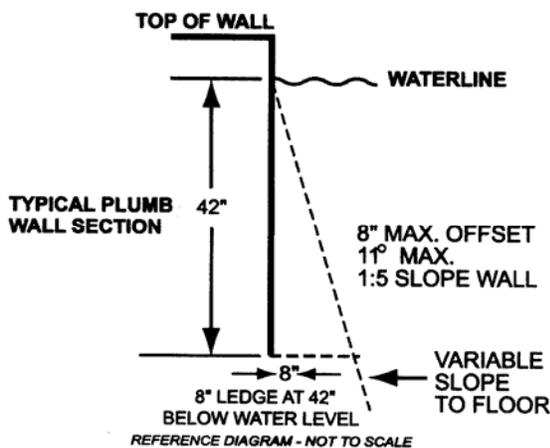


Figure 4- Offset ledges

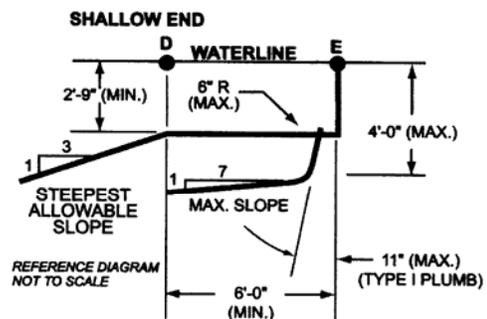


Figure 5- Shallow end depths

5.7 Shallow end water depths. Water depth in the shallow area shall be a minimum of 2 feet 9 inches (83.8 cm) except for those locations specified in 6.3 "Shallow End Detail for Beach and Sloping Entries." The water depth at the shallowest point shall not exceed four feet (121.9 cm) as shown in figure 5.

5.8 Manufactured diving equipment for in-ground swimming pools (diving board/stand combination or manufactured platform)

Note – For consumer product safety information, warning, and education programs, See appendices D, E, and F.

5.8.1 When manufactured diving equipment is installed, it shall conform to the specifications set forth in 5.8 through 5.9 and shall be located in the deep area of the pool so as to provide the minimum dimensions as shown in 5.9.

5.8.1.1 Manufactured diving equipment shall not be installed on Type 0 pools.

5.8.2 Diving equipment. Diving equipment shall be designed for swimming pool use and shall be installed in accordance with the manufacturer's specifications.

5.8.2.1 Diving equipment installation and use instructions shall be provided by the diving equipment manufacturer and shall specify the minimum water dimensions required for each diving board and diving stand combination. They may refer to the water envelopes type of their choice by dimensionally relating their products to Point A on the water envelopes as shown in figure 3 and table 1, 5.9.1 through 5.9.3.

5.8.2.2 Diving equipment shall be permanently labeled and affixed to the diving equipment or jump boards and shall include but not be limited to:

- manufacturer's name and address;
- date of manufacture;
- minimum water envelope required for each diving board and diving stand combination; and
- maximum weight limitations of the user as specified by the board manufacturer.

5.8.2.3 Diving equipment shall have slip-resisting tread surfaces.

5.9 Figure 3 contains suggested drawings and diagrams for minimum water envelope for swimming

pools designated type I - V. Individual pool types are shown in figure 3 and table 1.

5.9.1 Location of point A. Point A shall be defined as a point located on the minimum water envelopes.

5.9.1.1 Point A. Point A is a construction location nearest the deep end wall where the minimum water depth is satisfied.

5.9.1.2 Point A as shown in figure 3 and table 1 shall be the reference point of origin for all dimensions defining the minimum water envelope.

5.9.2 Type 0 pool (where diving is prohibited) shall not be limited in width, length, or water depth except as specifically provided for in this standard.

5.9.3 Location of equipment and pool features in the minimum water envelope. If the pool is designed for use with diving equipment, steps, pool stairs, ladders, underwater benches, special features and other accessory items shall be located outside the minimum water envelope. (See figure 6)

5.9.4 Typical pool design configurations. Vinyl liner, shotcrete, fiberglass and concrete constructions shall conform to, but are not limited to, the typical pool configurations shown in figure 2.

5.10 Stationary diving platform(s) and diving rock(s). Stationary diving platform(s) and diving rock(s) built on site shall be allowed to be flush with the wall and located in the diving area of the pool. Point A shall be in front of the wall at the platform or diving rock centerline.

Note – For consumer product safety information, warning, and education programs, See appendices D, E, and F.

5.10.1 The maximum height of the stationary diving platform or diving rock above the waterline shall be as follows:

- Pool Type I 42 inches (106.7 cm);
- Pool Type II 42 inches (106.7 cm);
- Pool Type III 50 inches (127.0 cm);
- Pool Type IV 60 inches (152.4 cm); or
- Pool Type V 69 inches (175.3 cm)

5.10.2 Stationary diving platform(s) and diving rock(s) shall not be permitted on Pool Type 0.

5.10.3 The diving equipment manufacturer shall specify minimum headroom above water.

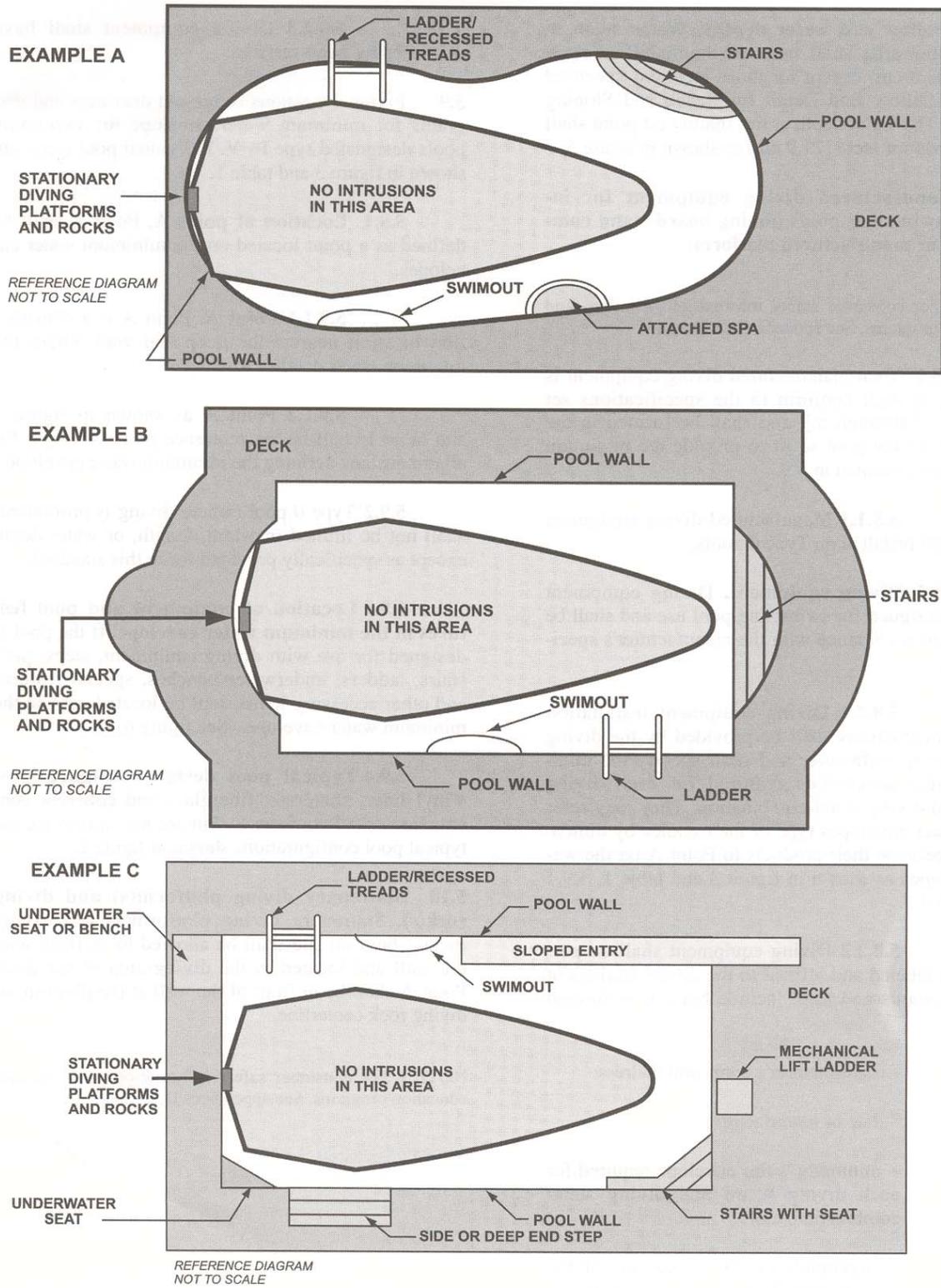


Figure 6- Top view examples of accessory equipment and pool features prohibited in the water envelope