**Bona Anti-Slip Coatings – why and where to use them**

The slip resistance of any floor surface is a complex matter. The interaction of materials, such as shoe soles, with the surface together with the presence of dust, moisture, dirt, maintenance products or spillage all may affect this. Selecting the correct floor finish is a major factor in the slip resistance equation with some finishes being specifically designed to increase the slip resistance of the surface.

For most flooring contractors the most common area where they will be asked to use a slip resistant / anti-slip coating is on new domestic staircases. Stairs in a commercial setting or floors with direct access to outside, pubs, clubs, restaurants, etc. also require slip resistant finishes. Building Code Australia notes in the National Construction Code (NCC) that internal stair treads and landings must be covered with a material that meets P3 or R10 or have a nosing that meets these requirements.

**AS / NZS 4586:2013**: Slip resistance classification of new pedestrian surface: appendices A & D contains the slip resistance tests relevant to timber flooring and stairs in general use;

**Appendix A**, details the swinging pendulum test; (P rating). This test equipment is portable and thus tests can be carried out on both samples in the laboratory **and** on-site.

**Appendix D**, the oil ramp test, (R rating) can **only** be carried out in a laboratory as it requires apparatus to lift and tilt floor panels as they are walked upon; the walking person is wearing oiled footwear and having to be supported by a harness.

These tests broadly follow the testing procedures found in a UK Standard (Pendulum) and a German DIN Norm (Oil Ramp). However, test results from these Standards are **not** valid in Australia as the test methods may vary slightly and the AU assessment ranges are different from those Standards.

**TABLE 3A**

**MINIMUM WET PENDULUM TEST OR OIL-WET INCLINING PLATFORM CLASSIFICATIONS THAT ARE DEEMED-TO-SATISFY THE BUILDING APPLICATIONS IN THE NCC**

| Location | Wet Pendulum test | Oil-wet inclining platform test |
|---|---|---|
| **Stair Treads and Stairway Landings in Buildings Covered by NCC Volumes One and Two** | | |
| Stair treads and a stairway landing (when dry) | P3 | R10 |
| Stair treads and a stairway landing (when wet) | P4 | R11 |
| **Nosings for Stair Treads and Stairway Landings in Buildings Covered by NCC Volumes One and Two** | | |
| Dry stair tread, a stair non-skid nosing strip and a stairway landing | P3 | |
| Wet stair tread, a stair non-skid nosing strip and a stairway landing | P4 | |
| **Ramps in Buildings Covered by NCC Volumes One and Two** | | |
| Ramps not steeper than 1:14 gradient (when dry) | P3 | R10 |
| Ramps not steeper than 1:14 gradient (when wet) | P4 | R11 |
| Ramps steeper than 1:14 up but not steeper than 1:8 (when dry) | P4 | R11 |
| Ramps steeper than 1:14 up but not steeper than 1:8 (when wet) | P5 | R12 |

**NB.** To meet the requirements of the NCC either a P or R rating of the correct value must be achieved. It is **not** required that a surface meets **both** the P and R values.

All internal commercial stairs have to be P3 / R10 rated or above irrespective of whether they are new or existing. Only new domestic internal stairs need to meet these requirements. Different slip resistance requirements exist for external stairs / steps.

In **HB 198**, an appendix to the AU Standard, Table 3B notes the specific slip resistance levels required for flooring in commercial use in both new and existing buildings. These include entrance halls / lobbies, fresh fruit & veg sales areas, restaurants and other food / drink serving areas; although in many areas of course, a coated timber floor surface may not be considered to be appropriate.

It is important that coating specifications for such areas are discussed with the property owners / managers. Failure to choose the correct specification could mean that an insurance company will deny cover for any accidents that occur where the incorrect specification is used. An example of this was seen at a QLD resort where a dining room floor was not coated with an anti-slip system and a patron fell and broke their leg. The insurance company investigated and specifically asked for information regarding the slip resistance of the coating used on the timber flooring.

Below is an extract from HB 198 Table 3B; external areas, swimming pool areas and other areas where a rating above P4 may be required or timber floors would not be present are not noted.

**Table 3B**
**WET PENDULUM TEST OR OIL-WET INCLINING PLATFORM CLASSIFICATION FOR APPLICATIONS WHERE THE NCC DOES NOT REQUIRE SLIP RESISTANCE**

| Location | Wet Pendulum test | Oil-Wet inclining platform test |
|---|---|---|
| **Hotels, Offices, Public Buildings, Schools and Kindergartens** | | |
| Entries and access areas including hotels, offices, public buildings, schools, kindergartens, common areas of public buildings, internal lift lobbies. | | |
| Wet area | P3 | R10 |
| Transitional area | P2 | R9 |
| Dry Area | P1 | R9 |
| **Supermarkets and Shopping Centres** | | |
| Fast food outlets, buffet food servery areas, food courts and fast food dining areas in shopping centres. | P3 | R10 |
| Shop and supermarket fresh fruit and vegetable areas | P3 | R10 |
| Shop entry areas with external entrances. | P3 | R10 |
| Supermarket aisles (except fresh fruit areas) | P1 | R9 |
| Other separate shops inside shopping centres – wet | P3 | R10 |
| Other separate shops inside shopping centres – dry | P1 | R9 |
| **Loading docks, Commercial kitchens, cold stores, Serving areas** | | |
| Serving areas behind bars in public hotels and clubs, cold stores and freezers | P4 | R11 |
| **Hospital and Aged Care Facilities** | | |
| Wards and corridors in hospital and aged care facilities | P2 | R9 |

The following definitions apply to Tables 3A and 3B.

(a) ***Dry areas*.** Those areas in which appropriate control measures ensure an area remains dry and clean when in use.
(b) ***Transitional areas.*** Those areas that are intended to be kept dry such as by the provision of design features appropriate to the physical location, climate and general exposure to water, as maintained in a dry and clean condition by the facilities manager.
(c) ***Wet areas*.** Those areas that are not defined as a dry or transitional area, which may be either constantly or intermittantly wet or otherwise contaminated.

**Bona Traffic HD Anti Slip (AS**) was specifically developed with Bona to meet the requirements of the Australian slip resistance Standard and the NCC. It has the proven qualities of Bona Traffic HD but with the additional benefit of having anti-slip properties. Bona Traffic HD AS has a level which exceeds the usual P3 requirement with a slip rating of **P4**.

**Bona Traffic HD Raw** has a **P3** slip resistance rating. Due to the ultra matt nature of the material, aesthetically it may not be suitable for all locations but can be used if desired.

**Bona Traffic HD AS** and **Bona Traffic HD Raw** can be tested on site to prove compliance to the required standard as per the original laboratory-based test results, whereas similar R rated products can only be laboratory tested. This is important for commercial sites and local authority premises where testing is often carried out in response to the demands of specifiers, insurance providers, etc.

Unlike many anti slip product systems, to the touch **Bona Traffic HD AS** and **HD Raw** have a smooth even finish with no physical evidence of 'grit' in the dried finish film. The products do not require the addition of a fine powder on site by the contractor and are supplied as a ready-to-use product leaving no possibility of on-site error producing a non-conforming surface.

It is important to note that a minimum 2 coats of the finishes, over a suitable primer, must be applied to obtain the slip resistance classification achieved during the independent testing, as detailed in the laboratory test reports. The finishes may be used over prefinished / previously finished flooring, subject to a successful adhesion test, but again 2 applications are required. It is particularly important with staircases, due to the likelihood that application is being made using a brush, that care is taken to ensure that the correct coverage rate is achieved. With such a concentrated path for traffic across the surface the potential for premature wear exists if insufficient product is applied.

Ongoing cleaning / maintenance of slip rated flooring must only be carried out using a neutral cleaner, such as Bona Cleaner & Wood Floor Cleaner. The use of polishes or any other materials which may leave any deposits on the surface of the floor will affect the slip resistance of the surface. It is very important that the coated surface is kept clean because, as noted previously, the performance of the floor is reliant upon the interaction of the surface with footwear, etc. and any materials left on the floor surface can affect this. For larger areas of flooring in commercial environments it is recommended that machine cleaning, rather than cleaning using a mop, etc., is used to ensure that the floor remains in the best condition possible.

Further applications of the appropriate Bona finish will be required as time passes to maintain the appearance of the floor and its performance. This may be achieved by cleaning the floor thoroughly, abrading the surface and applying additional applications of finish.

Information regarding Bona Traffic HD Anti Slip and HD Raw, including laboratory test certificates, can be found here: https://www.bona.com.au/data-spec-safety-sheets/finishes