

Product Data Sheet

ViroTuff

Environmentally Friendly, Anti-Slip Coating

Description

Duram ViroTuff is a water based, enVIROnment friendly, TUFF, durable, single pack, liquid applied, urethane / polymer, UV resistant anti - slip protective coating.

ViroTuff incorporates special composite 'non-sharp' aggregates to provide good traction against slip falls but also a pleasant underfoot feel, even with bare feet.

ViroTuff provides a tough, abrasion resistant, semi-flexible trafficable coating in an attractive textured finish - all in one can.

ViroTuff is a slip resistant floor protective coating for foot and vehicular traffic. ViroTuff is available in a range of colours.

ViroTuff has very low VOCs and meets the 'Green Star' environmental criteria.

Uses

ViroTuff has been formulated for application to in-door and outdoor areas where an anti-slip coating is required. Although too numerous to list some areas and applications include:

- » Domestic & Recreational: Decks, balconies, patios, garages, steps, stairs, entertaining areas, pool surrounds and driveways.
 - » Schools, Parks & Public Areas: Playgrounds, demountable classrooms, walkways, toilets and washrooms.
 - » Hospitality: Kitchen areas, bar areas and storerooms.
 - » Building & Construction: Anti-slip flooring, trafficable walkways, plant rooms, steps, stairs, safety zones, decks, balconies, patios, equipment platforms.
 - » Industrial Areas: Safety work areas, factory & warehouse floors, work platforms and storerooms.
 - » Marine: Boat decks, trailers, pontoons and marinas.
 - » Agriculture & Farming: Agriculture equipment, cherry picker platforms.
 - » Automotive & Rail: Load areas of utes, trucks, vans, buses and stone damage protection for caravans and other vehicles.
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Suitable Surfaces

Virotoff is suitable for most properly prepared and primed and generally porous substrates including:

Porous concrete, cement render, cementitious levelling compounds, brick, block work, masonry, timber including plywood and particle board, FC and CFC sheeting, porous tiles (excluding vitrified, non-porous and glazed tiles), metal etch primed metal, soundly painted surfaces and fibreglass.

Apply test areas to all surfaces and in particular doubtful surfaces.

Specification

The information contained in this product data sheet is typical but does not constitute a full specification as conditions and specific requirements may vary from project to project. The instructions should be considered as a minimum requirement but the applicator or contractor must use their skill, knowledge and experience to carry out additional works as may be necessary to meet the requirements of the project. Specification for specific projects should be sought from the Company in writing.

Limitations

1. Virotoff relies on the texture of the aggregate bound within the coat. Therefore, a build up of fatty or greasy substances and grime will diminish or negate the products effectiveness and it is not recommended that it be used in these areas.
2. Virotoff should be regarded as a general purpose anti-slip coating and is not intended for areas demanding high anti-slip such as wet ramps, fat or oil build up, slippery foot wear. Test areas should be applied and tested. The Company makes no claim as to the suitability of the product for these areas and user assumes all risk.
3. It is essential that the product be kept clean and free of dirt and grime build-up. Chemical spills must be cleaned immediately.
4. The manner in which the product is applied will affect the degree of 'anti-slip'. Further, applied with a roller or applied too thick or patchy will reduce the ant-slip properties.
5. The product must not be regarded as a waterproofing membrane but can be used as a trafficable top coat over water based waterproofing membranes such as Duram Azcoflex and Duram Fibrecryl.
6. Virotoff is semi-flexible and may not bridge live cracks, expansion joints, joins and gaps.
7. Virotoff, being a trafficable floor coating, is subject to wear and tear and its effective life is subject to its use and abuse. It should be periodically inspected to assess its functionality and if required recoated.

Benefits and Advantages

ANTI-SLIP RATING

As an indication of the products excellent slip resistance and wearing properties, the slip

resistance rating of Virotoff has been independently tested according to AS/NZ4586:2004 Appendix A (wet Pendulum Test) and achieved a BPN of up to 58 Class V. Further, an accelerated wearing test consisting 5000 cycles equating to approximately 10 years of average wear the product slip rating was gradually reduced to BPN of 44 Class W.

Note: The manner in which the product is applied will effect its anti-slip rating and may produce a lower result and the rate of wear is subject to use and abuse of the coating.

Other Benefits and Advantages:

- Single pack - no mixing is required.
- Very low VOCs and meets the 'Green Star' environmental criteria.
- Incorporates composite aggregates providing an easy to walk on feel.
- Easy to maintain and recoat.
- Brush, roller or spray applied.
- Water based.
- UV resistant.
- Quick curing - generally overnight.
- Tough, durable & semi-flexible.
- Impact & vibration resistant.
- Odourless when cured.
- Suitable in food preparation areas.
- Suitable for light to moderate traffic.
- Easily overcoated & repaired.
- Chemical 'splash' resistant.
- Attractive in a range of colours.
- Looks great.
- Very versatile with many and varied applications.

Precautions in Use

Virotoff is water-based and considered as a non hazardous product. However, when using the product common sense and good industrial hygiene should be observed. The use of gloves and eye protection against splashes is recommended. If spraying, a dust mask and goggles should be worn.

Priming and Surface Preparation

Good preparation is essential. Surfaces must be sound, stable, dry, clean and free of dust, loose, flaking, friable material and substances that may diminish adhesion.

Surfaces must be clean and dry. It is vital that all contaminants, particularly oils, grease, waxes, acids and corrosive contaminants are removed which may require cleansing with strong detergents, high pressure cleaning, acid wash or other to ready the surface for application.

After surface is made good with preparation, prime all surfaces with Duram Primeseal at the minimum rate of 4m² per litre per coat and allow to dry. Highly porous or friable surface may

require an additional coat of Duram Primeseal. Note: In ideal conditions, the product may be used without a primer but it is this Company's recommendation that all areas be primed and if not primed it is at the risk of the user. Test areas are recommended.

Concrete, Cement & Porous Tiles:

Surface must be porous to allow the product to bond. The surface should be tested for porosity by spilling droplets of water on it. The prompt absorption of the droplets is a good indicator of a suitable substrate. If droplets show little sign of being absorbed the surface should be considered as doubtful for bonding purposes needing additional preparation. Examples of such doubtful surfaces includes, steel trowelled, smooth, glassy or shiny or helicopter finished concrete. These surfaces must be thoroughly acid etched, washed and neutralised to provide a porous surface. This should be done in accordance with E.P.A. requirements. If acid etching is not sufficient, surfaces may require mechanical abrading or sand blasting.

If concrete is deemed suitable, apply a priming coat of Duram Primeseal so that the surface has a uniform, solid off-white appearance and allow to dry.

In exposed areas where entrapped water moisture may exist in the substrate (which can lead to bubbling) the surface must be primed with Duram Primeseal applied 3m² per litre.

Metal:

Bare metal must be treated for rust then etch primed and allowed to dry.

Painted Surfaces(inclusive of vehicle paint, powder coats and baked-on enamels):

Paint should be of good quality and must be firmly bonded to the substrate. Roughen with sandpaper or wire brush ensuring gloss is removed. Clean or wipe with Duram Solvent allow to dry and apply Virotoff. If painted surface softens on contact with Duram Solvent do not continue. Allow paint to dry and harden and prime with Duram Primeseal. Allow to dry and then apply Virotoff.

Fibreglass:

Sand to remove all gloss & clean with Duram Solvent. When dry, prime with Duram Primeseal. Generally, Virotoff can be applied directly to the prepared fibreglass but not advisable. Test areas should be done.

Timber & Fibre-Cement Sheeting:

Sand or wire brush then clean. Prime with Duram Primeseal.

Bitumen

Clean surface and apply Duram Primeseal ensuring that the surface has a solid, uniform off-white colour. If in doubt apply a second coat.

Application

Stir thoroughly before starting the application process, then intermittently.

Apply by brush or suitable roller (black or medium texture) in coats of approximately 500 microns thick (0.5mm) until desired thickness is achieved. Rolling then lightly brushing with a soft broom is an easy way to give a good result. Rolling alone is not encouraged to uniformly disperse the aggregate. It is important that the product's texturing is maintained with each coat. Coats applied too thickly can cause unsatisfactory results. Spread onto surface as evenly as possible. Subsequent coats should be applied at right angles to the previous coats. Apply following coats as soon as possible after previous coat has dried.

By Spray

Mask off areas not intended to be coated. Usually sprayed without dilution but if required Virotoff can be diluted with clean water up to a maximum of 5% by volume. Suitable spraying techniques is via panel beater type gun, hopper gun or airless spray. General recommendation, spray at lowest practical pressure possible.

By panel beater type gun and hopper gun - at approx. 80 psi (5.5 bar)

By airless spray with 32 to 35 thou tip at 1000 to 2000 psi. Remove all filters in up-take pipe and in the gun.

Spray at approximately 500 microns thick per coat. It is important that the product's texture is maintained with each coat. Apply following coats at right angles to preceding cured coats as soon as previous coat is dry. To achieve best results, masking tape, if used, should be removed after each coat when still wet. After spraying, immediately clean equipment with water.

Irrespective of application the dry coat thickness should be approximately 1mm.

Wear, Tear & Repair of Virotoff.

Although Virotoff is tough and durable the nature of the applications renders it subject to wear & damage. It is important that the coating be monitored for wear and tear and that appropriate maintenance should be carried out to retain the products optimum performance.

To apply a maintenance or rejuvenation coat, clean surface, wire brush, wipe with Duram Prep Solvent or MEK and allow solvent to evaporate. Then apply new coat/s of Virotoff as follows:

1. Remove any damaged or loose areas.
2. Clean and roughen surface as well as surrounding areas.
3. Treat exposed areas as per preparation instructions.
4. Apply new Virotoff to area including 20mm onto the existing sound Virotoff coating.

Coverage

The stated average coverage rate may vary depending upon type, condition, porosity, texture of the surface and application technique.

Virotoff: 2m² to 2.25m² per litre per coat applied in minimum of 2 coats. Heavy duty areas should receive additional coat/s. On average the total coverage of a 15 litre pails is 15m² to

18m².

Duram Primeseal: Minimum of 1 litre per 4m² per coat.

Colours

Available in range of colours including Black, Light & Dark Grey, Light Green, Enviro Green(dark) Aqua Blue(light) ,Royal Blue(dark), Sapling Beige, Safety Yellow, Seared Terracotta and White. Colour range is subject to change.

NOTE: Whilst every attempt is made to replica colours, minor batch to batch colour variations may occur and if possible job lots should be ordered. Shelf Life: Up to 12 months in unopened containers.

Drying and Curing

Drying and curing of the product is affected by type, dryness and porosity of the surface, temperature, humidity, ventilation, climate conditions and application technique and therefore drying and curing can only be given as a guide.

Indicative curing rates at 23°C at 50% R.H. @ 500 micron thick:

Touch dry: 2 to 6 hours.

Solid Cure: 6 to 24 hours. Recoat after solid cure ensuring previous coat can be walked on without damaging it.

Full Cure: 24 to 72 hours.

The product is suitable for light loads after 36 hours & full load after 72 hours. The product attains full properties after 72 to 168 hours (3 to 7 days) .

If exposed, do not apply if rain is imminent. Coatings must be protected from water until fully cured.

Storage

Keep in cool, dry place, out of direct sunlight. Available in 1, 4 & 15 Pails. Store in original labelled containers. Product is not flammable.

Clean Up

Avoid spills. They are difficult to clean particularly off porous surfaces. For wet spills use an absorbent cloth and water. Equipment should be immediately cleaned with water. Ensure product does not enter drains or waterways.

Tiling, Topping or Top Coating

N/A

Safety & Precautions

ViroTuff is considered a non hazardous product but common sense and good industrial hygiene should prevail. If spraying, the use of a suitable mask is recommended. If swallowed do not induce vomiting, give plenty of water to drink. Seek urgent medical advice. If in eyes, flush thoroughly with clean water, holding lid open to ensure any trapped product may be flushed away. If on skin, remove contaminated clothing and wash skin with soap and water. If inhaled, unlikely due to viscosity of the product, remove person to fresh air and apply artificial respiration if required and seek urgent medical attention. Ensure adequate ventilation.

For full safety data refer to the products Material Safety Data Sheet. Observe precautions as per label.

Tests and Technical Data

Slip Resistance Rating: Tested to AS/NZ 4586:2004 BPN up to 58. Appendix A - (Wet Pendulum): Class V After 5000 cycles: BPN up to 44 Class X.

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Conditions of Use and Disclaimer

The information contained in this Material Data Sheet is given in good faith based upon our current knowledge and does not imply warranty, express or implied. The information is provided and the product is sold on the basis that the product is used for its intended purpose and is used in a proper workmanlike manner in accordance with the instructions of the Product Data Sheet in suitable and safe working conditions. Under no circumstances will the Company be liable for loss, consequential or otherwise, arising from the use of the product.

Material Safety Data Sheet

ViroTuff

Environmentally Friendly, Anti-Slip Coating

Not classified as a hazardous product according to the criteria of Worksafe Australia

Identification

Product Name: ViroTuff
Other Names: Duram ViroTuff
U.N. Number: N/A
Class: N/A
Hazchem Code: N/A
Poison Schedule: N/A
Pack Sizes: 1, 4, 15 Litre Pails

Physical Description

Appearance: Coloured creamy liquid encompassing aggregates. Mixes with water.
Boiling Point: 100% (Water)
Vapour Pressure: As for water.
Percent Volatiles: N/A
Specific Gravity: 1.05 to 1.1
Flash Point: N/A (Water Based)
Flammability: N/A
Water Solubility: Miscible. Will dissolve in water until fully cured.

Ingredients

Chemical	CAS No.	Proportion
Synthetic acrylic emulsion.	none	<35%
Minor ingredients	N/A	<30%
Aliphatic Urethane Acrylate	none	<35%
Fillers	N/A	<25%
Colourants	none	<5%

Uses:

Designed as an anti-slip coating for pedestrian areas such as walkways, stairs, industrial floors, domestic areas (pools surrounds, garages, decks).

Health Warning Information

Health Effects

Swallowed: Material is regarded as low oral toxicity. Considered an unlikely route of entry in commercial and industrial environments. The liquid is discomforting to the gastro-intestinal tract if swallowed. Ingestion may result in nausea, abdominal irritation and vomiting.

Eye: The liquid is discomforting to the eye's and is capable of causing a mild, temporary redness of the conjunctiva (similar to windburn) or irritation. Temporary impairment of vision and or other transient eye damage / ulceration. The vapour is mildly discomforting to

the eye's.

Skin: Mildly irritating. May affect skin with prolonged contact such as dermatitis. Avoid exposure to skin that is cut, damaged or irritated.

Inhaled: Not normally a hazard due to non-volatile nature of product. Overexposure is unlikely in this form. Inhalation may cause irritation to nose, throat and respiratory system. Inhalation of vapour is more likely at higher than normal temperatures.

Toxicology: No data available.

CHRONIC HEALTH EFFECTS: Principal routes of exposure are usually by skin contact with the material and inhalation of vapour. There are no known chronic health effects associated with the product. Prolonged or repeated skin contact may cause drying with cracking. Irritation and possible dermatitis following.

Avoid contact with unprotected skin, inhalation of vapour or ingestion. Observe good occupational work practices.

First Aid

Swallowed: Do not induce vomiting. Give plenty of water to drink. Rinse out mouth. Seek medical assistance or contact the Poisons information Service (Australia 13 1126 and New Zealand 03 4747000).

Eye: Flush thoroughly with clean water, holding eye lid open to flush product from under the lid. Removal of contact lens after injury should be done by a skilled or medical person. Advisable to seek medical advice.

Skin: Remove contaminated clothing, and wash with soap and water. Seek medical attention in event of irritation.

Inhaled: If fumes or combustion products are inhaled: Remove to fresh air. Lay patient down keep warm and rested. Other measures are usually unnecessary.

Advice to Doctor

Treat symptomatically.

Precautions in Use

Product is considered low risk.

Exposure Standards

No exposure limits have been established.

Biological: No limited allocated.

Although negligible in formulation: Ammonium hydroxide as ammonia ES TWA: 25ppm, 17mg / m³: STEL:35 ppm,24 mg / m³.
Ammonium hydroxide - as ammonia.
ES TWA: 25ppm, 17mg/m³,STEL: 35ppm, 24mg/m³.
TLVTWA: 25ppm, 17mg/m³, STEL: 35ppm, 24 mg/m³.

ENGINEERING CONTROLS

Use in well ventilated areas. General exhaust is adequate under normal operating conditions.

Industrial Hygiene: Observe normal good hygiene. If contact has been made with the product, wash hands before eating.

Exposure Limits

Refer above.

Ventilation

Product should be applied in areas with adequate ventilation.

Personal Protection

Gloves: Rubber or PVC. Do not use solvent to clean the skin.

Eyes: Safety goggles. The wearing of contact lenses poses an additional risk. Soft lenses may absorb irritants and all lenses concentrates them.

Feet: Wear safety footwear.

Clothing: Suitable work wear.

Safe Handling Information

Storage and Transport

Not classified as dangerous.

Store in cool, dry area and place out of the reach of children. Product is not flammable. Avoid freezing. Best stored above 0°C and below 35°C

Store in original containers. Observe manufacturers storing and handling recommendations.

Check containers are labeled and leak-free.

Transport: Not classified as dangerous according to the Australian Code for transportation of Dangerous goods by road or rail.

Stability & Hazards: Product is stable under normal use. Avoid heat and flames. Thermal decomposition may result in the release of toxic or irritating fumes including carbon monoxide and carbon dioxide.

Self Life: Approx 12 months.

Storage incompatibility: None known.

Transportation Restrictions: None.

Spills and Disposal

Clean up spills immediately, Avoid breathing vapours and contact with skin and eyes. Prevent spills from entering the drains or sewers. Absorb product with sand or earth or absorbent material and dispose to land fill in accordance with local council regulations.

Major spills unlikely due to individual size of containers.

Fire / Explosion Hazard

Product is not readily combustible under normal conditions. However, it will breakdown under fire conditions and the organic component may burn.

Heat may cause expansion or decomposition with violent rupture of the containers.

Decomposes on heating and may produce toxic fumes of carbon monoxide (CO)

May emit acrid smoke. Combustion products include ammonia.

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