



HOTWIRE SLC SPECIFICATION

Project Name :
Project Address :
Specification Prepared For :
Specifiers Name :
Date :

1.0 INTRODUCTION

This specification is for the application of The Heating Company International's Self-Levelling floor compound (Hotwire SLC). Hotwire SLC is a one component polymer rich cementitious material which is mixed with clean potable water on site and used to create low shrinkage, strong-flowing, self-smoothing plaster. Hotwire SLC can be easily applied over a variety of properly prepared concrete and masonry surfaces or under-floor heating wires to produce a smooth level surface prior to the application of tiles, vinyl, carpet or other floor coverings.

Hotwire SLC can be applied in multiple layers with each layer being no more than 10mm thick or it can be economically extended with a graded aggregate to fill greater depths. It is compatible with most commonly used adhesives and can normally receive floor coverings with 24 hours of installation

2.0 PROPERTIES

- Application Temperature: 5°C - 30°C
- Service Temperature Range :-20°C to 60°C
- Coverage: Approximately 1.5kg/m²/mm
- Working Time: Approximately 15 minutes @ 20°C
- Walkable: Approximately 4 hours @ 20°C
- Ready for covering: Approximately 24 hrs per 3mm thickness @ 20°C and @ 65% RH

3.0 SURFACE PREPARATION

The concrete substrate must be in strict accordance with the specifiers/ manufacturer's specifications and recommended installation procedures. The concrete manufacturers required curing time must be allowed after placement of the original floor to ensure it has completely cured, shrunk and stabilised. Failing to allow the floor to completely cure can lead to excess shrinkage and cracking after the Hotwire SLC has been applied to the substrate. All solid concrete substrates must be fully cured and dry, in accordance with AS1884-1985 (maximum moisture content 5.5% or 70% humidity). New concrete floors must be at least 21 days old prior to any application of Hotwire SLC.

All loose or damaged material must be removed by, water blasting, captive shot blasting or mechanical wire brushing and then vacuumed and repaired prior to being primed. All surface imperfections such as blowholes, large cracks and spalling must all be patched and levelled to required tolerances and smoothness with Specialized plaster materials before the Hotwire SLC is applied.

All nibs, protrusions and excess mortar on the surface of the floor or other large irregularities in the slab that could affect the finished surface of the Hotwire SLC must be ground off prior to topping.

All surfaces to receive an application of Hotwire SLC must be clean and free of debris, dirt and dust, efflorescence, grease, oils, curing agents, asphalt, mastic, latex compounds, adhesives, gypsum based compounds, cleaning solutions, mould and algae or any other contaminants that may affect adhesion. Painted or glossy surfaces such as power floated concrete must be specially primed, acid etched or mechanically abraded prior to the application of any plaster material, please refer to The Heating Company International for specialist advice before you proceed. All cracks that may be the subject of ongoing movement must be correctly repaired and reinforced.

Deeply contaminated substrates must be abraded to provide a clean sound surface.

To avoid any potential cracking all construction joints in the underlying concrete sub-floor must be carried through the Hotwire SLC.

4.0 SURFACE PRIMING

Priming is crucial prior to the application of Hotwire SLC. Failing to properly prime the floor will lead to reduced adhesion, reduced flow and greatly increase the incidence of pin-holing in the finished product. Hotwire SLC primer should be applied directly from the container and should not be diluted. The primer can be applied either with a traditional paint brush, medium nap roller or broom and will cover approximately 8-10m²/litre. The approximate drying time of the primer is 40-60 minutes at 50% relative humidity and 20°C. If the concrete substrate is extremely smooth or dense it must be primed using Specialized Construction Products "Bondit" primer. Please refer to The Heating Company International for specialist advice before you proceed with priming if you are at all unsure of which primer you should be using.

If concrete surface has a moisture content greater than 5.5% or is the subject of rising damp or moisture, a moisture barrier must be applied prior to the application of the Hotwire SLC. Hotwire recommend the use of Coating Technologies' Cotec Liquid Concrete (LC). Please consult with Coating Technologies for further information on the application of this product.

Do not apply Hotwire SLC to surfaces that are wet from rain or overnight dew.

5.0 SAFETY PRECAUTIONS

Avoid contact with eyes and prolonged contact with skin. Wash thoroughly after handling all wet or dry material. In case of eye contact, flush immediately with running water for at least 15 minutes. Consult a physician immediately. Do not take internally. The potential irritant nature of cement dust (in dry powder form or from subsequent cutting of the hardened product) is recognised. Paper dust masks or a respirator must be worn at all times when the product is being mixed. Be sure to provide adequate ventilation when working in enclosed areas. The wet compound is alkaline and prolonged skin contact should be avoided. People with sensitive skin must wear rubber gloves when handling the product. Materials Safety Data Sheets are available on request.

6.0 MIXING INSTRUCTIONS

Hotwire SLC should be mixed with a heavy duty electric drill with a high shear stirrer at approximately 600 r.p.m as it produces a much smoother mix and reduces the likelihood of unmixed lumps being left in the product. Concrete mixers or hand mixing are not suitable.

Add 4.5 litres of clean potable water to a clean bucket and then while stirring slowly add the 20kg bag of Hotwire SLC. The product should be mixed for a minimum of 2 minutes and long enough to provide a smooth lump-free, flowable blend. If foaming and streakiness appear on the top of the mixed product the Hotwire SLC has been over watered and should not be placed on the substrate. More powdered material may be added immediately while the product is being mixed to achieve the proper consistency.

Any Hotwire SLC that has hardened or stiffened in the mixing bucket must be discarded. The addition of more water to this product will NOT reconstitute it into a useable material.

Low temperatures and high humidity will delay the setting process whereas high temperatures and low humidity will accelerate the setting. Over acceleration can lead to shrinkage cracking in the finished product. It is therefore highly recommended that in middle of summer the product is applied when temperatures are at their coolest (i.e. in the early morning or evening) and that the coldest water possible is used to mix with the product.

For areas that require a lot of filling, washed, dry, graded dry aggregate can be added to the product. If the aggregate is 3 – 8mm, add 10kg per 20kg bag of Hotwire SLC and if the aggregate is larger at 8 – 12m, add 20kg per 20kg bag of Hotwire SLC. The Hotwire SLC should be well mixed first before the dry aggregate is added to the mix. The addition of aggregate to the Hotwire SLC will severely reduce its ability to flow and it is highly likely that an additional layer of non-filled Hotwire SLC will have to be applied to the surface of the aggregate filled layer in order to achieve the required surface quality. Do not add more aggregate than what has been specified above.

If the product is being pumped the mix speed should not be set too high or over aeration may be caused.

7.0 MATERIALS APPLICATION

On-site application is beyond the control of The Heating Company International. Therefore it cannot guarantee workmanship, supervision, aesthetic quality or the correct preparation and application of its products or the substrates to which its products may be applied.

Once the surface to be coated has been well primed and the whole area is clean and dry pouring can commence. As the product is poured move it into position with an appropriate spreader, rake, trowel or spiked roller and allow the material to seek its own level. If you are working by yourself try to mix enough material to cover the entire surface area to be coated. Alternatively, ensure more bags are being mixed by additional team member while the product is being poured. The potential for lapping lines will be greatly reduced if a continuous wet edge is maintained throughout the entire pour. To improve flow and the surface finish, remove air from the still wet compound using a spiked roller.

Thickness - Hotwire SLC can be applied from 1.5mm up to a maximum of 10mm in a single application. To ensure the product remains as free flowing as possible the minimum application thickness should be greater than 2mm.

When additional thickness is required, Hotwire SLC may be layered up to 10mm thick without the addition of aggregate. Any subsequent layer may be applied directly over the surface as soon as it will support foot traffic or alternatively the SLC should be left for a minimum of 48 hours to cure to allow the majority of the initial cure of the cement to take place before more product is placed over its surface. If more than 5 hours has past before the new material is applied the underlying surface of Hotwire SLC must be reprimed.

All uncured material can be removed with water. Mechanical removal will be required once the Hotwire SLC has dried.

8.0 COVERAGE

One 20kg bag of Hotwire SLC will make approximately 0.0115m^3 of pourable material and will cover approximately:- 6.5m^2 at 2mm thickness

- 4.3m^2 at 3mm thickness
- 3.2m^2 at 4mm thickness
- 2.4m^2 at 6mm thickness

9.0 CURING

The curing time of Hotwire SLC will vary due to ambient temperature, relative humidity, surface temperature, surface porosity, application methods, and/or the thickness of the material. All freshly applied material must be protected for a minimum of 24 hours after application. It is the responsibility of the Hotwire SLC applicator to determine if the product is cured and/or dry prior to applying any additional coats that may be required. Exposing the applied product to any inclement weather conditions, direct sunlight or sources of heat while it is curing may have a detrimental affect on the product. Hotwire SLC contains cement and it will therefore not completely chemically cure for 28 days. It is therefore the subsequent subcontractor's responsibility to ensure the Hotwire SLC has completely cured before applying any floor finishes or coverings. Under normal conditions a 5mm layer of Hotwire SLC should be walkable after 4 hours and will be ready to receive floor coverings after 24 hours. For thicknesses between 5 and 10mm, allow a minimum of 48 hours to dry. Where the installation of the floor covering will be delayed for longer than 48 hours, the surface should be covered to provide temporary protection against surface damage and contamination.

As a general rule the finished surface of Hotwire SLC is not dissimilar to traditional concrete. Therefore any adhesives that are used to bond subsequent floor coverings that are compatible with concrete will be compatible with the finished surface of the Hotwire SLC. Strictly follow the floor covering adhesive manufacturer's instructions.

10.0 LIMITATIONS

Ensure all surface preparation and priming instructions are followed precisely. Hotwire SLC should not be over-watered, over-mixed or remixed with additional water. Any material over 20 minutes old should be discarded and not used.

DO NOT apply Hotwire SLC when the ambient or surface temperature is below 4°C or above 30°C or will be in that range for the 24-hour period after application. Material that is allowed to freeze or material that dries too quickly may suffer irreparable damage.

DO NOT apply Hotwire SLC to areas that are the subject of continuous wetting.

DO NOT add any other materials to the Hotwire SLC or deviate from the mixing or application procedures outlined in any of The Heating Company International's technical data sheets without written approval from The Heating Company International.

DO NOT apply Hotwire SLC unless the substrate has been properly cleaned, primed and prepared. See Surface Preparation above.

DO NOT wet the substrate prior to the application of this material.

DO NOT reactivate Hotwire SLC with water once it has begun to set.

DO NOT use this material where it will be subjected to permanent immersion or where ponding will occur.

DO NOT apply Hotwire SLC over frozen or frost filled surfaces.

DO NOT apply Hotwire SLC to wooden surfaces.

NOTE:

Failure to follow the manufacturers written specifications could result in the following but not limited to spalling, cracking, peeling, chipping, delamination, discolouration, wash off, and overall system failure.

11.0 CLEANING

Cleaning may be accomplished with water immediately after use. Clean the whisk and the bucket between mixes and discard the cleaning water. Remove splatter or spills with water before the material sets.

12.0 PLASTER STORAGE

In bagged form this product must be stored in a dry area, off the floor on a timber pallet or timber dunnage and it must be protected from the weather and from mechanical damage. Rotate the stock to ensure that the oldest material is used first. (Note the date of manufacture on the bags)

Plaster stock that is older than six months should be discarded.

13.0 WARRANTY

The recommendations, suggestions, statements and technical data provided by The Heating Company International are based on the best current knowledge available and are given for information purposes only without any responsibility for their use. It is expressly understood and agreed that the buyer's sole and exclusive remedy shall be the replacement of defective products, and under no circumstance, shall The Heating Company International be liable for incidental or consequential damages. The Heating Company International neither assumes, nor authorizes, any others to assume for it any liability with respect to furnishing of the product. Handling and use of the products are beyond the control of The Heating Company International; therefore, no warranty is made, expressed or implied, as to the results or on site quality that can be obtained from the use of the product.

14.0 TECHNICAL ASSISTANCE

Technical assistance and information is available by contacting The Heating Company .



"The Total Package"

www.thci.co.nz