



Association of Public Insurance Companies (APIB)
Association des établissements cantonaux d'assurance incendie

**SWISS
HAIL IMPACT PROTECTION
REGISTER HSR**

APIB Test Specification No. 14
Pool covers

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14 Pool covers

14.1 General information

The test specifications for the "Pool covers" component category includes additional, component-specific provisions for the standard test, which are not governed by the general test specifications. Products addressed by these provisions are polymeric/plastic pool covers that in use, float on the water. Free standing structures (i.e., building-like constructions) are not part of this test specification and are tested according to the test specification for the material from which they are built.

14.2 Intended use

This test specification applies to pool cover products that are used to cover the water surface of a swimming pool.

14.3 Test specimen

The width of the rolled specimen is 1500 mm, the minimum length is 1200 mm. If the specimen dimensions are different, the size of the water tank (paragraph 14.4) has to be adjusted accordingly (see paragraph 14.4). Depending on the manufacturer, the test specimen may have lateral guides at the profile end.

Drawing of cross section

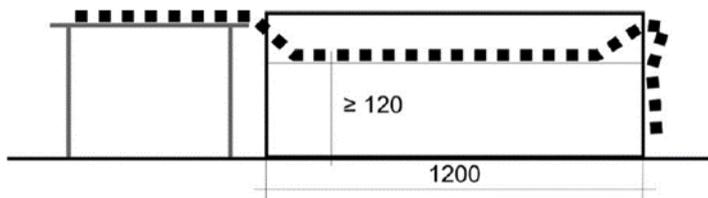


Figure 1 Lay-out of the test specimen for pool covers (dimensions in millimetres)

14.4 Test set-up

The test specimen is unrolled and positioned on the surface of a water-filled tank either free-floating, or assisted by any components used to slide and guide the cover in place.

The length of the water tank is 1200 mm; its width is 1500 mm. The roll end of the pool cover specimen may project beyond the length of the tank, but its full width must float on the water. The minimum depth of the water level is at least 120 mm (Fig. 1).

14.5 Specimen storage prior to testing (conditioning)

None.

14.6 Specimen treatment before testing

The surface is cooled with ice chips for 3 minutes before projectiles are fired.

14.7 Target area and angle of impact

The test specimen is impacted at 3 locations (Fig. 2):

- Profile middle: the middle zone is hit at a distance of >75 mm from the end cap.
- Profile joint: the distance from the edge is 1/5 of projectile diameter. The distance between two shots is 150 mm. The corners must be tested.
- End caps; lateral guides are not tested (if installed at all).

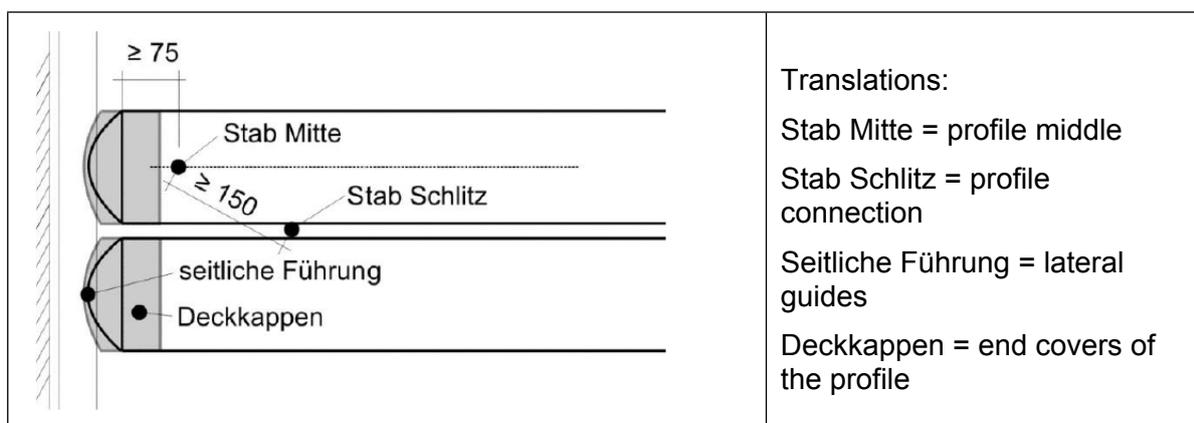


Fig. 2 Outline of target locations on the pool cover specimen (dimensions in millimetres)

Several tests can be performed on a test specimen, but only if the distance between the impacted locations is at least 150 mm. Also, impact locations must be 75 mm from a specimen edge. The impact angle is 90° for all specimens. Any other vulnerabilities must also be tested (refer to part A).

14.8 Component function

The impacted pool cover specimen is tested for watertightness (to guarantee floating), mechanical performance, and appearance. If the pool cover fulfils additional functions such as heating the pool water or providing a walking surface, they are to be evaluated as well.

14.9 Damage criterion

Watertightness function: The specimen's watertightness is considered to be undamaged as long as no cracks or perforations are visible. If the specimen is cracked or perforated, it is considered to be damaged.

Mechanical performance function: Evaluation of the mechanical performance of the impacted specimen requires a rolling up and unrolling of the pool cover, or its folding. If slide and guide components are damaged, the mechanical performance function is considered to be damaged. If the slide and guide components are intact, the mechanical performance function of the pool cover is considered to be undamaged.

Appearance function: The appearance of the impacted specimen is considered to be undamaged if no surface changes, indentation, fracture, or perforation are visible. If any changes, indentation, fracture, or perforation is visible, the specimen appearance is considered to be damaged.

14.10 Measuring methods

Watertightness function: The presence of cracks or perforations is checked visually (distance between the observer and the test specimen is a maximum 0.5 m).

Mechanical performance function: Damage to slide and guide components is tested by rolling or folding of the test specimen (distance between the observer and the test specimen is a maximum 0.5 m).

Appearance function: Appearance is visually checked at all light conditions and at all possible angles at a distance of 5 m from the test specimen.

14.11 Existing standards and regulations (not exhaustive)