SLIP RESISTANCE

Injuries in personal accidents are most frequently caused by falls in their own familiar surroundings, namely in or around their own home. The importance of a properly designed, installed and maintained decking surface is therefore not to be underestimated.

Such a decking with Accoya, if used appropriately, should, according to independent testing, provide the safety desired for application in both public as well as private areas, while combining this with the natural beauty of wood.

ABOUT ACCOYA®

Accoya® is the world's leading high technology wood. It is produced from sustainably sourced, fast growing softwood using a non-toxic modification process from the surface to the core. The result is a durable, stable and beautiful material with the performance characteristics of the most durable tropical hardwoods but with industry-leading environmental credentials.

A new world of sustainable and low maintenance products including windows, doors, decking and cladding is available using Accoya. The exceptionnal durability provides for a minimum 50 year above ground and 25 year in-ground life.

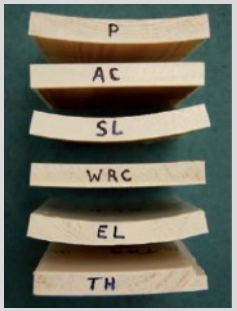
V 08.15 – these guidelines have been written for professionals wishing to use Accoya to create beautiful, reliable and highly durable end products. Should you require further information or have any comments about this document, please contact Accsys through www.accoya.com.

GENERAL CONSIDERATIONS

The technical brochure ‘Timber Decking Boards’ by the research and development institute Holzforschung Austria (2014) lists that the slip behaviour of wooden decking boards depends on different factors such as degree of weathering, surface profiling, coating and maintenance (presence of a biofilm of bacteria, fungi and algae).

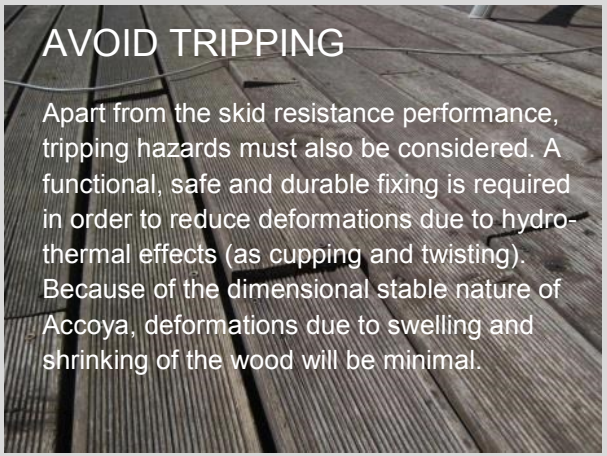
Accoya was included in the research project that formed the basis of above mentioned brochure. General considerations on slip resistance are summarised as follows:

- Most dry timber decking boards can be considered as sufficiently slip resistant.
- When wet, the slip resistance of decking boards is decreased by approximately 35% in comparison with dry circumstances and are therefore considered more slippery.
- If decking boards are coated, stains are more suitable in terms of slip resistance than oils, although that is heavily dependent on the particular coating system and the cleaning maintenance.



Accoya was the only wood that did not cup in this BM Trada trial. From top to bottom: Pine, Accoya Wood, Siberian Larch, Western Red Cedar, European Larch and Thermowood.

- Smooth surfaces have a higher coefficient of sliding friction compared to grooved surfaces, and are therefore less slippery.
- The surface profile (smooth / grooved) of the decking boards appears to have no influence on the growth of micro-organisms.
- There are seasonal variations in the biomass amount for all groups of organisms, but there tends to be less growth in the spring than in autumn. Cleaning with water and brush removes "lubricants" such as biofilm, leaves, sand, stones and the like, and is therefore recommended.
- Generally, WPC decking boards tend to be more slippery than timber decking boards.



AVOID TRIPPING

Apart from the skid resistance performance, tripping hazards must also be considered. A functional, safe and durable fixing is required in order to reduce deformations due to hydro-thermal effects (as cupping and twisting). Because of the dimensional stable nature of Accoya, deformations due to swelling and shrinking of the wood will be minimal.

MAINTENANCE

The presence of a biofilm (moulds, yeast, algae) on the wood surface has a large influence on the slip resistance. To prevent a large build-up of such a layer, it is recommended to clean the deck regularly with water and a soft brush and to keep it as dry as possible. This can be achieved by designing the deck in such a way, that (rain) water is easily drained off, by ensuring sufficient ventilation around the boards and by avoiding permanently dark and shaded areas.

TEST RESULTS

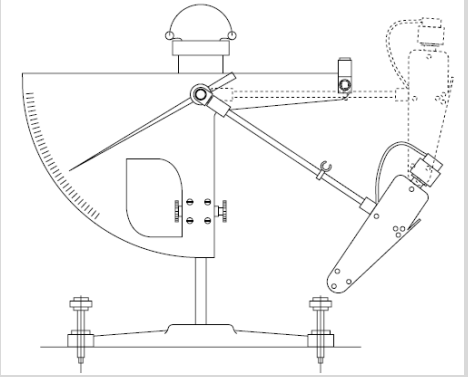
Accoya decking boards have been tested in several countries and to different test methods, resulting in a full range of usage situations from in / around all private buildings (as shower areas) to swimming pools, shop entrances, exterior public staircases and even public kitchens.

TEST METHODS

Various test methods are used to determine the 'slip resistance' of a surface, but to date no method has been universally accepted by European or international standards, nor do many countries have official requirements covering the slip resistance of flooring surfaces.

The slip resistance or sliding friction of a surface is dependent on the vertical force acting on the body and on the friction coefficient of that surface, in which the latter depends on the texture (roughness) of the surface. There are no objective test methods to measure this, as every person (and their footwear) is different.

Some of the many test methods available approach practical experience and are therefore recognized. Although some of these tests result in values with a similar name (coefficient of friction), it is important to realise that it is impossible to reliably convert the results from one test to another because the test principles differ and lubricants used - which have a major influence on the slip resistance of any surface - vary between tests.



BRITISH PENDULUM TEST

TimSpec, an Accoya distributer in New Zealand, has commissioned slip resistance testing according to AS/NZS 3661.1 at OPUS International Consultants, Petone, on several of their profiled and un-profiled decking boards. The results for the wetted boards, tested along the grain / surface texture lines are:

- Uncoated, rough sawn **0.47**
- Uncoated, ruffer head (small grooves) **0.37**
- Uncoated, band sawn (notch profile) **0.47**

In the UK, the minimum value expected under Health & Safety Executive regulations and UK laws for a wetted floor is 36 (0.36).

For more information on this subject, please contact your local sales office.

VALIDITY

Note that all test results on Accoya decking boards are **only** valid for the circumstances described in the test reports and for the specific Accoya decking boards that were tested, including dimensions, profile details and surface finish.

Generally speaking, the results for Accoya are comparable to unmodified wood species with the same surface specifics.

RAMP TEST

Enno Roggemann GmbH & Co. KG, a German distributor of Accoya, has slip resistance tested according to DIN 51130 at the MPA Bremen on several of their profiled and un-profiled decking boards:

Accoya LaBella Comfort
- oil coated, length orientation **R11**
- oil coated, perpendicular orientation **R11**

Accoya (smooth)
- uncoated, length orientation **R11**
- uncoated, perpendicular orientation **R12**

The lowest possible class resulting from this test is R9 with R13 being the highest – the higher the R rating, the higher the slip resistance. For example, Class R11 applies for shop entrances and exterior public staircases and class R12 applies for public kitchens.