

A&I Coatings FAQ Sheet No. 8

Slip Resistant Coatings

1. What is the background to the requirement for Slip Resistance of Pedestrian Surfaces?

Falls are the most frequent cause of accidental injury, and slipping on pedestrian surfaces is a significant factor on this. The consequences can be very serious, especially when elderly or disabled are involved. Too much attention is often given to appearance and style rather than safety when selecting flooring. Our mission is to recommend a flooring system that combines appearance with safety.

2. Is it possible to completely eliminate the risk of accident?

No, because several factors contribute other than the floor surface, especially footwear, contamination, lighting conditions, health and agility, speed and gait of walking.

3. What are the disadvantages of Slip Resistance Additives?

They make the surface harder to clean by definition, and it requires a different type of cleaning method. It is therefore a compromise between slip resistance and ease of cleaning, but within the confines of the law.

4. What are the relevant Australian Standards?

AS 4586:2009 Slip resistance classification of new pedestrian surface materials.

SA HB 198 An Introductory Guide to the Specification and Testing of slip Resistance of Pedestrian Surfaces is a Handbook published by Standards Australia to provide guidance and help in understanding the Standard. It points up the need of risk assessment and management, and takes into account the pedestrian contribution to risk of slipping and also the likelihood of contamination and other factors. It also notes that aging and wear of the surface will alter its slip resistive quality.



5. How is slip resistance measured?

- a. **Wet Pendulum Test.** This is a portable machine meaning that it can be used on site.

Classifications of the **Contribution of the floor surface to the risk of slipping when wet** ranges for Slider 96 rubber from...

- P5 >54 to...
- P4 45-54
- P3 35-44
- P2 25-34
- P1 12-24
- P0 <12

- b. **Tortus Dry Floor Friction Test.** This is a portable machine.

- D1 Mean Value \geq approx.0.4 Moderate to low risk of slipping when dry
- D0 Mean Value $<$ approx.0.4 High to very high risk of slipping when dry

- c. **Wet Barefoot Ramp Test.** This is an offsite test comprising a person on a ramp subjected to a stream of water whose angle is adjusted up until it is no longer safe to walk.

Mean angle of inclination	Quality Group
$<12^\circ$	No Classification
$\geq 12^\circ$	A
$\geq 18^\circ$	B
$\geq 24^\circ$	C

- d. **Oil Wet Ramp Test.** This is an offsite test comprising a person on a ramp which has been coated with engine lubricating oil whose angle is adjusted up until it is no longer safe to walk.

Corrected mean overall acceptance angle	Slip resistance assessment group
$<6^\circ$	No Classification
$>6^\circ$ - 10°	R9
Over 10° - 19°	R10
Over 19° - 27°	R11
Over 27° - 35°	R12
Over 35°	R13

6. How do I know what system to go for?

Normally the Specifier will have access to the Australian Standard or Building Code. Some typical examples are...

Location	Pendulum Ramp	
External ramps	P5	R11
Shopping Centre Food Court	P3	R10
Supermarket aisles	P2	R9
Swimming pool ramps and stairs leading into water	P5	C
Communal changing rooms	P3	A

Broadly speaking, to achieve an R rating in epoxy such as E2100, A&I Coatings supplies Aluminium oxide at the following rates...

Examples of Non-Slip Coating Systems

	1st Coat	2nd Coat	3rd Coat
R9	E2100 + WAO 90 Broadcast grit at a coverage of 35m ² /kg	E2100	N/A
R10	E2100 + WAO 80 Broadcast grit at a coverage of 30m ² /kg	E2100	N/A
R11	E2100 + WAO 60 Broadcast grit at a coverage of 15m ² /kg	E8470	E8470
R12	E2100 + WAO 46 Broadcast grit at a coverage of 15m ² /kg	E8470	E8470

*Of these systems, R10 and R12 are CSIRO certified and R9 and R11 are indicative.

*These R ratings would be approximately the same for any A & I Coatings floor coating with approximately a 50% volume solids figure.

*For an R9 or R10 rating the WAO can be mixed into the topcoat at a concentration of 65g/mixed litre.

7. Should the Non-Slip Media always be white?

No, on darker surfaces coated in a clear system, a black non-slip media is likely to be less visible.

8. Is incorporation by immediate back rolling recommended?

This method ensures that the product is properly encapsulated, but can result in an uneven spread of non-slip media (from roller pick up, overlap, etc). It depends on the floor being coated and how critical appearance is over against safety and durability.

9. Is Tredgrip suitable as a non-slip coating?

Yes. Tredgrip is rated at R10. It is very good in a pedestrian situation, but is suitable for pedestrian traffic only, not vehicle traffic.

A&I Coatings Technical Staff should be consulted about any non-slip system and will be glad to help further as they can.

1. When casting non-slip media into a wet film, throw the grit high into the area in a sweeping motion to give as even a spread as possible. Uneven grit application will make a floor look and feel patchy – a little care and a thought out method greatly helps in the overall appearance of a non-slip floor;
2. When casting non-slip media into clear finishes, do not attempt to backroll – this will almost always give an uneven finish with double loadings of grit in some areas. Apply the grit evenly into the wet film and then overcoat the next day or as per the specification.

Please Note;

We can also supply Polytex which is a polypropylene anti-slip agent. Typically you would add 230 grams to a 10 Litre pack. It can be stirred in before rolling.

However it is not as hard wearing as Aluminium Oxide.