



THORGRIP™

Anti-Slip System

Thorgrip systems are high performance, heavy and medium-duty polyurethane-based, high friction surfacing systems designed for roads, footpaths, bridges, railway platforms, car parks and commercial premises, giving excellent slip and skid resistance.

INTRODUCTION

Safety has never been more important and the public's awareness never so high. There is a clear need to both incorporate non-slip surfaces into capital works and to carry out improvements to existing surfaces. Skid resistance is inevitably degraded by use particularly as a result of heavy vehicle movements and high shear forces on ramps, bends and approaches to junctions, etc.

The Thorgrip system combines tough but flexible polyurethane resins with highly abrasion-resistant aggregate. Unlike many systems, Thorgrip cures very quickly. Disruption is therefore minimal and a surface can be returned to full use in about 3 hours depending on temperature. It also cures at low temperatures, has excellent adhesion qualities and does not embrittle with age.

BENEFITS

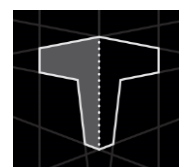
- Hardwearing and capable of withstanding heavy vehicular and pedestrian traffic
- Rapid installation and fast cure, ensuring areas are returned to use within 2.5 hours @ 20°C
- Excellent adhesion to suitably prepared substrates
- Flexible and durable giving you long life
- Solvent-free
- Quick, easy and cost-effective application
- Cold applied self-levelling polyurethane system applied by squeegee
- Low-temperature cure, down to 5°C
- Seamless and aesthetically pleasing

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 or application on to a sloping surface refer to Thortech Technical Department.



Substrate	Preparation	Priming
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 CS and allow to cure tack-free (on average 2 hours). Apply Thorgrip systems 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.
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 to 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.
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 CS and allow to cure tack-free (on average 2 hours). Apply Thorgrip systems 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 (SA21/2 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, e.g. xylene	Apply Thorprime STS within 4 hours of surface preparation. Allow to cure tack-free (on average 2 hours). Thorgrip systems should then be applied during the following 10 hours failing which the area should be re-primed.



Aluminium	For non-anodised aluminium thoroughly clean and degrease the surface. Use commercial detergents, steam cleaners or pressure washers. Be sure all detergent residue is rinsed from the surface. Solvent wipe and allow to dry thoroughly.	No primer required. If applying Thorgrip systems immediately.
	For anodised aluminium thoroughly clean and degrease the surface. Use commercial detergents, steam cleaners, or pressure washers. Be sure all detergent residue is 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.	If the application is going to be delayed, apply Thorprime STS to avoid oxidation. Allow to cure tack-free (on average 2 hours). Thorgrip systems should then be applied during the following 10 hours failing which the area should be re-primed.

COVERAGE/APPLICATION /CURE TIME

Thorgrip HD

Resin	2.5 – 3.0Kg/m ² (Av. 8.4m ² /unit)
Aggregate	9Kg/m ² (1-3mm)

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

Application:

Strict compliance with the mixing and the laying procedure is critical – mixing times must not be exceeded. Materials include Thorgrip, a 1 or 2 component polyurethane resin. It is used in conjunction with the customer's chosen high friction aggregate.

Pour the contents of pack B into a suitable mixing vessel and mix using a drill and paddle until homogeneous. Whilst still mixing slowly add the contents of pack A and continue mixing for a further 20 seconds. Whilst still mixing slowly, add the contents of pack C and continue for 40 seconds until a homogeneous mixture is achieved.

Cure:

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

TECHNICAL INFORMATION

Tensile (BS EN ISO 178:2003)	
Tensile Strength	4.5N/mm ³
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
Asphalt – 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

Aggregates

The most commonly used aggregate is naturally grey emery, depending on the friction requirements of the aggregate.

Sealcoats

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.

Pot Life:

15 min @ 20°C

Temperature:

Both coverage and cure depend on ambient temperatures, the type and condition of the substrate and the aggregate temperature and size.

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

Finished weight of system:

Thorgrip HD 11.6Kg/m²

PACKAGING / CLEANING / STORAGE

Thorgrip systems are supplied in various unit sizes

Thorgrip HD	Pack A – Hardener: 2.5L pot	
23Kg	Pack B – Resin:	10L pot
	Pack C – Filler:	11.5Kg bag

Safesolve should be used for cleaning tools, etc.

HEALTH & SAFETY

Gloves, overalls and barrier cream should be used when working with Thorgrip systems.
For full details, please refer to the appropriate Health and Safety Data Sheet.

It is the customer's responsibility to ensure that this product is suitable for purpose. Results are not guaranteed as application conditions are beyond our control. Every care has however been taken in the compilation of this information.

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