



Slip Resistant Flooring & Slip Resistant Additives

Improving the slip resistance of floor coatings has rapidly grown in importance. Whether it's for Legal reasons, Occupational Health and Safety matters or just making your own shed floor safer much attention has been placed on this subject. This data sheet details 3 products that we have for improving the slip resistance of coatings and sets out some information on slip resistant flooring to help guide you through a complex subject. If you are looking to paint floors in a workplace or public area then we do recommend additional consultations beyond the scope of this document. Whilst we can present you with advice on what to do and how to do it, the onus for compliance with legal obligations, Insurer's conditions and your own OH&S policies rests with you.

Spescoat Addgrip and Broadcast are a range of additives that have been specifically developed for use with Spescoat, Forminex and Topline's flooring coatings. The incorporation of Spescoat Addgrip to a floor coating provides a more slip resistant surface and aids in the reduction of slip and fall injuries and accidents. The term "Non-Slip" is a misnomer. Slip is always possible but the careful selection of an appropriate coating can dramatically reduce the risk of slip.

Spescoat Addgrip Fine and Coarse.

Spescoat Addgrip Fine and Coarse are specially formulated slip-resistant powder-polymer additives for use in floor coatings. Spescoat Addgrip mixes evenly into coatings without sinking to the bottom or floating to the surface. Unlike sand or silica Spescoat Addgrip Fine and Coarse are easy to use. They can be added prior to use using a power mixer or even a "potato masher" hand mixer and thorough stirring. Spescoat Addgrip Fine and Coarse when properly mixed distribute throughout the wet paint and maintain a uniform distribution. This makes it easier to achieve a more uniform slip resistant finish throughout the job when compared to the use of broadcast Addgrip. These grades may be used in earlier coats but must be used in the final coat as over-coating with a non-aggregate finish may reduce the effectiveness of the aggregate.

For standard texture add 50 grams of Spescoat Addgrip Fine or Coarse to one litre paint. The amount can be varied to suit required texture however any of our slip ratings and recommendations are based on this figure. Adding less will decrease the products effectiveness. Adding more may make the surface more aggressive but may also reduce the effective life of the coating.

Once mixed pour the product into a roller tray and apply as normal. Avoid using excess roller pressure (pushing to hard) as this may cause the Addgrip to be "pushed" along on the front of the roller and not distributed evenly. As you apply check to see Addgrip is being spread correctly. Stir the paint periodically whilst applying. Do not exceed the recommended spreading rate for the product being applied. Application of very heavy coats can decrease the effectiveness of the Addgrip

Spescoat Addgrip Broadcast

Spescoat Addgrip Broadcast is a mineral based is hard, angular abrasive material with an average particle size of 500-600 microns. It is used for producing very aggressive slip resistant finishes where maximum slip resistance is required. It is recommended for use where very high slip resistance is required and only in higher solids, tougher coatings. It is not suited for single pack, low solids floor finishes like Topline Walk Flooring Paint, Spescoat New Pave and Spescoat Slate and Pave.

The slip resistant aggregate is broadcast by hand onto the wet coat. Once the coating has dried, any excess or loose aggregate is brushed away and then sealed with a following coat, sandwiching the aggregate between the two coats. The broadcast aggregate must only be used when sandwiched between the final two coating layers. Additional coats applied over the second coat may decrease the effectiveness of the aggregate and thus lower the slip rating.

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Broadcast aggregate can be more difficult to use than the Addgrip products as it is highly operator dependant. Some practice is required to ensure a uniform result across the entire coating.

Apply the 1st coat of the coating system as per the instructions on the relevant data sheet. While the 1st coat is still wet evenly spread Spescoat Broadcast over the wet coat at the rate of 50 gms/lt. Lightly re-roll the surface to improve contact of the aggregate with the wet coating. Allow the coating to dry and then sweep the surface to remove any loose aggregate. Apply the top coat of the coating, at the recommended spreading rate for the system. Application of very heavy coats can decrease the effectiveness of the Spescoat Broadcast.

Whilst Spescoat Addgrip and Broadcast can be used at different rates from those given above our standard testing is carried out on these figures. Use of less will result in lower slip resistance figures. Whilst using more may increase slip resistance it's a "law of diminishing returns" situation. As you use more you will reach a point where there is no increase in slip resistance. It is also possible that the paint systems durability will be compromised.

Spescoat Addgrip and Spescoat Broadcast are not normally recommended for use in clear finishes as they may leave a "whitish" appearance and this may detract from the appearance of the clear coating. The effectiveness of the aggregate will not however be compromised.

Special Note on slip resistant flooring.

Many painted flooring surfaces are generally not inherently slippery although they can become slippery when wet or the surface is contaminated with oil, grease or dirt. Some different type of footwear can also contribute to slip. No product should ever be expected to be non-slip. The correct term is "slip resistant" as "non-slip" implies a total elimination of the risk of slips occurring. Slip resistant finishes will reduce the risk of slipping, some dramatically, but you should never assume that the risk of slip has been eliminated.

Whether or not a surface is glossy or semi-gloss usually makes little difference to this, rather it is the roughness of the surface that is the factor in determining slip. The roughness is often due to the underlying substrate (e.g. concrete) but it can also be enhanced by the inclusion of texturing agents in the applied coating although often these texturing agents may reduce the gloss.

The use of Spescoat Addgrip or Broadcast will make the surface much more slip resistant however it will wear more quickly and become dirtier more rapidly. Tripping hazards can also increase with the more aggressive slip resistant treatments so the most aggressive finish is not always the answer.

If painting flooring in a work place or public area you may need to consider all statutory requirements such as AS4662:2004 and HB 197:1999 - An introductory guide to the slip resistance of pedestrian surface materials. You should also consider any Local Government requirements and those that your insurer may have. Workplaces should also review their Occupational Health and Safety requirements.

On-Site Testing

Whilst we can make recommendations for various slip resistance results based on industry practice, our experience and independent testing of samples the actual slip ratings for any floor can also be highly dependent on the application technique and the nature or roughness of the surface being painted. For this reason, independent, on-site testing of the surface may also be required to obtain more accurate slip ratings of surfaces if strict compliance with a specification is required. On-site testing is done using the methods covered in AS/NZS 4663 – Slip Resistance Measurement of Existing Pedestrian Surfaces.

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SLIP MEASUREMENT

There are 4 standard methods of slip resistance measurement: -

Dry Floor Friction Test: Used for measuring slip resistance on dry, clean floors. This is a fairly simple test that results in a ranking of either F or G. A surface rated F is less slippery than one rated G.

Wet Pendulum Test: Used for measuring slip resistance on floors that are likely to be wet with water in areas ranging from light commercial to industrial. Slip is rated on a scale of V to Z where V is the most slip resistant surface and Z is the least.

Oil Wet Ramp: Used for measuring slip resistance on floors that are likely to be wet with oil, grease and other similar contaminants in generally industrial areas although this method is often preferred by specifiers for any commercial/industrial surface. Slip is rated on a scale of R9 to R13 where R13 is the most slip resistant surface and R9 is the least.

Barefoot Ramp: Used for measuring slip resistance on floors that are likely to be wet with water and pedestrians will have bare feet eg around pools, spas and in swim centres. These areas are unlikely to be painted rather they are generally tiled or rubber matting compounds are used.

It is important to remember that the results for each different method do not correlate with each other consistently. A Pendulum Ranking of W does not imply a Ramp result of R10 for example.

The following table is Table 3 from HB 197:1999 (Standards Australia). This table is a guide to minimum recommended slip results for various locations.

Location	Pendulum	Ramp
External colonnade, walkways and pedestrian crossings	W	R10
External ramps	V	R11
Entry foyers hotel, office, public buildings – wet	X	R10
Entry foyers hotel, office, public buildings – dry	Z	R9
Shopping centre excluding food court	Z	R9
Shopping centre – food court	X	R10
Internal ramps, slopes (greater than 2 degrees) – dry	X	R10
Lift lobbies above external entry level	Z	R9
Other separate shops inside shopping centres	Z	R9
Other shops with external entrances – entry area	X	R10
Fast food outlets, buffet food servery areas	X	R10
Hospitals and aged care facilities – dry areas	Z	R9
Hospital and aged care facilities – ensuites	X	A or R10
Supermarket aisles except fresh food areas	Z	R9
Shop and supermarket fresh fruit and vegetable areas	X	R10
Communal changing rooms	X	A
Swimming pool surrounds and communal shower rooms	W	B
Swimming pool ramps and stairs leading into water	V	C
Toilet facilities in offices, hotels, shopping centres	X	R10
Undercover concourse areas of sports stadium	X	R10
Accessible internal stair nosings (dry) – handrails present	X	R10
Accessible internal stair nosings (wet) – handrails present	W	B or R11
External stair nosings	W	R11



NOTE:

1. Appropriate measures need to be taken to exclude casual water from dry areas.
2. All Floors with a wet pendulum classification of Z should have a dry floor friction classification of F unless normal usage dictates that the floor should have a low dry coefficient of friction, e.g. dance floors.
3. Table 5 contains higher requirements for some specific types of shops.
4. Refer to Tables 2, 4 and 5 in AS/NZS 4586 for derivation of classifications.

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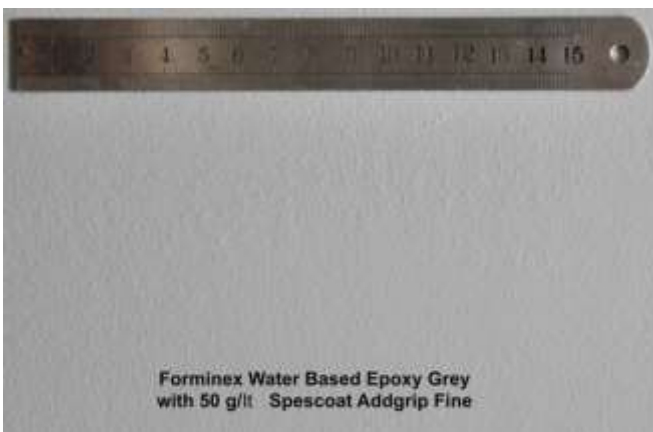
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Photos show differing Addgrip/Broadcast finishes in Forminex Water Based Epoxy.

The appearance of a coating with containing Spescoat Addgrip or Broadcast can vary greatly. Major reasons for such variation can include: -

Substrate profile (roughness) and finish: The above photos are taken of samples produced on flat fibreboard sealed and sanded before application of the indicated system. Smooth floated sealed concrete should produce a similar appearance. Rougher concrete finishes will produce a rougher surface.

Application technique: Varying the amount of Spescoat Addgrip or Broadcast used will vary the results. Uneven broadcast technique or heavy pressure roller use will also vary the appearance.

Film Thickness of applied coats: Heavier coats than specified can result in the aggregate being less prominent in the film. Lighter coats will result in a more prominent aggregate but may also not be sufficient to bind the aggregate into the film and this compromise durability.

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LABORATORY SLIP RESISTANCE TESTING RESULTS AS PER AS/NZ 4586

Product	System	Pendulum ¹	Ramp ¹
Forminex Water Based Epoxy	2 Coats @ 10 m ² /l	Y ²	
	2 nd Coats @ 10 m ² /l with 50 gm/l Addgrip Fine	X ²	R10 ²
	2 nd Coats @ 10 m ² /l with 50 gm/l Addgrip Coarse	W ²	R11 ²
	1 st coat @ 5 m ² /l with 50 gm/m ² Broadcast 2 nd Coat @ 10 m ² /l	V ²	R11 ²
Vitraform AQ	2 Coats @ 10 m ² /l	Y ²	
	2 nd Coats @ 10 m ² /l with 50 gm/l Addgrip Fine	W ²	
	2 nd Coat @ 10 m ² /l with 50 gm/l Addgrip Coarse	W ²	

Product	System	Dry ¹	Pendulum ¹
Monopack Sports Floor Finish	Solvent Based System	F (0.85) ³	-
Forminex Water Based Epoxy	Water Based System	F (0.75) ²	Y ²
Vitraform AQ		F (0.50) ²	Y ²

1 – Refers to test methods documented in AS/NZS 4586-2004 Slip Resistance Classification of New Pedestrian Surface Materials. For Dry Friction Test; >=0.4 F, <0.4 G.

2 – ATTAR Test Report Number 12/6452. Testing Conducted November 2012. Copies of accredited test report available on request.

3 – ATTAR Test Report Number 10/4214. Testing Conducted July 2010. Copies of accredited test report available on request.

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**SAFETY INFORMATION SUMMARY:**

The following information is a general guide only. Industrial users (ie where the product is being used in the workplace) are legally required to have available a Material Safety Data Sheet on this product. If you are unsure if you have an MSDS on this product please contact Shipway Spescoat and one will be provided. MSDS's are also readily available from our web site www.shipways.com.au.

Safety Directions: **KEEP OUT OF REACH OF CHILDREN – DO NOT SWALLOW.** Avoid breathing the dust from the material. Whilst ADD-GRIP and BROADCAST are non-hazardous remember when mixing it into a paint observe the safety precautions for that product.

First Aid Instructions: Whilst ADD-GRIP and BROADCAST are non-hazardous remember when mixing it into paint observe the safety precautions for that product.

Leaks, Spills and Disposal: ADD-GRIP and Broadcast may be swept up and disposed of as solid waste. For mixed product refer to the precautions for the paint used.

Fire: ADD-GRIP and BROADCAST are not flammable in itself, however it may burn if exposed to fire. For mixed product refer to the precautions for the paint used.