

Thorgrip™ HD High Friction Wearing Course

Thorgrip™ HD is a three-component, high performance solvent free polyurethane combined waterproofing and anti-skid coat and scatter system.

The components of Thorgrip™ combine to create a tough and flexible adhesive slurry that bonds high friction aggregates and grits to concrete, asphalt, timber, steel, aluminium and GRP substrates.

The system offers good adhesion to suitably prepared substrates and a hardwearing, high friction surface finish.

Coloured or contrasting grits provide clear markings for safety and hazard areas. Natural aggregates offer an aesthetically pleasing finish for landscaping, driveways, paths, garden areas, car parks etc.

Summary

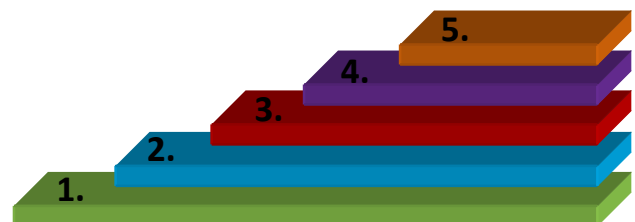
- Capable of withstanding vehicle traffic and heavy pedestrian footfall
- Has excellent high frictional qualities for reducing the frequency of accidents
- Combined waterproofing and anti-skid system
- Seamless and aesthetically pleasing alternative to concrete or asphalt
- Cold applied using electric hand mixer and squeegee
- Fast curing for minimal traffic disruption
- Suitable for a wide range of substrates (asphalt, concrete, timber, steel etc)
- Low hazard materials
- Resistant to oils and solvents
- Low initial and whole life cost

Areas of Use

- Roads
- Bridges
- Footpaths
- Car Parks
- Railway Platforms
- Cycle Tracks
- Forecourts
- Ramps
- Commercial Premises
- Surfaces requiring slip resistance

System

1. Sealcoat (Optional)
2. High Friction Aggregate
3. Thorgrip
4. Primer (dependant on substrate)
5. Substrate



Pedestrian Coverage

Resin	2.5kg/m ²
Aggregate	5.5Kg/m ² (1-2mm)

(After excess removed)

Always ensure that there is excess grit available on site to ensure full coverage prior to removal or excess by sweeping.

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Technical Information

Tensile (BS EN ISO 178:2003)

Tensile strength	4.5N/mm ²
Elongation at break	60% min

Adhesion (BS EN ISO 4624:2003) – 5 Day pull off test

Timber – cohesive failure	2N/mm ²
Concrete – cohesive failure	2N/mm ²
Bitmac – cohesive failure	<2N/mm ²
Steel	6N/mm ²

For other substrates, contact Thortech.

Relative density of resin mix, not including aggregate	1.44 @ 20°C
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Potlife

15 min @ 20°C

Cure

Initial Set:	1 hour @ 20°C
Open to Traffic:	2 ½ hours @ 20°C

Finished Weight of System

8Kg/m²

Temperature & Relative Humidity

Both coverage and cure depend on ambient and surface temperatures, the type and condition of the substrate and the aggregate temperature and size. R/H is required to be between 35% - 85%. Surface temperature must be below 40°C

Recommended temperature range for storage, transport and application is 5°C and 28°C. Please contact Thortech for other conditions.

Aggregates

The most commonly used aggregate is a buff coloured calcined bauxite or naturally grey emery, depending on the friction requirements of the aggregate, a pigmented granite or other aggregate type can be used for more vivid colours.

Sealer coats

If the aggregate you require is not available because of colour or size, a coloured finish of your choice can be achieved by using a coloured sealcoat.

Packaging

Thorgrip Natural is supplied as a 3 component, 23Kg unit

Pack A – Hardener: 3.26Kg unit
Pack B – Resin: 8.55Kg unit
Pack C – Filler: 11.2Kg bag

Thorgrip Black is supplied as a 3 component, 23.4Kg unit

Pack A – Hardener: 3.26Kg unit
Pack B – Resin: 8.95Kg unit
Pack C – Filler: 11.2Kg bag

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Surface Preparation

Ambient temperatures should be between 5°C and 28°C during application and cure. **Dry weather conditions and a dry substrate are essential.** For low temperature application on to a sloping surface refer to Thortech Technical Department.

SUBSTRATE	PREPARATION	PRIMING
BITUMEN BOUND MATERIALS	The surface must be in reasonable condition and of sufficient strength to accept the surfacing (must not soften at high temperatures), not excessively smooth*, rutted, cracked or subject to aggregate ravelling, etc. It must be at least 30 days old and have a surface texture that will provide a good mechanical key eg/SMA or open graded materials (refer Thortech). Sand carpet or materials using high penetration bitumen are generally unsuitable as substrates. Remove all contamination including oils and greases. Existing thermoplastic markings to be removed or worked around. Sweep clean to remove all dust. Allow to dry thoroughly.*Depending on the condition of the surface it may need to be lightly textured.	No primer required.
ALUMINIUM	For non-anodised aluminium thoroughly clean and degrease the surface. Use commercial detergents steam cleaners or pressure washers. Be sure all detergent residues are rinsed from the surface. Solvent wipe and allow to dry thoroughly. For anodised aluminium thoroughly clean and degrease the surface. Use commercial detergents, steam cleaners, or pressure washers. Be sure all detergent residues are rinsed from the surface, abrade the surface by using 80-120 grit paper to 'break' the anodised surface to ensure adhesion of the primer/coating. Solvent wipe and allow to dry thoroughly.	No primer required, if applying Thorgrip™ immediately. If application is going to be delayed, apply Thorprime™ STS to avoid oxidation. Allow to cure tack free (on average 2 hours). Thorgrip™ should then be applied during the following 10 hours, failing which the area should be re-primed.
TIMBER	Timber must be completely dry throughout before considering treatment. Timber contaminated by oils and greases, etc, is not suitable for treatment. Lightly sand and sweep/vacuum clean. If possible timber products should be sealed all round.	Apply Thorprime™ HD, and allow to cure tack free (on average 2 hours). Apply Thorgrip™ within 24 hours of tack free, failing which the area must be re-primed. If left longer than 3 days, the surface should also be lightly abraded.
CONCRETE	Concrete surfaces must be at least 30 days old. Remove all contamination and detritus including oils and greases, laitance, algae, moss, etc. Lightly texture the surface by vacuum blasting/or other mechanical means, remove residue by vacuum. Deep oil contamination to be removed using hot compressed air. Existing thermoplastic markings to be removed or worked around. Dry thoroughly.	Apply Thorprime™ HD, and allow to cure tack free (on average 2 hours). Apply Thorgrip™ within 24 hours of tack free, failing which the area must be re-primed. If left longer than 3 days, the surface should also be lightly abraded.
STEEL	Remove all rust, mill scale and surface contamination by grit blasting and other mechanical means to a bright rust free surface (SA2½ blast profile 90 – 120). Remove oil and grease contamination with a suitable cleaning fluid/degreaser and flush with water. Allow to dry thoroughly. Small or inaccessible areas must be prepared by disc abrading to ST3, followed by wiping down with a light hydrocarbon solvent, eg xylene.	Apply Thorprime™ STS within 4 hours of surface preparation. Allow to cure tack free (on average 2 hours). Thorgrip™ should then be applied during the following 10 hours failing which the area should be re-primed.
GALVANISED	Before coatings a galvanised surface it is advisable to blast to SA2½ blast profile 90 – 120 or prepare by grinder to ST3 standard. If blasting/grinding is not possible, a mordant wash solution should be used. All areas will turn black, a second coat may be required if all areas have not changed colour. Wash down area with water and allow to dry.	Apply Thorprime™ STS within 4 hours of surface preparation. Allow to cure tack free (on average 2 hours). Thorgrip™ should then be applied during the following 10 hours failing which the area should be re-primed.

Note: Before use on slopes and other substrates, please contact Thortech for advice.

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Method Statement

Strict compliance with the mixing and laying procedure is critical – mixing times must not be exceeded.

Materials include Thorgrip™, a 3 component polyurethane resin. It is used in conjunction with the customer's chosen high friction grit.

Pour the contents of Pack A and Pack B into a suitable mixing vessel and mix using a drill and paddle until homogeneous. Whilst still mixing, add the contents of Pack C and continue mixing for a further 20 seconds.

Pour the mixed material onto the surface and immediately spread using a serrated squeegee – do not spread too thinly (refer to coverage rates). No areas of the substrate should show through.

Wait for resin to self level and gel over, this takes 5-30 minutes depending on temperature/humidity. (30 minutes @ ambient temp of 20°C).

Broadcast the chosen aggregate onto the surface ensuring that there is no resin showing through. Remove any tape when resin starts to gel and excess aggregate after the surface had become stable. This will vary with both product and ambient temperature.

Cleaning

Safesolve should be used for cleaning tools, etc.

Health & Safety

Gloves, overalls and barrier cream should be used when working with Thorgrip™.

For full details, please refer to the appropriate Health & Safety Datasheet.

The information given in this product, technical and application datasheet is given in good faith, based on current knowledge and experience but we have no control over the quality or the condition of the substrate or the many differing factors affecting the use and application of the product. It relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of the company's knowledge and belief, accurate as of the date indicated. It is the user's responsibility to satisfy themselves as to the suitability and application of such information for their own use.