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# Consultation on proposed F9/AS1 and F9/AS2 Acceptable Solutions for residential pool barriers

**November 2016**

**SUBMISSION FORM – From Swish Automation Ltd**



## SUBMISSION FORM

This form sets out the consultation questions corresponding to the proposals and options in *Consultation on proposed F9/AS1 and F9/AS2 Acceptable Solutions for residential pool barriers* (the consultation document).

### Instructions for use

Please refer to the consultation document for full details on making a submission.

The questions in this form are indicative only and are not intended to limit your response to the issues in the consultation document. You do not have to use this form to make your submission.

Please return your submission by one of the following methods:

- emailing your feedback to [buildingfeedback@mbie.govt.nz](mailto:buildingfeedback@mbie.govt.nz), with “Consultation – proposed Acceptable Solutions for residential pool barriers 2016” in the subject line
- posting or couriering your feedback to:  
Consultation – proposed Acceptable Solutions for residential pool barriers 2016  
Compliance Solutions Team  
Ministry of Business, Innovation and Employment  
Level 5, 15 Stout Street  
P O Box 1473  
Wellington 6140

If you are using this form to make your submission, please provide your contact details below:

Name (include name of organisation if you are submitting on behalf of an organisation)	Contact details
<b>Swish Automation Ltd</b> <b>P.O. Box 185</b> <b>Waimauku</b> <b>Auckland 0842</b> <b>New Zealand</b>	Les J Hole – Director Phone: 09 411 7222 Mobile: 0274 77 9000 <a href="mailto:leshole@swishautomation.com">leshole@swishautomation.com</a>
Additional information about your organisation (optional)	
Swish Automation was formed in 2005 in response to market demand for residential door automation solutions to meet FoSPA 1987. Swish Automation is a compact, enthusiastic, privately owned New Zealand company with working directors and shareholders. Swish design, manufacturing and marketing operations are based in Auckland with installation / servicing agreements nationwide and pending in Australia. <b>Swish Pool Access Safety Systems</b> meet current FoSPA 1987 legislation and NZS 8500-2006 approved solutions.	

## New Building Code clause F9 Means of Restricting Access to Residential Pools

See pages 8 – 9 of the attached consultation document

### Question F9 – 1 What are your comments on the options?

**Option 2: New Acceptable Solutions proposed below** have been provided to **cover the gaps** in current FoSPA 1987 legislation and clarify NZS 8500 terminology regarding the use of a dwelling wall as a barrier that includes doors accessing a swimming pool.

#### 3.7.1 Child resistant door-sets shall comply with all the following requirements:

- a. **All doors shall be fitted with a self-latching device** that automatically operates on closing the door, preventing it from being opened without manually releasing the self-latching device.  
The self-latch device release shall be installed **at a minimum of 1500mm above** the internal floor. Opening the door requires two handed operation: one to operate the door handle at 960mm above the floor, the other to simultaneously depress and hold the self-latch release at 1500mm.
- b. **All doors shall be fitted with a self-closing device** that automatically returns the door from a 150mm open (stationary) position to the fully closed and self-latched position **or;**
- c. Should the door design not be suitable for self-closing, **a door alarm shall be fitted that sounds at 85dB within 3 metres** when the door is held open from the fully closed and self-latched position for longer than 10 seconds  
**The alarm shall automatically reset** when the door is returned to the closed and self-latched position
- d. Hinged or bi-folding doors **shall be allowed to swing in either direction**
- e. Pet doors **greater than 100mm wide** are prohibited in doors with pool access
- f. There shall be no potential footholds wider than 10mm on the door or its frame between the floor and 1000mm above the floor
- g. Horizontal and vertical members, mesh and surface finish shall comply with NZS 8500 specifications
- h. The door-set shall comply with performance requirements for strength and rigidity
  - Sustaining a force of 250 N ( $\approx$  25 kgf) without any component becoming permanently deformed and
  - Sustaining a force of 330 N ( $\approx$  33 kgf) without breaking, without showing signs of fracture or without becoming permanently deformed by more than 10mm over its length or height

These recommendations formed the basis of the Swiss submission to the MBIE Making Pool Safety Compliance Easier program and were included in Swiss submissions to the Select Committee on the Building (Pools) Amendment Bill.

## Proposed Acceptable Solutions F9/AS1 and F9/AS2

See pages 10 – 16 of the attached consultation document

**Question F9 – 2.1 Do you have any comments in relation to the proposal for door alarms? (see AS1 paras 1.4.2, 1.4.5)**

**Refer to F9 – 1 / 3.7.1:** Sections a. through c for detail on how it is proposed a door alarm be operated on door-sets with access into a pool area. Details are expanded as follows:

1. The door-set shall be fitted with a self-latching device installed 1500mm above the internal floor (refer 3.7.1)
2. Should the door not be suitable for self-closing (refer 3.7.1) an alarm device shall be used and can be either battery or mains powered and should:
  - a. Operate within 10 seconds of the door being opened from the self-latched position with **the alarm sounding at 85dB within 3 metres** of the door
  - b. On the door being closed the alarm shall automatically reset to operate on the next operation of the door
  - c. Should a supervising adult choose to leave the door open, the alarm will shut off automatically after 60 seconds. **The alarm will automatically reset** once the door is returned to the self-latched position by the supervising adult

**Comment:**

During research into door alarms in 2006, it became obvious that authorities in the USA had two major concerns with existing alarmed door-sets:

1. The manual lock specified may not be re-engaged after use which left the alarm as the sole safety feature on a door-set with pool access
2. Should a door be left open, the reaction to a continuous alarm was to disconnect the device, leaving no locked barrier or warning system to prevent child access
3. Swish were advised UL2017 was being modified (2007) to overcome these shortfalls. Recommendations from US authorities were incorporated into the Swish designed DoorMinder/SelfLatch Alarm System

This Swish design meets **UL2017 proposed changes for safety in use** by:

- a. The fitting of a **self-latch device at 1500mm** above the internal floor as a mandatory part of the system
- b. Designing the alarm to operate and **sound at 85dB within 3 metres** after 10 seconds of the door being opened. The alarm continues to sound for 60 seconds should the door not be closed by a supervising adult before the alarm automatically resets and arms for the next operation
- c. Testing which included demonstrations to Territorial Authority Exemption Hearings **determined universal approval** of the design concept on the basis that:
  1. A child aged 6 years could not readily open the door self-latching device
  2. An adult who accidentally didn't return the door to the closed and self-latched position would immediately be urged to do so when the alarm sounded
  3. When the pool was in use, should a supervising adult choose to leave the door open, the alarm would stop after 60 seconds, re-arming automatically on closing
  4. Exemption Committees were relieved that under such circumstances
    - a. Home owners would not be motivated to disconnect the alarm system
    - b. Neighbours would not be unduly inconvenienced or be motivated to complain to council regarding continuous sounding of pool alarms

**Question F9 – 2.2 Do you have any comments in relation to the proposal for doors that open toward a pool area? (see AS1 para 1.4.4)**

NZS 8500-2006 research finds that hinged door-sets with access to a pool can swing in either direction without increasing the risk of children drowning.

**Dedicated self-latching devices** fitted at 1500mm above the internal floor – plus standard door hardware at 960mm require **two-handed, simultaneous operation, beyond the reach and coordinative capabilities of small children**. This child resistant door concept (refer 3.7.1) substantially reduces the risk of an under-six-year old child opening a door – whether it swings inwards or outwards – **and eliminates the need to specify excessive force to open it**.

**Comment:**

Internationally, door-closers are designed and manufactured to a **fire-rated** safety specification - to **reduce** the force required to open the door while providing a range of force settings to **ensure the door will close** and latch.

Adjusting door-closer resistance in an attempt to impede child egress is impossible to achieve without conflicting with product purpose and fire rating. A 5kgf effort to open a door is also obstructive and potentially hazardous for the elderly or infirm.

Swish firmly recommend (from extensive practical experience), an opening force should be **less than 3kgf** to allow practical door operation while recognising, disabled and aged access/egress standards require an opening force of **less than 1kgf**.

Historically, doors are designed to open outwards. This is no doubt related to fire regulations which treat all perimeter doors as fire exits.

**The huge variety of available** door styles should not demand a separate regulation for each, **rather one consistent child-safety strategy for all**.

**Question F9 – 2.3 Do you have any comments in relation to the proposal for barriers that are also boundary fences? (see AS1 para 1.1.6)**

From our review of drowning statistics, we have not found any instance where a child of 6 years or under has climbed an 1800 mm high boundary fence or, used a tree, bush, ladder or shed as a climbing object, to gain unauthorized entry to a neighbours pool and subsequently drown...

Therefore, item 1.1.6 being; AS 1926.1 paragraph 2.2.4: Is acceptable without change for boundary fences of 1800 mm high or higher

**Question F9 – 2.4 Do you have any other comments on proposed AS1 Barriers for residential pools? (see AS1)**

**1. Additional comment regarding 'The Immediate Pool Area:'**

In our extensive experience, the term 'immediate pool area' has been interpreted with widely varying opinion and conjecture. Judge Randerson's 2004 Declaratory Judgement and NZS 8500-2006 define it as "the area the home-pool owner specifies will be required to carry out approved activities in relation to and involving the pool." The home-pool owner's proposed usage should be specified and described accordingly, with plan drawings (as necessary) forming part of pool consent process.

**2. Pool Compliance Certificates:**

Council-issued Pool Compliance Certificates should clearly state the certificate confirms 'As at (date of issue) the pool was certified compliant and it is the pool owners responsibility under the Act to maintain and operate the pool at this standard at all times.'

**Question F9 – 2.5 Do you have any comments in relation to proposed AS2 Covers for small heated pools? (see AS2)**

**Provisions in NZS 8500-2006: Above-ground spas and hot tubs**

**Clause 3.10**

- a. The top of the spa/hot tub shall be not less than 760mm above ground
- b. The cover shall be lockable and be kept locked when spa/hot tub not in use
- c. The cover is to have a self-latching mechanism plus a manual lock not readily releasable by a child aged 6 years and under
- d. When locked, the lid cannot be lifted more than 100mm without releasing the locks which should be evenly spaced around the spa/hot tub
- e. The cover must be able to withstand 20kg weight and support a child of 6 years
- f. The cover will be constructed of material that meets ASTM F1346-91 and be constructed so that water cannot pool on the top of the lid
- g. Removable steps, movable furniture or other objects that could assist a child aged under 6 years to climb on the cover must be stowed/stored away from child access at least 1200mm from the spa/hot tub

**Clause 3.10.1 – Non-compliant above-ground and all in-ground spas and hot tubs**

Failure to comply with 3.10 will require spas and hot tubs to have a pool barrier/fence complying with legislation and the standard required for home swimming pools

## Building Code clause F4 Safety from Falling

See page 17 of the attached consultation document

### Question F4 – 1 What are your comments on this option?

Delete paragraph 1.2.7 as clause F4 no longer applies to swimming pool barriers.

#### **F4 Falling from height**

Any part of a swimming pool with walls 1200mm or more above ground level not fitted with accessible permanent steps or a ladder, a pool fence/barrier may not be required.

However, 'falling from height' fencing will be required around the pool edge on all walkable surfaces.

Pool walls modified to provide an 'infinity edge' which do not provide a walkable surface around the pool will not require 'falling from height' fencing.