HYCHEM SPECIFICATION

HYCHEM
EPOXY SYSTEMS

HYCRETE INSTALLATION METHOD STATEMENT

Last update

05/04/22

HYCHEM

Hycrete installation guide

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1 HYCRETE SYSTEM DESCRIPTION

A seamless, chemically resistant, hygienic and hard-wearing system designed to tolerate high traffic and impacts.

Hychem Hycrete is a specially formulated Polyurethane Cement technology typically applied in thicknesses ranging from 2-12mm.

Designed to conform with the strictest food and safety requirements, Hycrete includes world leading anti-microbial Ultra-fresh technology to provide extra additional resistance to bacteria, fungi, mould and mildew. Hycrete is certified by HACCP as suitable for floor surfacing in food and beverage production conditions.

Polyurethane cement products are the industry leading technology for food and beverage facilities due to the hygienic seamless nature coupled with the excellent thermal and chemical resistance.

Polyurethane cement products are capable of performing under the harshest of conditions, whether by exposure to hot and cold chemicals, thermal shock, intensive heavy traffic and abrasion and impact or point loads.

Floors subject to extreme thermal variations require a system specifically designed to withstand such aggressive conditions.The unique filler composition of Hycrete PU offers exceptional resistance to high temperatures and extreme thermal shock conditions including routine and regular discharges of boiling water and steam.

Hycrete Polyurethane cement is a 3 part reactive system composed of a water based Polyol, a urethane hardener and a Portland cement filler. Typically a waterbased urethane pigment is added and accelerator additives can be included to reduce application times.

The Hycrete pre-packaged 3 part formula allows for simple application on site with no measuring required, significantly limiting the potential for site mixing errors.

Hycrete Polyurethane Cement is a waterbased, low VOC, green star approved product that is odourless and will not taint food.

Hycrete floors are designed to resist the commonly encountered manufacturing chemicals and fats such as Acetic acid, Lactic acid and Oleic acid from vegetable and animal fats. Hycrete is also used as a chemically resistant surface treatment for chemical bunds and heavy industrial processing facilities.

Due to the waterbased formula, Hycrete has exceptional moisture tolerance allowing use over concrete or screeds with higher moisture contents then traditional epoxy systems. Applied in-situ, slip resistance is completely customisable with a range of aggregate sizes and strengths available.

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2.1. AVAILABLE HYCRETE SYSTEMS

2.1.1 Hycrete components

Hycrete Polyurethane Cement is formulated with a combination of the below components.

Product code	Weight	Volume	Components	Overview
AC20	125g		1	Accelerator for Hycrete TC Solar to halve the curing times
AC20	1 kg		1	Accelerator for Hycrete TC Solar to halve the curing times
AC25	1 kg		1	Accelerator for Hycrete SL and TC to halve the curing times
Hycrete Pigment Pack	175g		1	Hycrete pigment pack (selected range) - to be used with neutral Hycrete SL and Hycrete TC kits
Hycrete PU-HF Aggregate	16kg		1	Used in combination with Hycrete PU-SL(m) Neutral for increased high temperature resistance
Hycrete PU-SL(m) Neutral	20 kg	~10.5Ltr	3	Self levelling cementitous polyurethane - Neutral Kit
Hycrete PU-SL(m) Neutral	120 kg	~63Ltr	3	Self levelling cementitous polyurethane - Neutral Kit
Hycrete PU-TC(m) Neutral	4kg	~2.5Ltr	3	Cementitious polyurethane roller applied top coating - Neutral Kit
Hycrete PU-TC Solar Neutral	3.3kg	~2.5L	3	Cementitious polyurethane roller applied top coating coating - Neutral Kit; good UV stability for external or significantly exposed UV areas
Hycrete PU-VC Aggregate	16.5kg		1	Used in combination with Hycrete PU-TC(m) Neutral to produce a coving and vertical grade mortar mix

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2.2: PRODUCT SELECTION CRITERIA

2.2.1 Product selection

Hycrete is specifically formulated for use in the following environments: cool rooms, cold rooms, ante room, blast freezers, commercial kitchens, food processing and manufacturing facilities, abbatoirs, dairy factories, mining, engineering workshops, meat processing, bars, restaurants, food waste, treatment plants, food preparation canteens and chemical bunds.

Hycrete is suitable for interior and exterior applications of industrial floors subject to extreme service conditions such as areas with high chemical exposure, extreme service temperatures, high compressive strength (>50mPa or 7225psi) and high abrasion resistance (AR.05).

System	Total Dry Film Thickness	Heat resistance	Chemical Resistance	Abrasion resistance	Impact resistance	Steam Cleaning
Hycrete Thermoshield	9-12mm	-40°C to 150°C	xxx	xxx	xxx	xxx
Hycrete Universal	4-6mm	0°C to 80°C	xxx	xxx	xxx	xx
Hycrete Roll Coat	0.5-2mm	0°C to 40°C	xxx	xx	x	

Xxx = excellent

Xx = great

X = good

Empty = not recommended

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2.2.1 Hycrete Thermoshield

When to use Thermoshield

Hycrete Thermoshield is the nominated system for areas with extreme hygienic conditons or areas where resistance to extreme temperatures above 80°C or below 0°C are required, such as areas where intense steam cleaning and high pressure hot water jet cleaning, or around ovens or freezers.

Thermoshield system components

Thermoshield includes Hycrete SL with the addition of the Hycrete PU HF aggregate to achieve an 8-10mm base layer dry film thickness.

This wet Hycrete SL layer is broadcasted with the selected aggregate to achieve the desired slip resistance and increase the mechanical abrasion resistance.

Once cured, one or two top coats of Hycrete TC are applied by roller to achieve a 9-12mm total dry film thickness.

Thermoshield temperature resistance

The Thermoshield system has excellent thermal shock resistance and is suitable for temperatures ranging from -40°C to 150°C.

Hycrete Thermoshield application rates

Layer	Kg/sqm	Additions
Hycrete SL	7mm = 16.1kg/sqm 10mm = 23kg/sqm	1x Hycrete PU HF, 1x Pigment per kit
Hycrete TC	<.8m,m aggregate: 0.85kg/sqm >.8mm aggregate: 1kg/sqm	1x Pigment per kit

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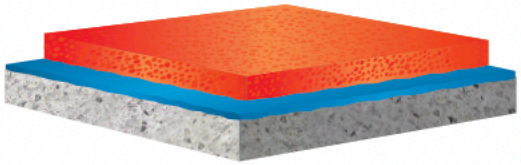
HYCRETE THERMO SHIELD

Heavy duty, easy-to-trowel floor. High thermal shock resistance, chemical resistance, antimicrobial resistance, with excellent mechanical wear. With a system thickness of 9-12mm, temperature resistance ranges from -25°C to 150°C.

Top coats	Pigmented Hycrete PU TC applied in two coats
Base coat	8-10mm, pigmented Hycrete PU SL with PU HF aggregates. Broadcasted with Bauxite to achieve slip resistance.
Substrate	Concrete or SC240 cementitious screed above 25mPa



System	Specification	Mix
9mm Thermoshield	1. Grind and prepare substrate to CSP2-3 2. Apply Hycrete PU SL at 7mm or 16.1kg/m2 through gauge rake or notched trowel 3. Spike roll the PU SL within 5-10 minutes of laying 4. Broadcast aggregate to 4kg/sqm within 5 minutes of spike rolling 5. Squeegee and roller apply Hycrete PU TC at 1kg/m2 6. (Optional) Squeegee and roller apply second coat of Hycrete PU TC at 0.85kg/m2	Each Hycrete SL mix will consist of: 1x 3kg Hycrete SL Part A 1x 3kg Hycrete SL Part B 1x 16kg Hycrete SL Part C 1x 16kg Hycrete PU HF 1x 175g Hycrete pigment Each Hycrete TC mix will consist of : 1x 1kg Hycrete PU TC Part A 1x 1kg Hycrete PU TC Part B 1x 2kg Hycrete PU TC Part C 1x 175g Hycrete pigment
12mm Thermoshield	1. Grind and prepare substrate to CSP2-3 2. Apply Hycrete PU SL at 10mm or 23kg/m2 through gauge rake or notched trowel 3. Spike roll the PU SL within 5-10 minutes of laying 4. Broadcast aggregate to 4kg/sqm within 5 minutes of spike rolling 5. Squeegee and roller apply Hycrete PU TC at 1kg/m2 6. (Optional) Squeegee and roller apply second coat of Hycrete PU TC at 0.85kg/m2	Each Hycrete SL mix will consist of: 1x 3kg Hycrete SL Part A 1x 3kg Hycrete SL Part B 1x 16kg Hycrete SL Part C 1x 16kg Hycrete PU HF 1x 175g Hycrete pigment Each Hycrete TC mix will consist of : 1x 1kg Hycrete PU TC Part A 1x 1kg Hycrete PU TC Part B 1x 2kg Hycrete PU TC Part C 1x 175g Hycrete pigment

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2.2.2 Hycrete Universal

When to use Hycrete Universal

When encountering temperatures ranging from 0°C to 80°C, Hycrete universal is the nominated system.

Hycrete Universal 6mm is the standard and most commonly used Hycrete specification. While still performing with the same excellent chemical, anti-microbial and mechanical resistance as the Hycrete Thermoshield, Hycrete Universal is typically applied at 4-6mm total dry film thickness.

Typical application area of Hycrete Universal include commercial kitchens, food production facilities, abbatoirs, dairy facilities, bunds, treatment plants, bars, restaurants, and food and beverage production facilities.

Hycrete Universal system components

Hycrete Universal utilises a base coat of Hycrete SL applied at 4mm dry film thickness. For lower intensity areas, a 2mm base layer may be used.

This Hycrete SL layer has aggregates broadcasted to refusal to achieve the desired slip resistance and mechanical abrasion resistance.

The use of bauxite, alumina oxide or quartz silica sand can be used depending on thes slip resistance longevity desired.

Once cured, one or two top coats of Hycrete TC are applied by roller to achieve a 4-6mm total dry film thickness. The use of a second Hycrete TC top coat will provide a more consistent and aesthetically pleasing finish.

Hycrete Universal temperature resistance

The Hycrete Universal system is suitable for temperatures ranging from 0°C to 80°C.

Hycrete Universal application rates

Layer	Kg/sqm	Additions
Hycrete SL	2mm = 3.7kg/sqm 4mm = 7.6kg/sqm	1x Pigment per kit
Hycrete TC	<.8m,m aggregate: 0.85kg/sqm >.8mm aggregate: 1kg/sqm	1x Pigment per kit

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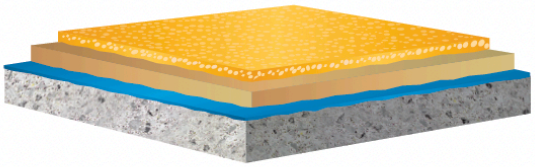
HYCRETE UNIVERSAL

Medium duty, high grade slip resistance, incorporating Hycrete TC top coat technology. Antimicrobial, odourless solvent free polyurethane cement floor system. Excellent chemical resistance, range of surface finishes for varying anti-slip requirements. Temperature resistance 0°C to +90°C.

System thickness 4-6mm thickness.

Top coats	Pigmented Hycrete PU TC applied in one or two coats
Base coat	2-4mm, pigmented Hycrete PU SL with aggregates broadcasted to achieve slip resistance.
Substrate	Concrete or SC240 cementitious screed above 25mPa



System	Specification	Mix
4mm Hycrete Universal	1. Grind and prepare substrate to CSP2-3 2. Apply Hycrete PU SL at 2mm or 3.7kg/m2 through gauge rake or notched trowel 3. Spike roll the PU SL within 5-10 minutes of laying 4. Broadcast aggregate to 4kg/sqm within 5 minutes of spike rolling 5. Squeegee and roller apply Hycrete PU TC at 0.85kg/m2 6. (*Optional)* Squeegee and roller apply second coat of Hycrete PU TC at 1kg/m2	Each Hycrete SL mix will consist of: 1x 3kg Hycrete SL Part A 1x 3kg Hycrete SL Part B 1x 16kg Hycrete SL Part C 1x 16kg Hycrete PU HF 1x 175g Hycrete pigment Each Hycrete TC mix will consist of : 1x 1kg Hycrete PU TC Part A 1x 1kg Hycrete PU TC Part B 1x 2kg Hycrete PU TC Part C 1x 175g Hycrete pigment
6mm Hycrete Universal	1. Grind and prepare substrate to CSP2-3 2. Apply Hycrete PU SL at 4mm or 7.6kg/m2 through gauge rake or notched trowel 3. pike roll the PU SL within 5-10 minutes of laying 4. Broadcast aggregate to 4kg/sqm within 5 minutes of spike rolling 5. Squeegee and roller apply Hycrete PU TC at 0.85kg/m2 *6. (Optional)* Squeegee and roller apply second coat of Hycrete PU TC at 1kg/m2	Each Hycrete SL mix will consist of: 1x 3kg Hycrete SL Part A 1x 3kg Hycrete SL Part B 1x 16kg Hycrete SL Part C 1x 16kg Hycrete PU HF 1x 175g Hycrete pigment Each Hycrete TC mix will consist of: 1x 1kg Hycrete PU TC Part A 1x 1kg Hycrete PU TC Part B 1x 2kg Hycrete PU TC Part C 1x 175g Hycrete pigment

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2.2.3 Hycrete Roll Coat

When to use Hycrete Roll Coat

The Hycrete Roll Coat system can be nominated for projects or areas with lower intensity.

Common such areas include storage rooms, transitional areas, warehouses, engineering facilities or packing areas.

The Hycrete Roll Coat system still has excellent chemical resistance and it also offers exceptional moisture tolerance and adhesion which allows it to be used as a primer if required.

Hycrete Roll Coat will not offer the same heat, thermal shock, or impact as the Hycrete Thermoshield or Hycrete Universal systems.

Hycrete Roll Coat system components

The Hycrete roll coat system is a two or three layer application of Hycrete PU TC.

Each layer will add between 150-400 microns of dry film thickness depending on the substrate porosity and corresponding layers slip resistance or finish.

The use of bauxite, alumina oxide or quartz silica sand can be included in the first or second layer depending on thes slip resistance longevity desired.

Hycrete Roll Coat temperature resistance

The Hycrete roll coat system is reccommended for exposure to temperatures ranging from 0°C to 40°C.

Hycrete Roll Coat application rates

Layer	Kg/sqm	Additions
Hycrete TC	Over smooth substrate: .26kg/sqm <.8m,m aggregate: .85g/sqm >.8mm aggregate: 1kg/sqm	1x Pigment per kit

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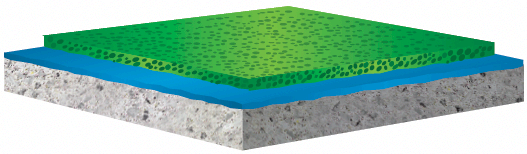
HYCRETE ROLL COAT

A two or three layer Hycrete TC roll coat system for less harsh environment. An antimicrobial, anti-slip, system with excellent moisture tolerance.

The system thickness is 0.5-2mm dry film thickness.

Body and seal coat	Pigmented Hycrete PU TC applied in two or three layers with the option of additional aggregate for slip resistance.
Substrate	Concrete or SC240 cementitious screed above 25mPa



System	Specification	Mix
0.5-2mm Hycrete Roll Coat	1.Grind and prepare substrate to CSP2-3 2. Apply Hycrete PU TC at 0.2mm or .26kg/m2 through gauge rake or notched trowel 3. Broadcast aggregate to 2-4kg/sqm within 10 minutes of application 4. Squeegee and roller apply Hycrete PU TC at .85kg/m2 (5. *Optional)* Squeegee and roller apply second coat of Hycrete PU TC at 1kg/m2	Each Hycrete TC mix will consist of : 1x 1kg Hycrete PU TC Part A 1x 1kg Hycrete PU TC Part B 1x 2kg Hycrete PU TC Part C 1x 175g Hycrete pigment

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2.3: APPLICATION GUIDELINES OF HYCRETE

2.3.1 Open time of Hycrete

Hycrete is a fast curing material with an open time of 18 minutes at 25°C.

Maintaining a wet edge throughout application is critical to ensure a consistent finish throughout.

Due to the exothermic curing process of Hycrete, for every 5°C increase in ambient temperature above 25°C, the product will have a reduced open time of roughly 5 minutes.

For every 5°C decrease in temperature from 25°C, the open time will increase by roughly 5 minutes.

Pouring the mixed product immediately on the floor once mixed will result in a longer open time due to a lower product mass and surface to volume mix ratio.

2.3.2 Planning application areas of Hycrete

Proper planning and preparation is required to ensure once the mixing begins, consistent batches can continue until the complete target bay or area is completed.

Hycrete should always be terminated at a joint, angle, selected termination or transition to ensure a consistent finish.

Consideration of the ambient and substrate temperature should be considered when planning target application bays or areas.

2.3.3 Labourers recommended for Hycrete SL

A minimum of 4 labourers are reccommended for the Hycrete SL application. Considering a mix time of 2-3 minutes per Hycrete SL kit:

1 labourer should be mixing

1 labourer should be applying the product

1 labourer should be broadcasting the aggregate and spike rolling

1 labourer should be helping transport the material

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Spike rolling of the material is required within 5-10 minutes of laying the Hycrete PU SL material.

Spike rolling outside of this window can result in spike roller marks showing through.

2.3.4 Labourers reccommended for Hycrete TC

A minimum of 3 labourers are reccommended for the Hycrete TC application. Considering a mix time of 2-3 minutes per Hycrete TC kit,

1 labourer should be mixing

1 labourer should be applying the product

1 labourer should be transporting the material and helping apply the product

2.3.5 Labourers remaining in designated roles

The same labourer should remain in their designated role throughout the whole application of each bay or area to avoid fluctuating application and mixing rates.

Changing the mixing time can result in a different shade of colour in the finish.

Changing the labourer who has been applying the product can result in different coverage rates and thicknesses which can result in varying gloss levels or thicknesses.

Changing the labourer who has been broadcasting the sand can result in inconsitent slip resistance coverage.

2.3.6 Anchor grooves

For all Hycrete SL applications, anchoring grooves minimum 10 mm wide and 10 mm deep will need to be cut just inside the perimeter of the area to be topped as well as around drains, free edges and within 100mm of the coving.

Double diamond blade saw cuts are reccommended.

2.3.7 Mixing station

The mixing station for Hycrete should be setup within a 1 minute walk of the application area.

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Due to the exothermic reaction of Hycrete, the longer Hycrete remains in a thicker mass in a bucket or mixing station the faster it will cure, resulting in a shorter open time and thicker product.

The location of the mixing station should be in an area that will control any dust generated or cleaning solvent vapours produced.

2.3.8 Measuring consumption rates

Applicators should set marking points for the first 25sqm applied for each product each day.

Regular checking of consumption rates throughout application is critical to ensure the correct specified thicknesses are applied.

A wet film thickness gauge can be used to check the thickness of the Hycrete PU SL during application.

Counting the amount of kg/kits used over the 25sqm area is also recommended to confirm consumption rates.

2.3.9 Samples

For projects above 500sqm, it is strongly recommended an on site sample is applied and signed off on by all stakeholders and the client .

This is critical to ensure all parties understand and agree on the slip resistance and finish that will be provided.

2.3.10 Quality Assurance

For quality assurance, the Hychem ITP should be completed confirming the site application conditions including; substrate temperature, air temperature, relative humidity, dew point, bond strength, moisture content, batch numbers, coverage rates and pictures of the anchor grooves and surface preperation.

2.3.11 UV exposed areas

For areas exposed to significant UV, Hycrete TC Solar should be used in lieu of Hycrete PU TC.

Hycrete PU TC is an aromatic coating that can amber due to UV exposure.

This is only an aesthetic change and does not affect the performance of the coating.

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Lighter colours will amber faster and more aggressive then darker colours in aromatic coatings.

2.3.12 Aggregate selection

Bauxite, Alumina Oxide and Quarts Silica are suitable aggregates for use in the Hycrete system. The comparison of aggregates can be completed using the Mohs Hardness scale as a reference for strength and expected longevity.

With a Mohs Hardness of 9, the use of Bauxite or Alumina Oxide will provide the longest and strongest slip resistance.

With a Mohs Hardness of 7, Quartz Silica will offer a more cost-effective aggregate but it will also have roughly a 50% reduction in longevity.

Different aggregates sizes can be used to produce different slip test results. See below table to help with slip resistance selection:

Slip resistance	Bauxite	Alumina Oxide	Quartz Silica
R9 / smooth			
R10	80#	80#	50n
R11	60#	60#	30/60
R12	16/30#	30#	18/40
R13	8/16#	20#	16/30

*This slip resistance can be affected by the thickness and consumption rates of the top coats.

2.3.13 Waterproofing membrane

While Hycrete is seamless and effectively impermeable to liquids, it is not classed as a waterproofing membrane. Waterproofing membranes should be specified below the floor substrate or screed.

Consult Hychem to discuss the appropriate specification when a waterproofing membrane is required.

2.3.14 Day joints

When the bay or room being applied in one day is too large to complete in one day, a day joint anchor groove should be applied to terminate to or a control joint must be created.

2.3.15 Cold rooms and Freezers

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All cold rooms and freezers should be isolated from all surrounding floors with an expansion joint.

2.3.16 Coving

Coving should be applied with Hychem GP epoxy mortar in a mix with sand of 1:5 by weight.

Coving should be applied to all floor and wall junctions to ensure a seamless and impervious flooring solution.

Floors subject to high thermal stress, heavy impacts or or large radius coves above 100mm should use Hycrete VC as the coving mortar.

Coving details can be seen at the end of this document.

2.3.17 Recoat windows

There is a 24 hours recoat window between all products to ensure a chemical bond.

Exceeding this window will require a light grind to achieve a minimum CSP2 mechanical bond between layers.

If a layer with exposed aggregate is left for beyond 24 hours a sufficient mechanical bond remains, which means a grind may not be necessary permitting the aggregate remains clean and dry.

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2.4: APPLICATION CONDITIONS FOR HYCRETE

2.4.1 Ambient Air temperature

Before starting the application of Hycrete, ensure the material temperature is within 5°C to the site ambient temperature.

The ambient air temperature can be checked using an Elcomoter 319 Dewpoint Meter or equivelant device.

Do not apply in ambient or substrate temperatures above 30°C or below 0°C.

If applying in temperatures below 0°C, consult a Hychem representative to discuss AC15, AC20 or AC25 accelerator options.

2.4.2 Relative Air Humidity

During curing and application the relative humidity should not exceed 75%.

Adequate fresh air ventilation must be provided to remove the excess moisture from the curing product.

This can be checked using an Elcomoter 319 Dewpoint Meter or equivelant device.

2.4.3 Dew Point

The substrate and uncured floor must be at least 3°C above dew point to reduce the risk of condensation or blooming on the floor finish.

This can be checked using an Elcomoter 319 Dewpoint Meter or equivelant device.

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3.1: SUITABLE SUBSTRATES FOR HYCRETE

3.1.1 Substrate moisture

The substrate must have a moisture content below 8%.

This can be checked using a moisture meter such as the Tramex CME5 or equivelant device.

Where the moisture content is above 8%, Hychem should be consulted to specify a damp proof membrane.

3.1.2 Bond strength

The substrate must have a surface tensile strength of a minimum of 1.5mPa.

This can be checked using a destructive pull off test.

3.1.3 Concrete and substrate strength

The substrate must be a solid, clean from laitance , a minimum of 7 days old and have a compressive strength of a minimum of 25mPa.

This can be checked using the mohs hardness test kit to ensure a result above 6. Results below 6 will need consultation from Hychem before proceeding.

Substrates must be adequately designed to accommodate the in service stresses to be encountered due to static and dynamic loads, thermal movement and impact.

3.1.4 Suitable substrates

Permitting points 3.1.1 to points 3.1.8 are achieved, the following are suitable substrates:

- Concrete prepared to a CSP3
- Resinous coatings prepared to a CSP3 and primed with GP epoxy + sand
- >25mPa Polymer modified cementitious screeds prepared to a CSP3 and primed with GP epoxy + sand
- Mild steel prepared to a CSP3 and primed with E100SS epoxy + sand
- >25mPa Tiles prepared to a CSP3 and primed with GP epoxy + sand
- >25mPa Terrazzo floors prepared to a CSP3 and primed with GP epoxy + sand

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3.1.4 Surface contaminants

The existing surface needs to be free of fats, oils, curing agents, surface laitance and other recognisable contaminants.

This can be achieved through extensive mechanical preparation methods noted in points 3.2 .

When concerned about remaining surface contaminants, consult Hychem before proceeding to discuss a custom specification.

An additional primer or additional surface preparation may be required depending on the surface contaminant.

3.1.5 Application over existing cracks

All cracks >1mm along with cracks that have been previously repaired must be saw cut to a depth of 5mm wide and 5mm deep and filled with Hychem GPT prior to the surface grinding/shotblasting.

Cracks of concern that may be “live” or still “moving” will need Hychem’s consultation to discuss the appropriate specification.

Application over a “live” or moving crack will likely lead to the crack reflecting through the Hycrete system.

3.1.6 Patching of surface defects

Where required Hychem PF3 epoxy grout can be used for patching. Hychem GP mixed with sand at a maximum ratio of 1:6 by weight can also be used.

Patching using products not approved by Hychem can result in adhesion failure due to chemical incompatability or an insufficient mechanical bond.

3.1.6 Expansion and control joints

All expansion and control joints must be reflected through the Hycrete system. Hychem Hyflex NS can be applied into these joints and pigmented in the same colour to achieve a uniform finish. Hyflex NS is suitable for use in joints with an expected movement of maximum +-5%. For joints expecting movement beyond +-5%, or for joints with a width or depth beyond 10mm, consult Hychem for a project specific joint sealant solution.

3.1.6 Topping screeds

All cementitious toppings or screeds must be a minimum of 25mm in depth.

Hychem GP epoxy screed is the recommended screed for depths between 0-100mm.

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For areas 25mm or above, SC240 cementitious screed is a suitable alternative.

Hychem should be consulted wherenever GP or SC240 are not used as the screed to confirm if the screed is suitable for application and can be warranted.

All screeds must be properly designed to accommodate in service stresses.

Where required steel mesh and control joints should be installed.

If steel mesh is used in the screed it should be a minimum of 20mm below the surface.

3.1.7 Tolerances

It is recommended applicators ensure floor flatness is achieved prior to the installation of the Hycrete system.

Hycrete Universal or Thermoshield can be used at depths of 6-12mm which can help to level the floor but naturally the coating will follow the contours of the floor.

Hychem SL502 cementitious underlayment can be used at depths of 3-35mm to further level the floor where required.

3.1.8 Falls to drains

These should be formed in the concrete or screed in accordance with good building practice or, as per the manufacturer's instructions with special attention being paid to minimum and maximum thickness.

See the maximum fall permitted in each Hycrete system below:

Hycrete Thermoshield can not be laid to falls exceeding 1:50

Hycrete Universal can not be laid to falls exceeding 1:75

Hycrete Roll Coats can not be laid to falls exceeding 1:20

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3.2 SURFACE PREPARATION

3.2.1 Cementitious substrate preperation

All substrates will require surface preparation.

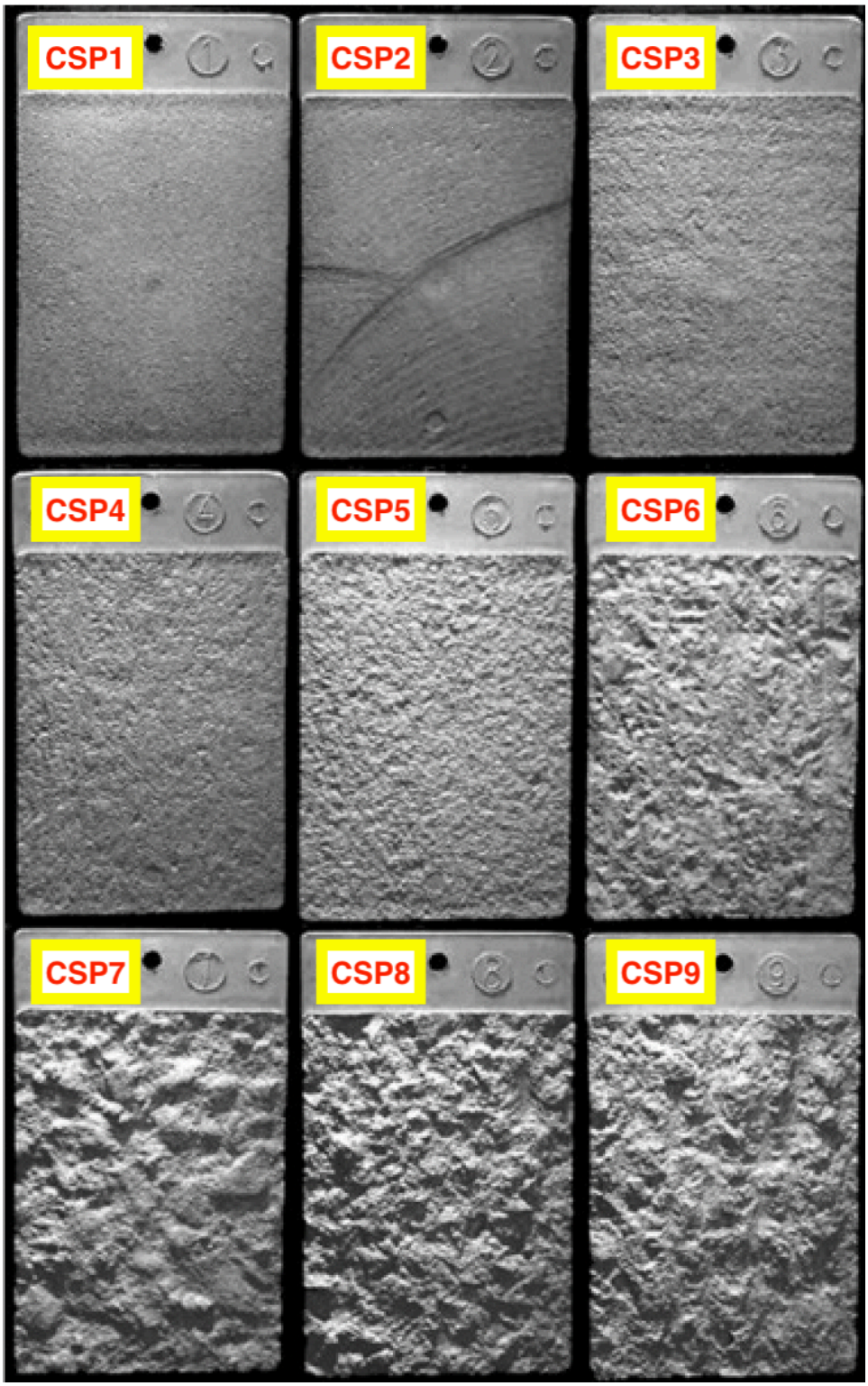
Substrate preperation methods can include:

- Vaccuum shot blasting
- Surface grinder using coarse diamonds
- Ultra-high pressure water blasting followed by captive shot blasting

See the CSP charts for reference below:

Preparation method	Concrete Surface Profile								
	CSP-1	CSP-2	CPS-3	CSP-4	CSP-5	CSP-6	CSP-7	CSP-8	CSP-9
Low-pressure water cleaning									
Grinding									
Abrasive (sand) blasting									
Steel shot blasting									
Scarifying									
Scabbling									

HYCRETE INSTALLATION METHOD STATEMENT



HYCRETE INSTALLATION METHOD STATEMENT

3.2.2 Removal of dust and surface laitance

Prior to application of Hycrete, all substrates must be thoroughly cleaned by a vacuum to ensure all dust and loose particles are removed from the whole surfaces, including grooves and cracks.

HYCRETE INSTALLATION METHOD STATEMENT

4.1 MIXING OF HYCRETE

4.1.1 Mixing of Hycrete PU SL

Add the full 175g Hycrete pigment into the 3kg Hycrete PU SL part A.

Fully mix part A with a low speed electric stirrer at a speed of 300rpm, and then add the 3kg Hycrete PU SL Part B and premix part A and B separately for 30 seconds.

Make sure all pigment is uniformally distributed.

Gradually add the 16kg Hycrete PU SL Part C over a 15 second period, being careful not to completely dump the whole bag, and mix for a further 2 minutes to ensure complete dispersion of the 4 components to a fully homogenous mix.

For Hycrete Thermoshield add the 16kg Hycrete PU HF and mix for a further 2 minutes until the mix is completely homogenous.

Upon completion of mixing it is recommended the product is immediately poured out of the mixing vessel and spread onto the floor area.

This will reduce the speed of the exothermic reaction by increasing the surface to volume mix ratio.

4.1.2 Mixing of Hycrete PU TC

Add the full 175g Hycrete pigment into the 1kg Hycrete PU TC part A.

Fully mix Hycrete PU TC part A with a low speed electric stirrer at a speed of 300rmp, and then add the Hycrete PU TC 1kg Part B and premix part A and B separately for 30 seconds.

Make sure all pigment is uniformally distributed.

Gradually add the Hycrete PU TC 2kg Part C over a 15 second period, being careful not to completely dump the whole bag, and mix for a further 2 minutes to ensure complete dispersion of the 4 components to a fully homogenous mix.

Mixing times must remain consistent between batches to avoid colour shade differences.

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HYCRETE INSTALLATION METHOD STATEMENT

Upon completion of mixing it is recommended the product is immediately poured out of the mixing vessel and spread onto the floor area.

This will reduce the speed of the exothermic reaction by increasing the surface to volume mix ratio.

4.1.3 Mixing of Hycrete PU TC Solar

Add the full 175g Hycrete pigment into the 1kg Hycrete PU TC Solar part A.

Fully mix part A with a low speed electric stirrer at a speed of 300rpm, and then add the 1.3kg Hycrete PU TC Solar Part B and premix part A and B separately for 30 seconds.

Make sure all pigment is uniformally distributed.

Gradually add the Hycrete PU TC Solar 1kg Part C over a 15 second period, being careful not to completely dump the whole bag, and mix for a further 2 minutes to ensure complete dispersion of the 4 components to a fully homogenous mix.

Upon completion of mixing it is recommended the product is immediately poured out of the mixing vessel and spread onto the floor area.

This will reduce the speed of the exothermic reaction by increasing the surface to volume mix ratio.

Mixing times must remain consistent between batches to avoid colour shade differences.

4.1.4 Mixing with lower or higher temperatures

Mixing in lower temperatures will increase the product viscocity and “thicken” the product making mixing more difficult.

Mixing in higher temperatures will reduce the product viscocity making the mixing feel “thinner” however the exothermic reaction and curing time will be quicker.

4.1.5 Mixing equipment

For best results use a double paddle mixer that can achieve 400+rpm. Use of a single paddle mixer will require more vigorous mixing. The following mixers are recommended:

- Collomatic XM2 650 or similar

HYCRETE INSTALLATION METHOD STATEMENT

- Slow speed drill & corkscrew paddle (max 350rpm)
- BEBA (twin screw hand held mixer max 350 rpm)

4.1.6 Mixing vessels

Have a sufficient amount of large clean containers, buckets, or mixing vessels to maintain consistent mixes with a wet edge throughout application.

For Hycrete SL the mixing containers should be able to hold greater then 26L volume to allow easy and thorough mixing.

For Hycrete TC the mixing containers should be able to hold greater then 12L volume to allow easy and thorough mixing.

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HYCRETE INSTALLATION METHOD STATEMENT

5.1 CURING TIMES

See below table for reference of rough curing times. These are indicitive curing times and will be affected by the ambient temperature over the course of the curing period.

Temperature	Foot traffic	Light Traffic	Heavy traffic
+10°C	14 hours	28 hours	6 days
+20°C	10 hours	20 hours	5 days
+30°C	8 hours	16 hours	4 days

HYCRETE INSTALLATION METHOD STATEMENT

6.1 ADDITIONAL DOCUMENTS TO BE SUPPLIED BY REQUEST

6.1.1 Hychem Hycrete project specific specifications

Consult your Hychem representative to receive a project specific specification.

https://www.hychem.com.au/contact/

6.1.2 Hychem Hycrete chemical resistance chart

https://drive.google.com/file/d/14AhYusoRffnb6jCtPmO-0jOCKtKRqAxm/view?usp=sharing

6.1.3 Hychem Hycrete data sheets

https://drive.google.com/drive/folders/1STNdxQNQlHqvbUK2T7PzysmCwisfw70q?usp=sharing

6.1.4 Hychem Hycrete MSDS

https://drive.google.com/drive/folders/1_czup2z7oXh0pXOYL6sVG8ralFT6nH0R?usp=sharing

6.1.5 Hychem Hycrete slip resistance certificate

Consult your Hychem representative to request further slip resistance information.

6.1.6 Hychem Hycrete brochure

https://drive.google.com/drive/folders/15FgPFEN3yfpegWYCR1-3NS5jsy6INQvp?usp=sharing

6.1.7 Hychem Hycrete colour chart

https://drive.google.com/drive/folders/1yXNpTkCVXzc-ow-cZ5APdzXbzv9CiHXX?usp=sharing

6.1.8 Hychem Hycrete case study

Consult your Hychem representative to request a Hycrete case study.

6.1.9 Hychem Hycrete draft warranty

HYCRETE INSTALLATION METHOD STATEMENT

Consult your Hychem representative to request a draft warranty.

6.1.10 Hychem Hycrete ITP draft

Consult your Hychem representative to request a draft Hycrete ITP.

6.1.11 Hychem Hycrete reccommended equipment list

Consult your Hychem reprentative to request a draft equipment list.

6.1.12 Hychem Hycrete cleaning and maintenance guide

https://drive.google.com/drive/folders/1RzZpnPA_cun0ql1E2awsw2BEKMEJwlt8?usp=sharing

6.1.13 Hychem Hycrete green star certificate

Consult your Hychem representative to request the Hycrete green star certificate.

6.1.14 Hychem fire test certificate

Consult your Hychem representative to request the Hycrete fire test certificate

HYCRETE INSTALLATION METHOD STATEMENT

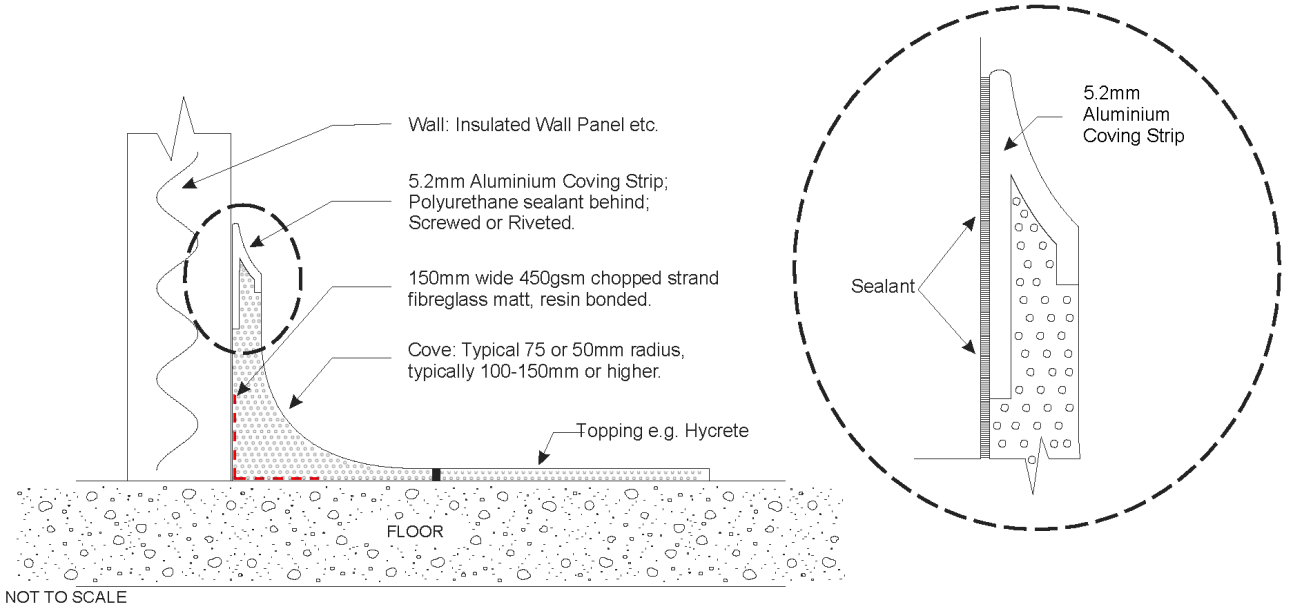
7.1 DRAWINGS AND DETAILS

7.1.1 Standard coving detail

RF 002

HYCHEM
CONSTRUCTION RESINS

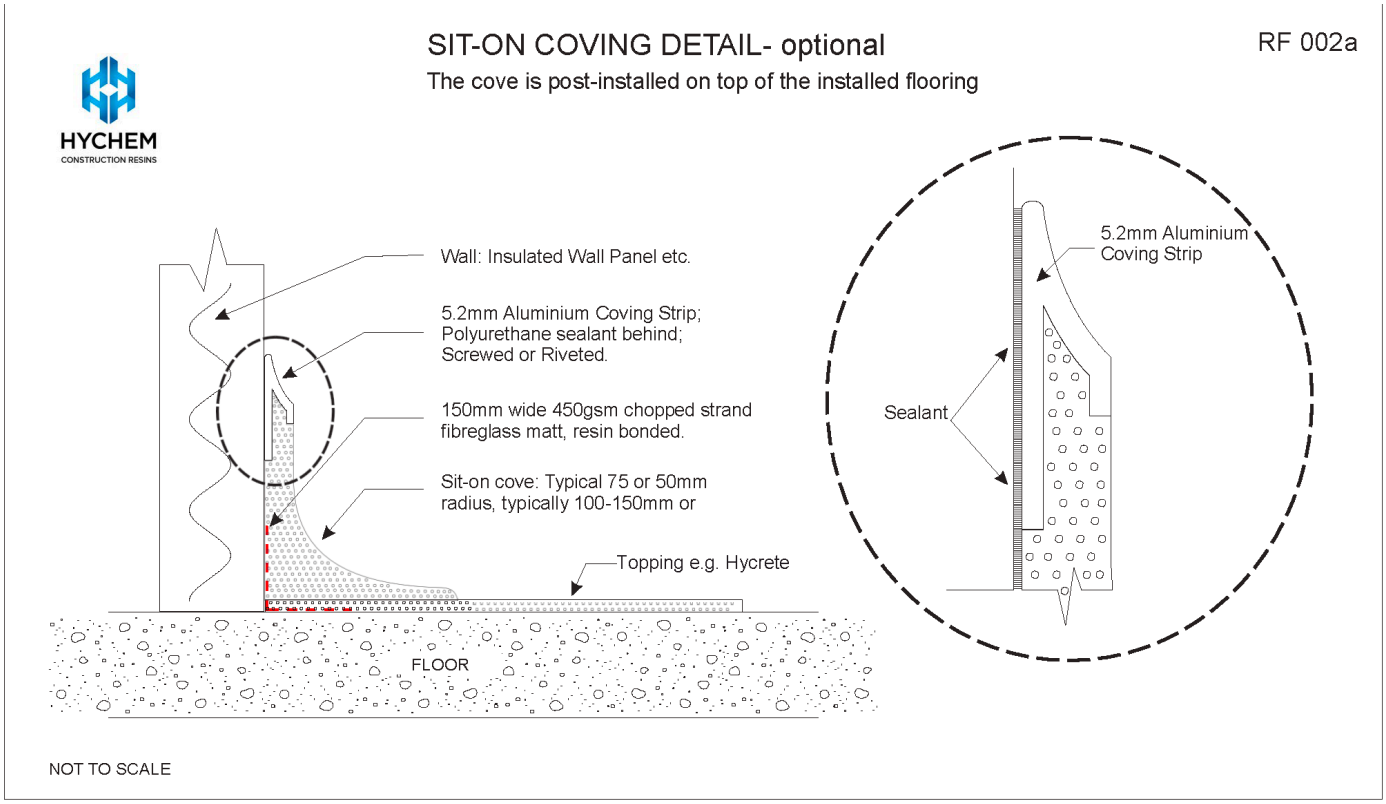
STANDARD COVING DETAIL



NOT TO SCALE

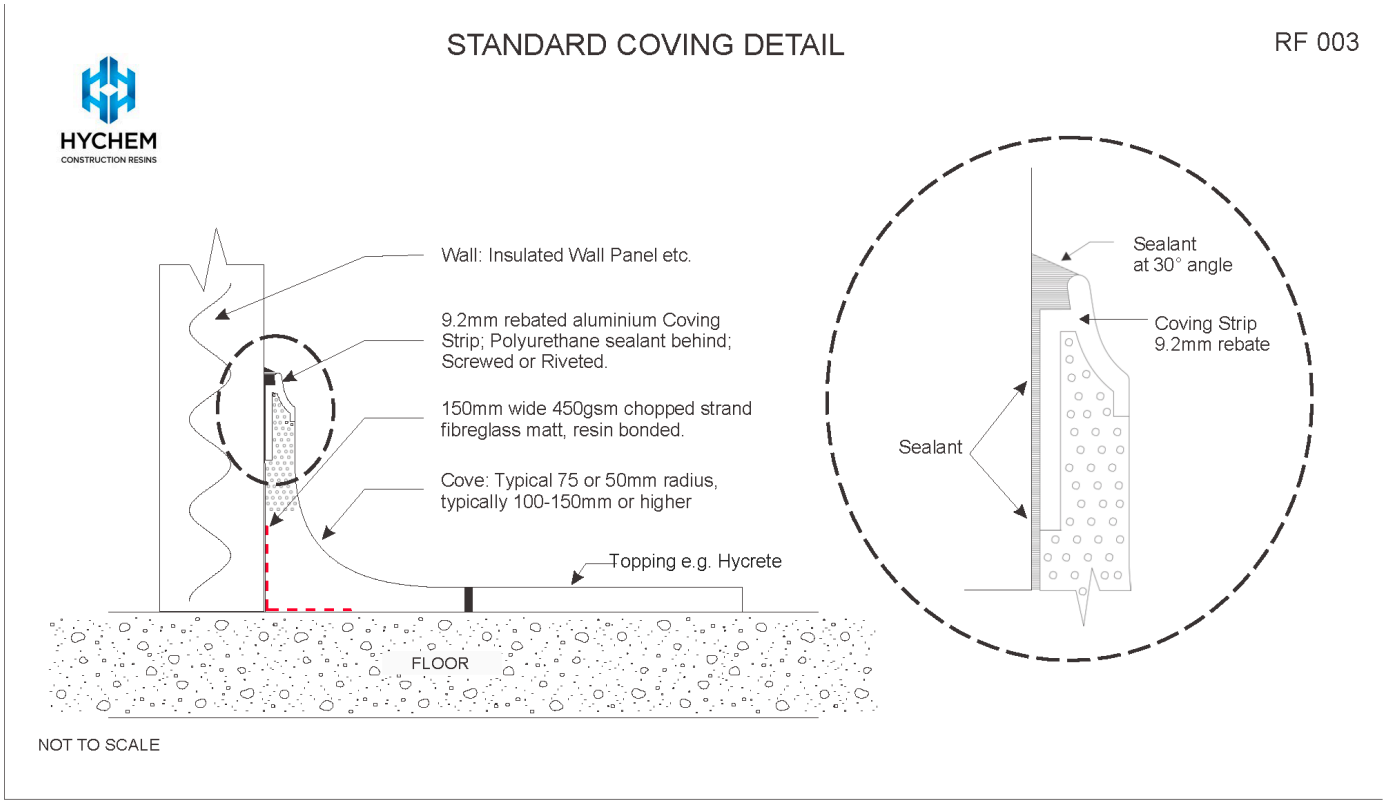
HYCRETE INSTALLATION METHOD STATEMENT

7.1.2 Sit on coving detail



HYCRETE INSTALLATION METHOD STATEMENT

7.1.3 Standard coving detail 2



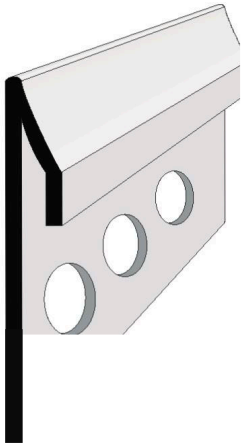
HYCRETE INSTALLATION METHOD STATEMENT

7.1.4 Aluminium cove cap detail

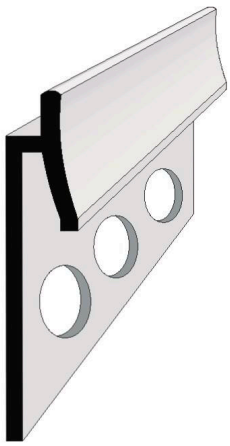
HYCHEM
CONSTRUCTION RESINS

COVE CAP - TYPES

RF 004



Cove Strip 5.2mm



Cove Strip Rebated 9.2mm

HYCRETE INSTALLATION METHOD STATEMENT

7.1.5 Non standard coving detail

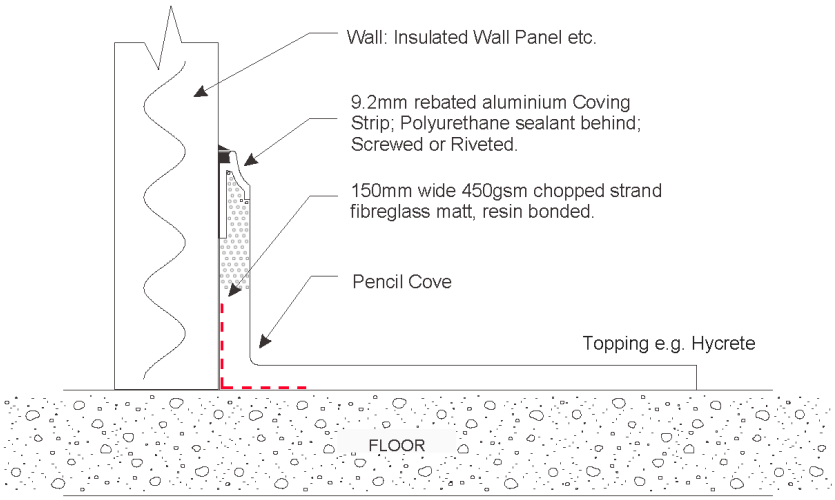
HYCHEM
CONSTRUCTION RESINS

NON-STANDARD COVING DETAIL

RF 003-01

Uses: **1.0 -** Square cove for confined spaces e.g. for back unit leg space.
2.0 - For corners where a radiused cove may cause a trip hazard.

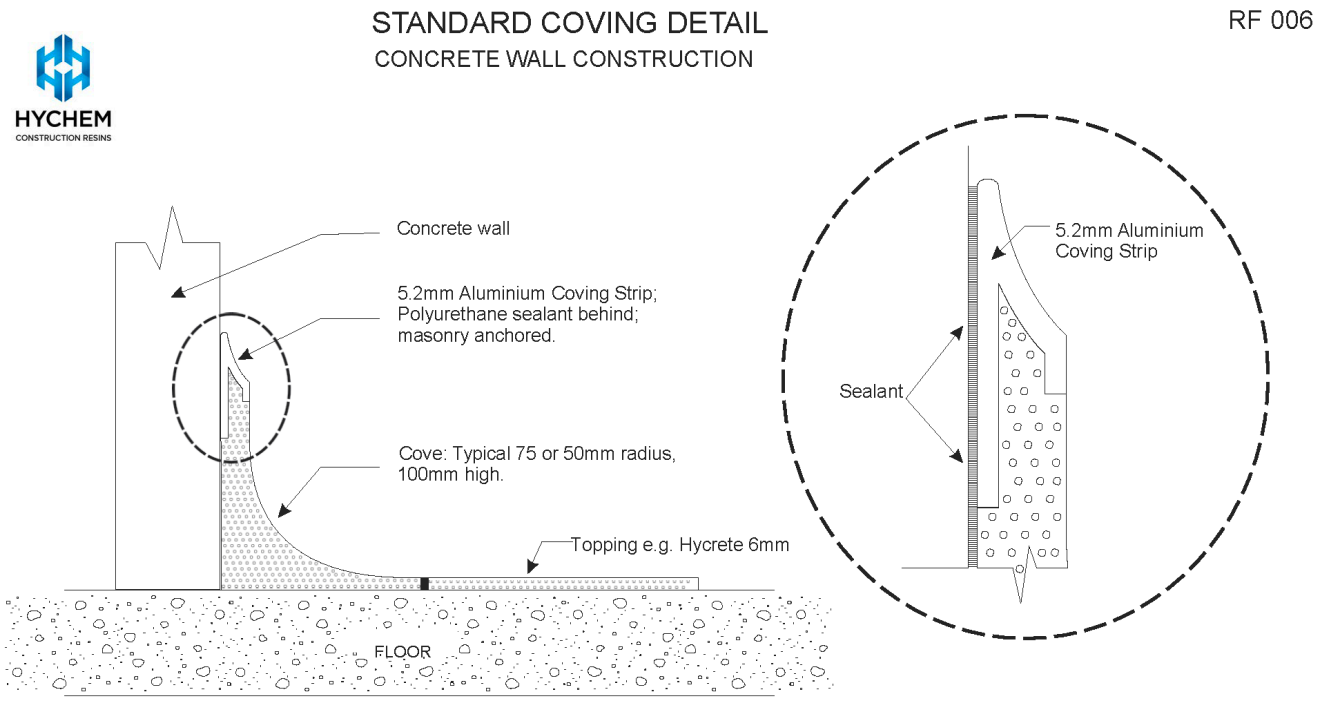
Caution: Coves with a 25mm or 50mm radius are more hygienic and easy to clean.



NOT TO SCALE

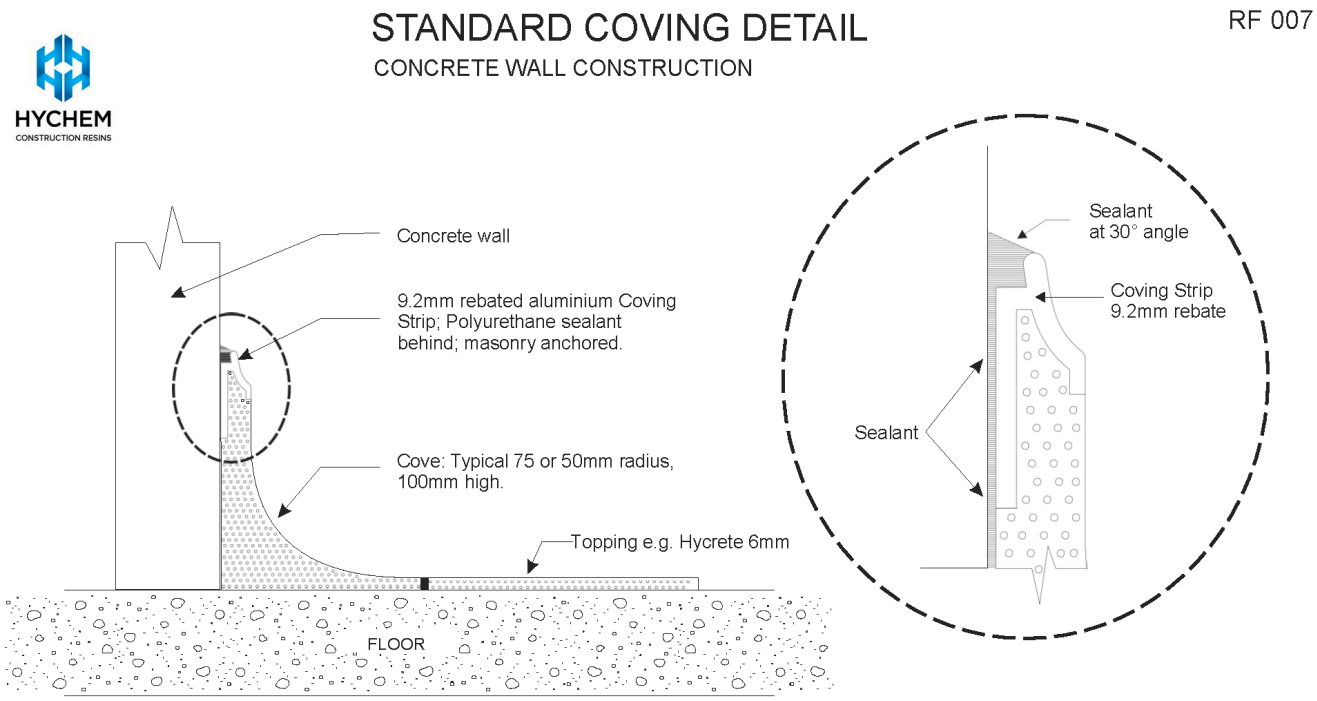
HYCRETE INSTALLATION METHOD STATEMENT

7.1.6 concrete wall coving detail



HYCRETE INSTALLATION METHOD STATEMENT

7.1.7 concrete wall coving detail 2



HYCRETE INSTALLATION METHOD STATEMENT

7.1.8 typical cove detail no arrowhead

HYCHEM
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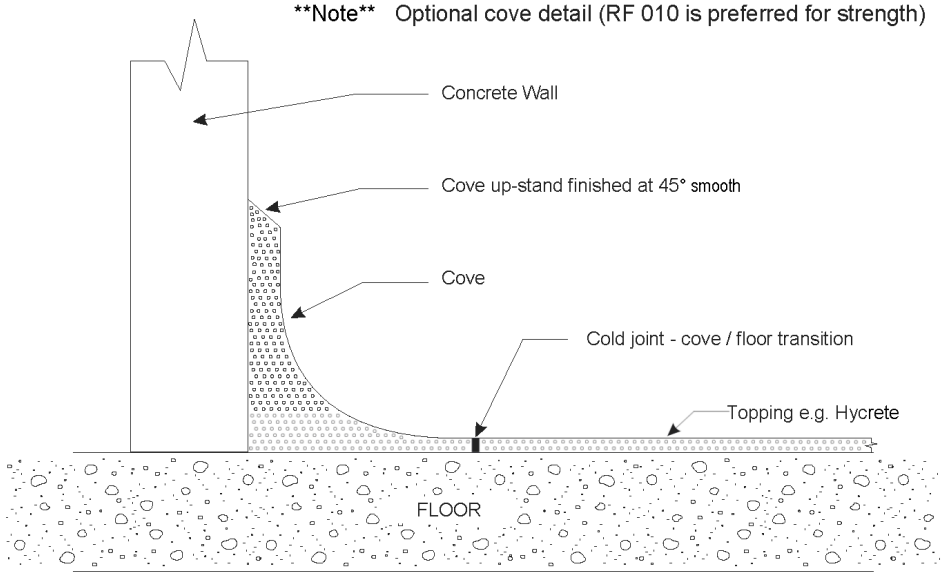
TYPICAL COVE DETAIL

RF 010A

CONCRETE WALL CONSTRUCTION

Note Optional cove detail (RF 010 is preferred for strength)



NB: Both concrete surfaces to be correctly prepared
Refer: Surface Preparation Document

NOT TO SCALE

HYCRETE INSTALLATION METHOD STATEMENT

7.1.9 Typical detail of a movement crack

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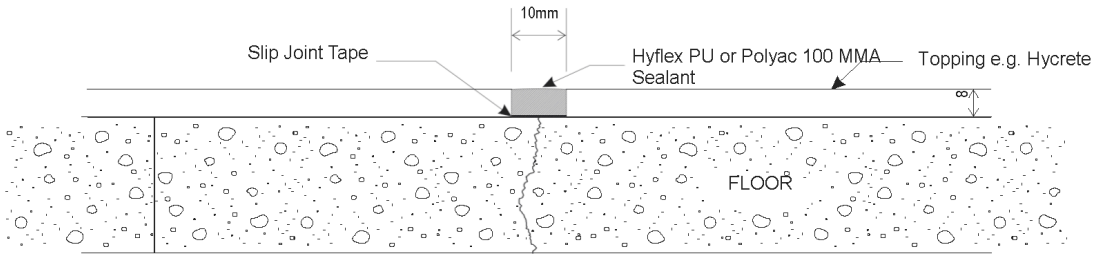
TYPICAL DETAIL OF A MOVEMENT CRACK

RF 030



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7.1.10 typical detail of a control joint

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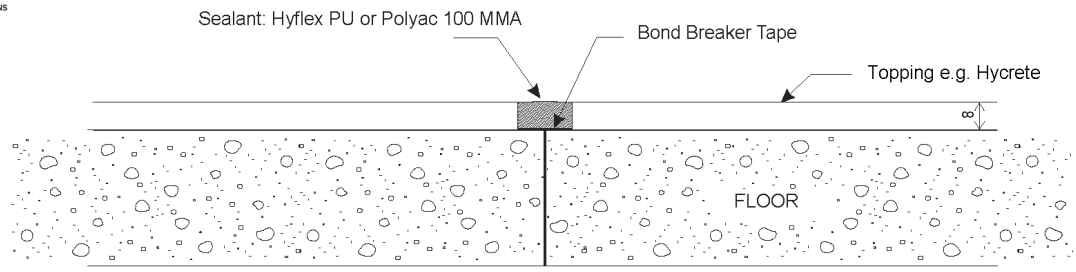
TYPICAL DETAIL OF A CONTROL JOINT

RF 031



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HYCRETE INSTALLATION METHOD STATEMENT

7.1.11 Typical detail of an open control joint

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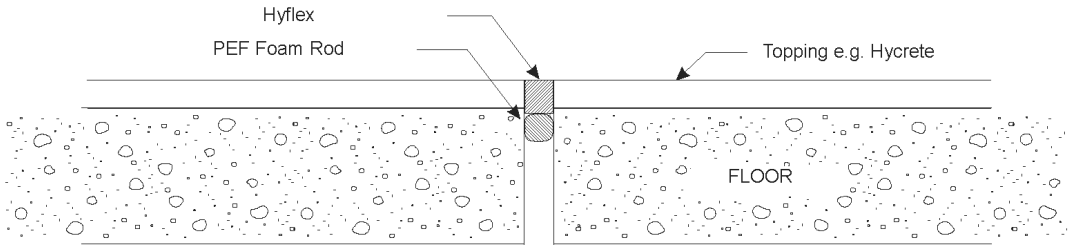
TYPICAL DETAIL
OPEN CONTROL JOINT

RF 032



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HYCRETE INSTALLATION METHOD STATEMENT

7.1.12 Typical detail of a non-movement crack

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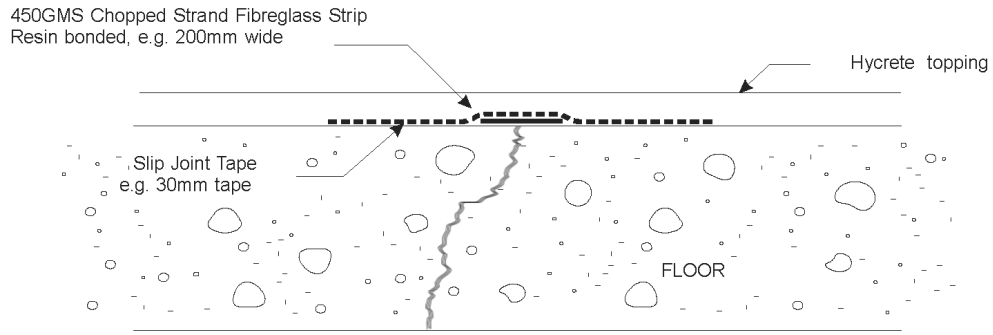
CONSTRUCTION RESINS

RF 033

TYPICAL DETAIL
NON MOVEMENT CRACK



NOT TO SCALE

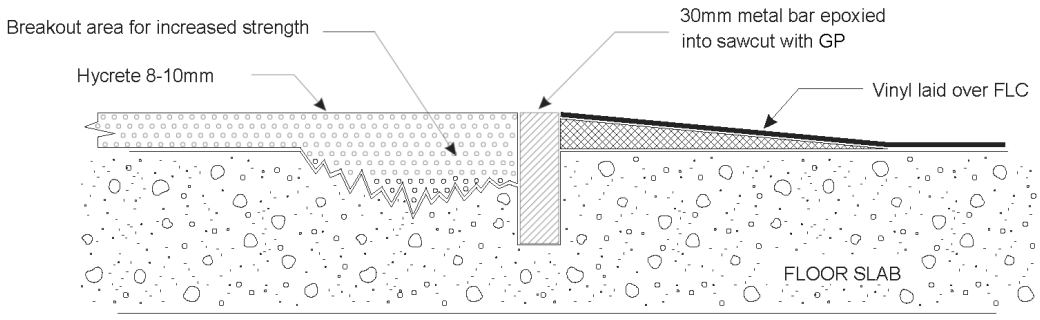
HYCRETE INSTALLATION METHOD STATEMENT

7.1.13 Typical transition to vinyl detail

HYCHEM
CONSTRUCTION RESINS

INTERNAL DOORWAY
TRANSITION TO VINYL

RF 040



NOT TO SCALE

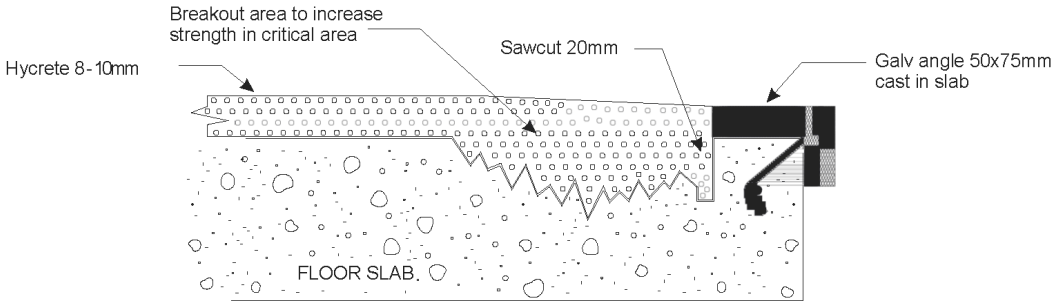
HYCRETE INSTALLATION METHOD STATEMENT

7.1.14 Typical tranition to internal doorway detail

HYCHEM
CONSTRUCTION RESINS

RF 041

INTERNAL DOORWAY
E.g. LOAD OUT AREA



NB: Take care not to damage slab edge when breaking out

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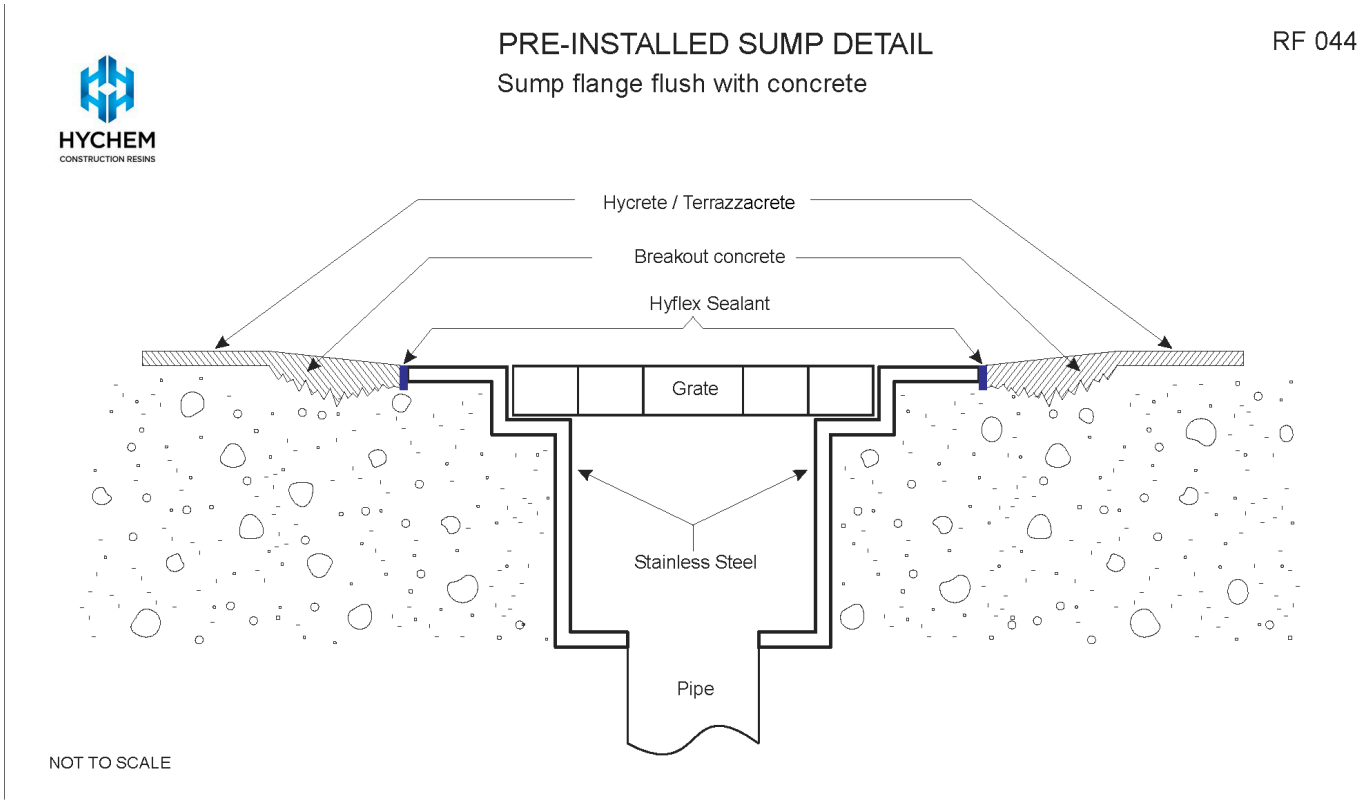
HYCRETE INSTALLATION METHOD STATEMENT

7.1.15 Typical detail to pre-installed sump



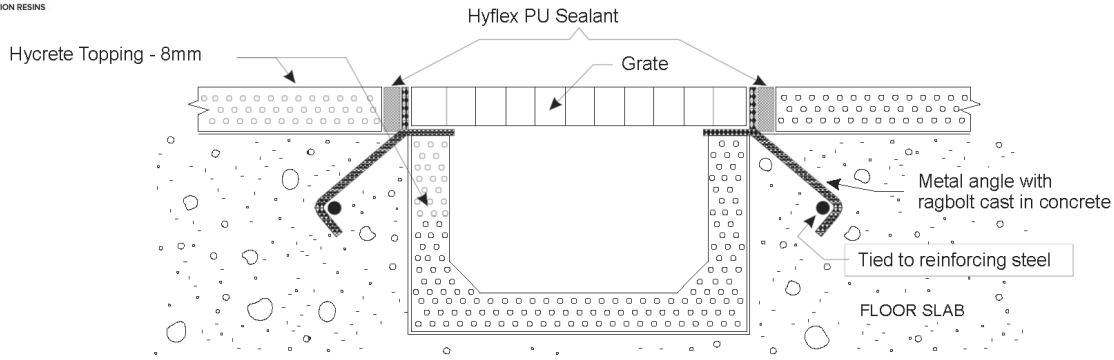
HYCRETE INSTALLATION METHOD STATEMENT

7.1.16 Typical detail for formed in place drain

HYCHEM
CONSTRUCTION RESINS

FORMED IN PLACE DRAIN - HYCRETE LINED

RF 045



NOT TO SCALE

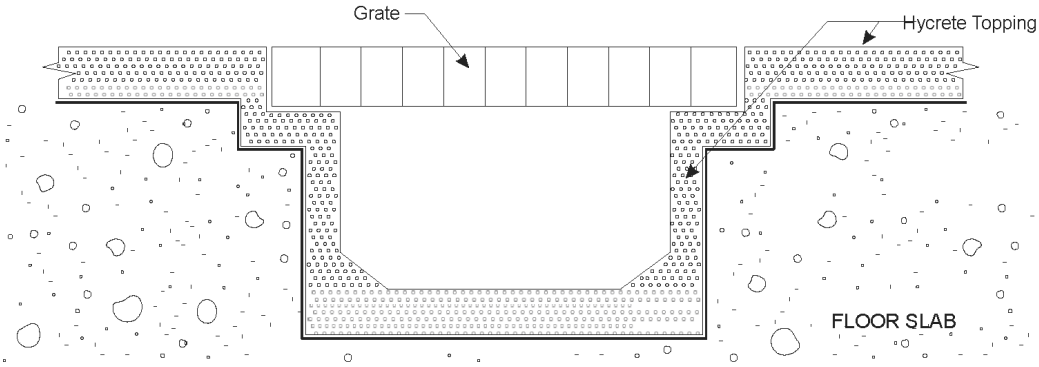
HYCRETE INSTALLATION METHOD STATEMENT

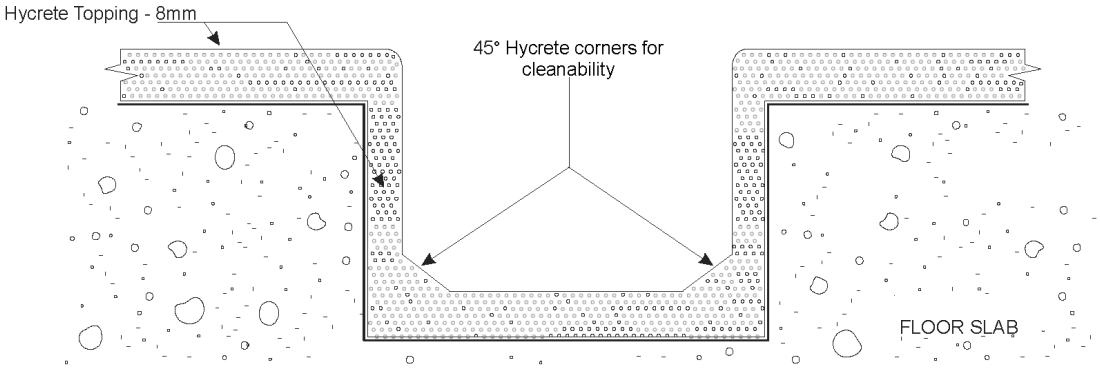
7.1.17 Typical detail for Hycrete lined formed in place drain

FORMED IN PLACE CONCRETE

STANDARD DRAIN - FULLY HYCRETE LINED - OPTIONS

RF 046

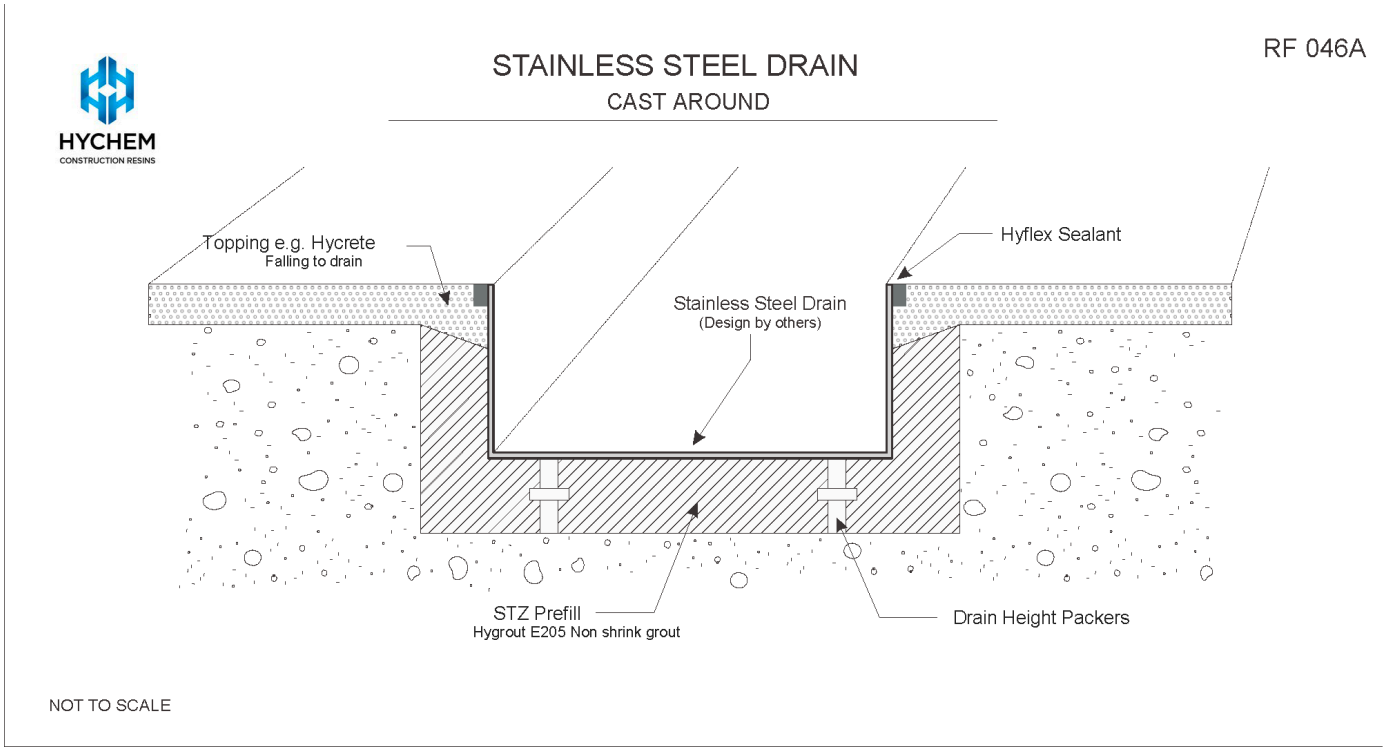




NOT TO SCALE

HYCRETE INSTALLATION METHOD STATEMENT

7.1.18 Typical detail for cast around stainless steel drain



HYCRETE INSTALLATION METHOD STATEMENT

7.1.19 Effects of floor level on resin toppings

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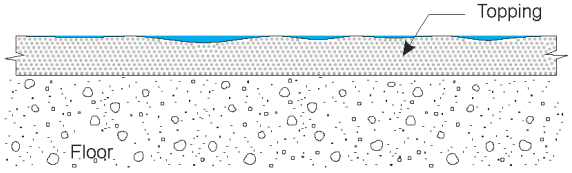
CONSTRUCTION RESINS

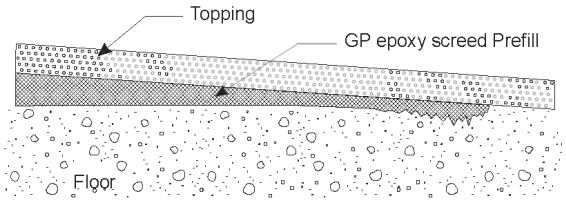
EFFECTS OF FLOOR LEVEL ON RESIN TOPPINGS

RF 049

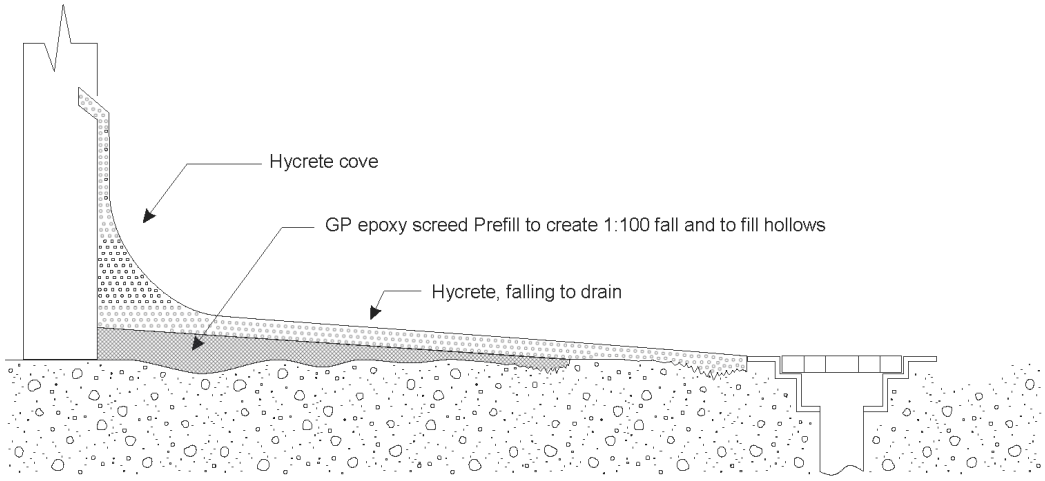
(a) Dead flat floors will have **ponding** no matter how well the floor is **trowelled**



(b) Use of prefill will allow the **topping** to be laid with 1:100 falls to **drain**



(c)



NOT TO SCALE