STONHARD®

MANUFACTURER & INSTALLER OF SEAMLESS FLOORS, WALLS & LININGS

KEMTILE
Excellence in flooring

NEW ANODISING LINE UPGRADE WORKS

BAE SYSTEMS SAMLESBURY

Samlesbury Aerodrome
Myerscough Smithy Road
Balderstone
Blackburn
BB2 7LF

On Behalf of
Robertson Northwest Limited
3 The Parks
Haydock
Newton-le-Willows
WA12 0JQ

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Warrington,
Cheshire. WA3 6BL

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A division of STONHARD

Registered Office: Hays Galleria, 1 Hays Lane, London SE1 2RD
Company Registration No. 1469985. VAT Registration No: 337 4785 25

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1.0 PROJECT BRIEF

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Robertson Northwest are constructing a New Anodising Line on-site at BAE Systems Samlesbury based upon drawings provided by Thomas Consulting, which in turn have been derived from a specification approved by George Koch.

All architectural/design information has been provided by Robertson Northwest via the A-site Portal where all documents, drawings & specifications can be shared as required (access provided 28/10/22).

The New Anodising Line upon completion is to have a chemically resistant lining system to the Bund Wall, Drainage Troughs Vertical & Horizontal Including the & Sump-Units located around the perimeter of the area.

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2.0 CHEMICAL RESISTANCE

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Robertson Northwest have provided Kemtile with a portfolio of Chemicals & their concentrates that may occur within the anticipated working life cycle of the Anodising Line.

These contaminates are confirmed as listed overleaf:

Stonhard confirms that our Stonchem 878/888 lining system has good resistance to all of the listed chemicals.

All major spillages must be cleaned up in a timely manner and we recommend a 'clean up' procedure in place to manage accidental spillages of all chemicals to ensure the longevity and integrity of the lining system throughout its life. This is particularly important when there are major spillages of Nitric Acid at a high concentration, as this will start to damage the surface of the lining system after 24 hours of complete immersion.

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Minor splashes and spillages of Nitric Acid and Hydroflouric Acid will evaporate before any damage to the lining system occurs, although some discolouration may occur if they are not cleaned up in a timely manner.

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New Station Number	PROCESS	PRIMARY CHEMICAL	SECONDARY CHEMICAL	TERTIARY CHEMICAL	CONCENTRATION
1	LOAD STATION				n/a
2	ALKALINE CLEAN	TURCO 4215 NCLT			45-60 g/L
			SURTEC 061 & SURTEC 089 COMBINED		5% V/v (061), 0.5 % (089)
3	IMMERSON RINSE WITH SPRAY ON ENTRY OR EXIT OR BOTH	DI WATER			n/a
4	WATER BREAK FREE INSPECTION	DI WATER			n/a
5	WAIT WITH CAPABILITY FOR IMMERSON RINSE WITH SPRAY ON ENTRY OR EXIT OR BOTH	DI WATER			n/a
6	ALUMINIUM ETCH	ALKALINE ETCH			35-45 g/L NaOH **10g/L sodium glucoheptanoate**
			Bonderite C-AK Alum Etch 2		37.5-62.5 g/L
7	ALUMINIUM ETCH	ALKALINE ETCH			35-45 g/L NaOH **10g/L sodium glucoheptanoate**
			Bonderite C-AK Alum Etch 2		37.5-62.5 g/L
8	IMMERSON RINSE WITH SPRAY ON ENTRY OR EXIT OR BOTH	DI WATER			n/a
9	ALUMINIUM PICKLE	SURTEC 181			5% v/V
			DP1002		10% v/v
				SOCOSURF A1858/1806	A1858 - 30-50% A1806 - 6-15%
10	**TFSA TITANIUM ETCH / PICKLE**	**HF ACID & NITRIC ACID COMBINED**			8 g/L HF (make up), 500-550 g/L Nitric acid
11	**TITANIUM PRE ETCH / PICKLE**	**HF ACID & NITRIC ACID COMBINED**			23 g/L HF (make up), 300-450 g/L Nitric acid
12	**DESMUT**	**NITRIC ACID**			450-550 g/L
			ARDROX 295GD		20-25 % v/v
13	IMMERSON RINSE WITH SPRAY ON ENTRY OR EXIT OR BOTH	DI WATER			n/a
14	THIN FILM ANODISE	SULPHURIC ACID			37-42 g/L
15	THIN FILM ANODISE	SULPHURIC ACID			37-42 g/L
16	IMMERSION RINSE (DIRTY RINSE) SPRAY ON EXIT	DI WATER			n/a
17	IMMERSION RINSE (CLEAN RINSE)	DI WATER			n/a
18	TITANIUM CONVERSION COAT	FLUORIDE PHOSPHATE			50 gm/liter tribasic sodium phosphate. 20 gm/liter potassium fluoride or 9 gm/liter sodium fluoride. 8.2 gm/liter hydrofluoric acid (70% by weight)
19	ANODISE SEAL	SURTEC 650V			20% v/v
			SOCOSURF TCS		31-41 % v/v
20	ANODISE SEAL	SURTEC 650V			20 % v/v
			SOCOSURF TCS		31-41 % v/v
21	WARM IMMERSION RINSE (DIRTY RINSE)	DI WATER			n/a
22	WARM IMMERSION RINSE (CLEAN RINSE)	DI WATER			n/a
23	HOT WATER SEAL / SOCOSURF PACS	**DICHROMATE SEAL**			0.1-0.15 g/L
			SOCOSURF PACS		8-10 % PACs v/v, 5-7 % v/v hydrogen peroxide (35%)
				~~DI WATER~~	~~n/a~~
24	WAIT WITH CAPABILITY FOR IMMERSON RINSE WITH SPRAY ON ENTRY OR EXIT OR BOTH / SOCOSURF PACS	DI WATER	~~DI WATER~~		n/a
			SOCOSURF PACS		8-10 % PACs v/v, 5-7 % v/v hydrogen peroxide (35%)
25	CLEAN RINSE	DI WATER			n/a
26	HOT AIR DRYING OVEN				n/a
27	HOT AIR DRYING OVEN				n/a
28	UNLOAD				n/a

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3.0 DRAWING REGISTER

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Robertson Northwest provided Kemtile with a login to their A-Site Portal for access to the information & drawings available for the Anodising Line.

At time of writing the latest information is listed as (64 items):

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CTF-THOMC-01-ZZ-CA-S-001 VER1
CTF-THOMC-01-ZZ-DR-S-000 VER3
CTF-THOMC-01-ZZ-DR-S-102 VER7
CTF-THOMC-01-ZZ-DR-S-103 VER4
CTF-THOMC-01-ZZ-DR-S-200 BAR SCHEDULE VER1
CTF-THOMC-01-ZZ-DR-S-200 VER2
CTF-THOMC-01-ZZ-DR-S-201+202 BAR SCHEDULE
CTF-THOMC-01-ZZ-DR-S-201 VER2
CTF-THOMC-01-ZZ-DR-S-202 VER2
CTF-THOMC-01-ZZ-DR-S-204 VER2
CTF-THOMC-01-ZZ-DR-S-205 BAR SCHEDULE- BAR BENDING VER3
CTF-THOMC-01-ZZ-DR-S-205 VER4
CTF-THOMC-01-ZZ-DR-S-206 VER4
CTF-THOMC-01-ZZ-DR-S-207 BAR CHEDULE – BAR BENDING VER4
CTF-THOMC-01-ZZ-DR-S-207 VER5
CTF-THOMC-01-ZZ-DR-S-208 BAR SCHEDULE – BAR BENDING VER5
CTF-THOMC-01-ZZ-DR-S-208 VER 5
CTF-THOMC-01-ZZ-DR-S-209 BAR SCHEDULE – BAR BENDING VER3
CTF-THOMC-01-ZZ-DR-S-209 VER4
CTF-THOMC-01-ZZ-DR-S-210 BAR SCHEDULE - BAR BENDING VER3
CTF-THOMC-01-ZZ-DR-S-210 VER5
CTF-THOMC-01-ZZ-DR-S-211 BAR SCHEDULE – BAR BENDING VER 3
CTF-THOMC-01-ZZ-DR-S-211 VER4
CTF-THOMC-01-ZZ-DR-S-212 BAR SCHEDULE VER1
CTF-THOMC-01-ZZ-DR-S-212 VER2
CTF-THOMC-01-ZZ-DR-S-213 BAR SCHEDULE – BAR BENDING VER3

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CTF-THOMC-01-ZZ-DR-S-213 VER4
CTF-THOMC-01-ZZ-DR-S-214 BAR SCHEDULE – BAR BENDING VER4
CTF-THOMC-01-ZZ-DR-S-214 VER2
CTF-THOMC-01-ZZ-DR-S-220 VER2
CTF-THOMC-01-ZZ-DR-S-220-222 BAR SCHEDULE PHASE 1 VER2
CTF-THOMC-01-ZZ-DR-S-220-222 BAR SCHEDULE PHASE 2 VER2
CTF-THOMC-01-ZZ-DR-S-220-222 BAR SCHEDULE PHASE 3 VER2
CTF-THOMC-01-ZZ-DR-S-221 VER3
CTF-THOMC-01-ZZ-DR-S-222 VER4
CTF-THOMC-01-ZZ-DR-S-223 VER4
CTF-THOMC-01-ZZ-DR-S-223-228 BAR SCHEDULE PHASE 1 VER4
CTF-THOMC-01-ZZ-DR-S-223-228 BAR SCHEDULE PHASE 2 VER4
CTF-THOMC-01-ZZ-DR-S-223-228 BAR SCHEDULE PHASE 3 VER4
CTF-THOMC-01-ZZ-DR-S-223-228 BAR SCHEDULE PHASE 4 VER5
CTF-THOMC-01-ZZ-DR-S-223-228 BAR SCHEDULE PHASE 5 VER5
CTF-THOMC-01-ZZ-DR-S-224 VER4
CTF-THOMC-01-ZZ-DR-S-225 VER3
CTF-THOMC-01-ZZ-DR-S-226 VER3
CTF-THOMC-01-ZZ-DR-S-227 VER4
CTF-THOMC-01-ZZ-DR-S-228 VER2
CTF-THOMC-01-ZZ-DR-S-230 VER1
CTF-THOMC-01-ZZ-DR-S-231 VER1
CTF-THOMC-01-ZZ-DR-S-232 VER1
CTF-THOMC-01-ZZ-DR-S-233 VER1
CTF-THOMC-01-ZZ-DR-S-234 VER4
CTF-THOMC-01-ZZ-DR-S-240 BAR SCHEDULE – BAR BENDING VER2

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CTF-THOMC-01-ZZ-DR-S-240 VER1
CTF-THOMC-01-ZZ-DR-S-250 VER2
CTF-THOMC-01-ZZ-DR-S-251 VER1
CTF-THOMC-01-ZZ-DR-S-ISSUE SHEET P1-S1 VER1
CTF-THOMC-01-ZZ-DR-S-ISSUE SHEET P1-S2 VER1
CTF-THOMC-01-ZZ-DR-S-ISSUE SHEET P2-S1 VER4
CTF-THOMC-01-ZZ-DR-S-ISSUE SHEET P2-S2 VER5
CTF-THOMC-01-ZZ-DR-S-ISSUE SHEET P2-S3 VER4
CTF-THOMC-01-ZZ-DR-S-100-VER3
CTF-THOMC-01-ZZ-DR-S-206 BAR SCHEDULE VER4
G1-VER1
P8626-22-100(A)-CUT-LINE-LAYOUT-VER1-VER2

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4.0 KEMTILE LIMITED

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Kemtile a Division of Stonhard

Stonhard

Manufacturer & Installer of Seamless Floors, Walls & Linings

Stonhard solves flooring problems; punishing chemical assault, unremitting abrasion and impact, wet conditions, thermal shock — our proven performance systems are designed for the toughest environments.

They are also designed with the planner in mind, offering infinite design possibilities and the ability to customize and optimize colours, patterns and finishes. Maintenance is minimal because seamless means cleaner.

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Stonhard takes full responsibility from raw materials to installed systems.

A turnkey approach means you'll receive high quality products and installations consistently. From people to products and services, quality and dependability are a constant with Stonhard.

The single source warranty is Stonhard's pledge of responsibility. Our Territory Managers are dedicated to your satisfaction. Site supervision and service are standard across the country and around the world. Each Stonhard project receives attention on every level — multi-phase or small projects. Our Territory Managers, along with our Construction Management group Site Foremen and Application Teams are your single source partners, assuring quality control, and integrated and flexible scheduling.

Available to all of our customers are, Product Data Sheets, Product Guide Specifications, Chemical Resistance Guides, Safety Data Sheets, Case Histories, Cleaning Procedures, Colour Selection Guides & References

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Kemtile Industrial Flooring Specialists

KEMTILE is the UK's leading specifier and installer of hygienic flooring and specialist drainage systems for manufacturing and processing industries

KEMTILE brings you excellence in flooring. We are the UK's leading installer of flooring and drainage systems in a wide range of industries. We supply and install high performance industrial epoxy resin flooring, industrial ceramic tiling solutions, stainless steel drainage systems, kerbs, guardrails, chemical linings and wall protection products.

Kemtile is your independent single-source flooring supplier.

Kemtile is a member of various industry bodies and trade associations, and adheres to all the relevant quality standards, health and safety requirements and accreditation schemes.

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5.0 LINING SYSTEMS

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Being a division of Stonhard, Kemtile have access to a number of Lining Systems that are formulated for Bund Protection. Having been provided with the Chemical Resistance Requirements by Robertson Northwest, see the following options for consideration & inclusion into their specification document for the Anodising Line.

STONCHEM 878

Stonchem 878 is a highly cross-linked, vinyl ester lining system applied at a nominal thickness of 3.5mm. The mortar, engineering fabric, mortar coat, and mineral composite topcoat sequencing provides a smooth, heavy-duty, chemical barrier which is resistant to thermal shock, thermal cycling, static cracks, permeation and abrasion.

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The Stonchem 878 system has excellent resistance to a broad base of chemicals, including strong organic acids, alkalies, solvents and moderate to strong inorganic acids. Where the Stonchem 888 will be incorporated into the finished profile is through the Topcoat application due to its superior hydrofluoric acid & oxidizer resistance.

USES, APPLICATIONS:

- Secondary containment areas
- Tank farms
- Sumps and trenches
- Pump pads and pedestals
- Neutralization pits

PRODUCT ADVANTAGES

- Excellent chemical resistance to a broad range of acids
- Including bases and solvents
- Engineering fabric resists cracking
- Mortar coat for added abrasion resistance
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE

Stonchem 878 is formulated to resist a variety of chemical solutions.

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STONCHEM 855

Stonchem 855 is a highly cross-linked, vinyl ester lining system applied at a nominal thickness of 1 mm. The resin, engineering fabric and mineral composite topcoat sequencing provides a lightduty chemical barrier for occasional foot traffic which is resistant to static cracks and moderate thermal shock. The Stonchem 855 system has excellent resistance to a broad base of chemicals, including strong organic acids, alkalies, solvents and moderate to strong inorganic acids.

USES, APPLICATIONS:

- Secondary containment areas/tank farms
- Concrete sumps, vaults and trenches
- Pump pads and pedestals
- Storage tanks
- Neutralization pits & Chemical storage rooms

PRODUCT ADVANTAGES

- Excellent chemical resistance to acids, bases and solvents
- Engineering fabric resists cracking
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE Stonchem 855 is formulated to resist a variety of chemical solutions.

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6.0 SCOPE OF WORKS

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Robertson Northwest have requested that Kemtile Limited undertake the following actions within the Anodising Line:

- Lining System
- Forming Falls within the Concrete Channels
- New Stainless-Steel Angle in Concrete Rebate
- New Stainless-Steel Covers to open Channels
- New Stainless-Steel Covers to Sump-Units
- New Stainless-Steel Underground Culvert

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7.0 METHODOLOGY

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

STONCHEM 800 SERIES

The Stonchem Linings will need to be installed over new, flat concrete. The Current tolerances included on CTF-THOMC-01-ZZ-DR-S000-VER3 falls outwith the Permissible Coating Tolerances for the lining system.

Further discussions may need to be held with our Technical Manager to ensure that surfaces ready to receive new lining systems are adequate to ensure no pooling of material due to background irregularities. Any making-good that is required to be carried-out by others prior to works commencing on-site.

Only after an inspection by our Technical Manager will be background be accepted & deemed adequate for the lining systems to be applied.

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All expansion joints have been introduced inside the bunded area. These are weak-points in the construction.

A fibreglass reinforced lining system with a base mortar and mortar coat topping will be applied to ensure that the system is continuous and will resist any possible cracking.

Subsidiary Works

Forming Falls in Channels

Within the channels formed in Concrete by others, there is a requirement for Kemtile to form the falls to ensure that all discharges fall to the Sump Units. This will be formed using Stonhard Stonset TG6 four-component fast-setting trowelable moisture-tolerant polyurethane-based grout. Deeper and larger areas requiring grading will be infilled using polymer Modified Concrete.

Stainless-Steel Angles

Where required, Kemtile will Supply & Install a Stainless-Steel Angle Trim into a Recess at the notched pre-cast profile detail to the Channel Drains formed in Concrete by others. This Angle is to be 30x30x3mm Stainless-Steel Grade 316.

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Covers to Sump-Units & Channels

These to be Stainless-Steel Grade 316
(Thickness & Type Currently in abeyance with Robertson Northwest)

Stainless-Steel Culvert

Between Gridlines 13 and 14 along Gridline A, there is a requirement for a Stainless-Steel Culvert to transfer the discharge from a pre-cast channel to a Sump Unit. A provisional sum has been included by Kemtile for this work, further discussion/instruction between Kemtile, Thomas Engineering & RNW will be required to firm up the exact requirements. It is envisaged that this will be required prior to the flooring works allowing the Culvert to be fully cast into the New Concrete as it is poured.

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Methodology

Stonchem 878 Chemical resistant lining

- Mechanically prepare existing concrete floor and walls
- Saw cut and excavate the existing expansion joints and fill with Stonset grout.
- Seal expansion joints with Stonflex MP7/Urethane Mastic
- Supply and install our Stonset TG grout and/Polymer Concrete to form the “falls in the drainage channels.
- Supply and apply a radius to floor/wall junction using Stonflex MP7/Urethane Mastic
- Supply and apply 800 series primer
- Supply and install 800 series mortar
- Supply and apply a fibreglass reinforced matting with 800 series saturants
- Supply and apply an 870 series mortarcoat
- Supply and apply an 880 series topcoat
- Clean area, remove all rubbish and excess product, hand over lining.

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Channels and Sumps Covers: Stainless-Steel

- Supply & Install New Stainless-Steel Angles into Channel Recesses
- Supply & Install New Stainless-Steel Covers (type TBC by Robertson Northwest).

Supplied separately

- New Stainless-Steel Grade 316 Culvert for Connection between Gridline 13 and 14

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8.0 STONHARD DATASHEETS

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Robertson Northwest to confirm acceptance of the Stonhard materials being applied to the Anodising Line.

Details as follows:

- Stonset TG6 for forming falls in pre-cast channels
- Stonchem 878 Lining to Hoizontal Surfaces
- Stonchem 855 Lining to Vertical Surfaces

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PRODUCT DESCRIPTION

Stonset TG6 is a four-component, fast-setting, trowelable grout. This moisture-tolerant, polyurethane-based grout is designed for permanent repairs to concrete floors and decks.

USES, APPLICATIONS

Stonset TG6 is formulated specifically for the food and beverage industry. Stonset TG6 is used for repairing deep holes, ruts and erosions in concrete floors and for changing the level or pitch of floors in preparation for overlayment with Stonhard's polyurethane mortar systems. Processing areas and wet environments are among a few of the typical applications for this solvent-free, rapid-hardening, durable, polyurethane grout.

SYSTEM OPTIONS

Waterproofing

Where the total system must be waterproof, the use of Stonhard's Stonproof ME7 membrane system with Texture #3 broadcast to refusal is required with a strict adherence to application instructions.

Crack Treatment

When crack treatment is needed due to cracks in the substrate, the use of Stonhard's Stonproof CT5 or RH7 with Texture #3 broadcast to refusal is required with a strict adherence to application instructions.

PHYSICAL CHARACTERISTICS

Compressive Strength (ASTM C-579)	6,200 psi after 7 days
Flexural Strength (ASTM C-580)	930 psi
Flexural Modulus of Elasticity (ASTM C-580)	8 x 10^5 psi
Hardness (ASTM D-2240, Shore D)	86 to 88
VOC Content (ASTM D-2369)	5 g/l
Pot Life (@ 75˚F/24˚C)	15 minutes

Note: The above physical properties were measured in accordance with the referenced standards. Samples of the actual floor system, including binder and filler, were used as test specimens. All sample preparation and testing is conducted in a laboratory environment. Values obtained on field-applied materials may vary and certain test methods can only be conducted on lab-made test coupons.

PRODUCT ADVANTAGES

- Solvent free
- Moisture tolerant
- Low-temperature cure
- Minimal shrinkage
- Rapid hardening
- Excellent bond strength assures superior adhesion
- Factory-proportioned packaging ensures consistent, high quality mixing

PACKAGING

Stonset TG6 is packaged in units for easy handling. Each unit consists of:
2 cartons, each containing:
    4 foil bags of Isocyanate
    4 poly bags of Polyol
8 individual bags of Part C Aggregate
8 individual bags of Part C-1 Aggregate

COVERAGE

Approximately 2.67 cu. ft./0.08 cu. m per unit (0.33 cu. ft./0.01 cu. m per mix).

STORAGE CONDITIONS

Store all Stonset TG6 components between 60 to 85˚F/16 to 30˚C in a dry area. Avoid excessive heat and do not freeze. The shelf life of the liquids is one year while the C-1 has a 6-month shelf life in the original, unopened container.

SUBSTRATE

Stonset TG6, with the appropriate primer, is suitable for application over concrete, wood, brick, quarry tile, metal or Stonhard Stonset grouts. For questions regarding other possible substrates or an appropriate primer, contact your local Stonhard representative or Technical Service.

Note: Stonset TG6 is suitable for application over new/green concrete. The concrete must be in place for a minimum of 5 days, be dry and have sufficient strength to handle mechanical preparation.

SUBSTRATE PREPARATION

Proper preparation is critical to ensure an adequate bond and system performance. The substrate must be dry and properly prepared utilizing mechanical methods. Questions regarding substrate preparation should be directed to your local Stonhard representative or Technical Service.

PRIMING

Urethane Primer must be used for all applications of Stonset TG6.The TG6 must be troweled into the Urethane Primer while it is still wet or tacky; the open time is approximately 20 minutes.

MIXING
Note: Do not start mixing until the surface is properly prepared with the temperature of both the Stonset TG6 and the substrate at least 45˚F/7˚C. Complete mixing is critical to product performance.

1. Empty the contents of one bag of Isocyanate and one bag of Polyol into a clean 5-gallon pail.
2. Place the mixing pail on a JB Power Blender and activate the timer to start the 90-second blending cycle. While this cycle is mixing, add the contents of one bag of Part C-1 (aggregate).
3. When the blender stops, reactivate the timer and immediately pour the contents of one bag of Part C (aggregate) into the pail. Allow the contents to mix for the complete 90-second cycle.
4. When the blender stops, scrape the excess material from the mixing blade. Remove the pail and deliver it to the floor area for application.

Note: The use of a timer is required when using a bulk mixer to mix Stonset TG6.This is to ensure that all the aggregate is mixed for the required time. Due to the time required to add all of the components, the mix cycle should be extended to ensure 90 seconds of mixing after all of the aggregate has been added

APPLYING
THE MIXED STONSET TG6 MUST BE PLACED WHILE THE URETHANE PRIMER IS STILL WET OR TACKY. Spread and compact Stonset TG6 with a steel finishing trowel.

- When filling holes and ruts, use the surrounding floor level as a guide for the trowel.
- For larger areas or changing floor levels, use screeds and a straight-edge to obtain the desired thickness.
- To maintain physical properties, do not place Stonset TG6 at less than 1/2 in./12 mm.
- Broadcast Texture #3 on to the surface of the wet TG6 at a rate of 300-400 sq. ft. per bag.

Note: When applying Stonset TG6, build up to desired thickness with one-inch lifts properly compacted after each lift.

CURING
The initial set time for Stonset TG6 is 3 to 4 hours. Overlayment can begin 10 to 12 hours after the Stonset TG6 has been in- stalled. Ultimate physical characteristics will be achieved in 7 days. The curing time may vary depending upon ambient and surface conditions.

PRECAUTIONS

- Use these materials only in strict accordance with the manufacturer's recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- The selection of proper protective clothing and equipment will significantly reduce the risk of injury. Body covering apparel, safety goggles or safety glasses and impermeable gloves are required.
- In case of contact, flush area with water for 15 minutes and seek medical attention. Wash skin with soap and water.
- If material is ingested, immediately contact a physician. DO NOT INDUCE VOMITING.
- During prep-work of floor substrate or mixing of Stonhard product while adding aggregate, dust masks must be worn.

NOTES

- Safety Data Sheets for Stonset TG6 are available online at www.stonhard.com under Products or upon request.
- A staff of technical service engineers is available to assist with installation or to answer questions related to Stonhard products.
- Requests for literature can be made through local sales representatives and offices, or corporate offices located worldwide.

06/19
 www.stonhard.com

STONHARD®

USA HQ	(800) 257 7953	Mexico	+(52) 55 9140 4500	Belgium	+(32) 67 49 37 10	South Africa	+(27) 11 254 5500	Australia	+(61) 3 9587 7433
Canada	(800) 263 3112	Argentina	+(54) 11 5032 3113	Dubai, UAE	+(971) 4 3470460	China	+(86) 21 61838698	India	+(91) 22 28500321

STONHARD

STONCHEM® 878

PRODUCT DATA

PRODUCT DESCRIPTION

Stonchem 878 is a highly cross-linked, vinyl ester lining system applied at a nominal thickness of 140 mil/3.5 mm. The mortar, engineering fabric, mortarcoat, and mineral composite topcoat sequencing provides a smooth, heavy-duty, chemical barrier which is resistant to thermal shock, thermal cycling, static cracks, permeation and abrasion. The Stonchem 878 system has excellent resistance to a broad base of chemicals, including strong organic acids, alkalies, solvents and moderate to strong inorganic acids.

USES, APPLICATIONS

- Secondary containment areas
- Tank farms
- Sumps and trenches
- Pump pads and pedestals
- Neutralization pits

PRODUCT ADVANTAGES

- Excellent chemical resistance to a broad range of acids, bases and solvents
- Engineering fabric resists cracking
- Mortarcoat for added abrasion resistance
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE

Stonchem 878 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 800 Series Chemical Resistance Guide which lists reagent concentration and temperature recommendations for each product.

PACKAGING

Stonchem 878 is packaged in units for easy handling.
Each unit consists of:

Mortar

2 cartons of Stonchem 800/820 Liquids
A carton contains:
2 jars of Peroxide
2 cans of Resin
4 bags of 800 Mortar aggregate

Engineering Fabric

1 roll of Engineering Fabric
200 sq. ft./18.58 sq. m roll

PHYSICAL CHARACTERISTICS

Compressive Strength (ASTM C-579)	11,000 psi
Tensile Strength (ASTM D-638)	3,000 psi
Flexural Strength (ASTM C-580)	13,000 psi
Flexural Modulus of Elasticity (ASTM C-580)	1.0×10^6 psi
Hardness (ASTM D-2240, Shore D)	85 to 90
Abrasion Resistance (ASTM D-4060, CS-17)	0.10 gm max. weight loss
Thermal Coefficient of Linear Expansion (ASTM C-531)	2×10^{-5} in./in.°C
Color	Gray
VOC (ASTM D-2369, Method E)	800/820 Liquids 53 g/l 800 Topcoat 62 g/l

Note: The above physical properties were measured in accordance with the referenced standards. Samples of the actual floor system, including binder and filler, were used as test specimens. All sample preparation and testing is conducted in a laboratory environment, values obtained on field applied materials may vary and certain test methods can only be conducted on lab made test coupons.

Saturant

0.65 carton of Stonchem 800/820 Liquids
A carton contains:
2 jars of Peroxide
2 cans of Resin

Mortarcoat

1 carton of Stonchem 800/820 Liquids
A carton contains:
2 jars of Peroxide
2 cans of Resin
2 bags of 800 Mortarcoat aggregate

Topcoat

1 carton of Stonchem 800 Series Topcoat
A carton contains:
2 jars of Peroxide
2 cans of Resin

COVERAGE
Each unit of Stonchem 878 will cover approximately 180 sq. ft./16.72 sq. m at a thickness of 140 mil/3.5 mm.

STORAGE CONDITIONS
Store all components between 50 to 75/10 to 24°C in a dry area. Keep out of direct sunlight. When stored in the unopened containers at the proper temperatures, the shelf life is 6 months. Store all engineering fabric in a clean and dry area.

SUBSTRATE
Stonchem 878, with the appropriate primer, is suitable for application over concrete, wood, brick, quarry tile, metal or Stonhard Stonset grouts. For questions regarding other possible substrates or an appropriate primer, contact your local Stonhard representative or Technical Service.

SUBSTRATE PREPARATION
Proper preparation is critical to ensure an adequate bond and system performance. The substrate must be dry and properly prepared utilizing mechanical methods. Questions regarding substrate preparation should be directed to your local Stonhard representative or Technical Service.

APPLICATION GUIDELINES
For optimal working conditions, substrate temperature must be between 60 to 80°F/15 to 27°C. Cold areas must be heated until the slab temperature is above 55°F/13°C to ensure the material achieves a proper cure. A cold substrate will make the material stiff and difficult to apply. Warm areas or areas in direct sunlight must be shaded or arrangements made to work during evenings or at night. A warm substrate (60 to 80°F/15 to 27°C) will aid in the material's workability; however, a hot substrate (80 to 100°F/27 to 37°C) or a substrate directly in the sun will shorten the material's working time and can cause other phenomenon such as pinholing and bubbling. Substrate temperature should be greater than 5°F/3°C above dew point.

Application and curing times are dependent upon ambient and surface conditions. Consult Stonhard's Technical Service Department if conditions are not within recommended guidelines.

FIELD GEL TESTS
Due to the unique nature of the 800 Series resins, their reactivity is affected by storage conditions and age; therefore, it is important to test the cure of the materials prior to application. Gel tests should be performed for each lot of each product shipped to a job to prevent problems related to material curing. Field gel test kits are included in every shipment of 800 Series material. One gel test contains directions and all of the necessary materials to conduct the testing. Test all lots of material prior to use.

PRIMING
Vacuum the surface before priming, and make sure the concrete substrate is dry. The use of Stonchem 700/800 Series Primer is necessary in all applications of Stonchem 878. This ensures maximum product performance. (See the Stonchem 700/800 Series Primer product data sheet for details.)

> **Note:** Stonchem 700/800 Series Primer must be wet during installation of the Mortar.

APPLYING
Mortar
Pre-mix the peroxide and resin in a 5 gallon mixing container on a J.B. Blender for one minute. Next, gradually add the Mortarcoat aggregate while mixing for an additional 150 seconds. Mixing is complete when no clumps of dry material exist. For vertical applications, use Vertical Mortarcoat aggregate. Apply the mortar onto the substrate with a 3/8 in. x 3/8 in. V-notched trowel. To obtain the proper thickness, hold the trowel at approximately 45 degrees and keep the tips of the V-notches in contact with the substrate. The material must be applied evenly over the substrate with no clumps or ridges present before embedding the engineering fabric. The engineering fabric will not remove or hide any unevenness in the troweled mortar layer. If applying mortar on a vertical surface, use the same V-notched trowel to spread the material, then finish smooth with a flat steel finishing trowel. A smooth and even distribution of the material must exist on a vertical surface before embedding the reinforcement.

Engineering Fabric
Place the engineering fabric on the mortar immediately after the mortar is applied. Press the fabric onto the mortar using a dry, medium nap roller. Overlap adjacent fabric 1/2 in. Immediately apply the saturant.

Saturant
Mix the peroxide and resin in a 5 gallon mixing container using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Apply the saturant to the engineering fabric with a saturated medium nap roller. To wet the roller, dip it into the mixing container. Always work from the bucket. Do not pour the saturant directly onto the glass. This will decrease the saturant's coverage. If the air temperature is high, use of plastic mixing buckets will increase the pot life of the material. The fabric is completely saturated when white strands are no longer present. When the fabric is completely saturated, roll with a ribbed roller to release air pockets in the reinforcement and to embed the fabric into the mortar. To saturate the overlaps, roll several times over the length of the overlap with a saturated roller, then roll with a ribbed roller several times until the overlap is no longer visible. Allow the mortar, fabric and saturant to cure (usually 4 to 6 hours) before proceeding.

Mortarcoat
Lightly sand the fabric/saturant layer with a sanding disc attachment in areas with protruding fibers. Pre-mix the peroxide and resin in a 5 gallon mixing container with a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute.

Next, gradually add the Mortarcoat aggregate while mixing for an additional 2 minutes. For vertical applications, use Vertical Mortarcoat aggregate. Mixing is complete when no dry clumps of material exist. Pour the material onto the floor and spread out with a 15 mil notched squeegee. Backroll the area with a medium nap roller to remove squeegee lines. The material may appear rough at first but will level out to a smooth finish. For vertical surfaces, use a large steel trowel or knife to pull an initial coat of vertical material onto the wall, then finish smooth with a flat rubber squeegee.

Topcoat

Lightly sand the mortarcoat in areas where protrusions exist. Vacuum the area completely. Mix the peroxide and resin in a 5 gallon mixing container using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for 2 minutes. Pour the material onto the floor and spread out with a 15 mil notched squeegee. Backroll the area with a medium nap roller to remove squeegee lines, using long roll strokes to decrease the visibility of roller lines. For vertical surfaces, pour a bead of material along the base of the wall and, using a medium nap roller, roll the material onto the vertical surface. The wet film thickness of the coating is 10 to 12 mil/250 to 300 microns. Check the thickness with a wet film gauge.

CURING

The surface of Stonchem 878 will be tack-free in 4 to 6 hours at 70°F/21°C. The coated area may be put back into service in 24 hours at 70°F/21°C. Ultimate physical characteristics will be achieved in 7 days.

PRECAUTIONS

- Avoid contact with Stonchem 878 resin (vinyl ester resin and styrene monomer) and peroxide (catalyst/organic peroxide), as they may cause skin, respiratory and eye irritation.
- Acetone is recommended for clean up of Stonchem 878 resin (vinyl ester resin and styrene monomer) and peroxide (catalyst/organic peroxide) material spills. Use these materials only in strict accordance with the manufacturers' recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- **The use of NIOSH/MSHA approved respirators using an organic vapor/acid gas cartridge is mandatory.**
- The selection of proper protective clothing and equipment will significantly reduce the risk of injury. Body covering apparel, safety goggles or safety glasses and impermeable gloves are required.
- In case of contact, flush area with water for 15 minutes and seek medical attention. Wash skin with soap and water.
- If material is ingested, immediately contact a physician. **DO NOT INDUCE VOMITING.**
- Use only with adequate ventilation. Inhalation of vapors may cause severe headaches, nausea and possibly unconsciousness.

NOTES

- Material Safety Data Sheets for Stonchem 878 are available on line at www.stonhard.com under Products or upon request.
- Specific information regarding the chemical resistance of Stonchem 878 is available in the Stonchem 800 Series Chemical Resistance Guide.
- A staff of technical service engineers is available to assist with product application or to answer questions related to Stonhard's products.
- Requests for technical literature or service can be made through local sales representatives and offices or corporate offices located worldwide.

Rev. 08/13

STONHARD®
www.stonhard.com
An RPM Company

Worldwide Offices:

USA	800.257.7953	Mexico	(52)55.9140.4500	Europe	(32)2.720.8982	Africa	(27)11.254.5500
Canada	800.263.3112	South America	(54-3327)44.2222	Middle East	(971)4.3470460	Asia	(86)21.5466.5118

PRODUCT DESCRIPTION

Stonchem 855 is a highly cross-linked, vinyl ester lining system applied at a nominal thickness of 1 mm. The resin, engineering fabric and mineral composite topcoat sequencing provides a light-duty chemical barrier for occasional foot traffic which is resistant to static cracks and moderate thermal shock. The Stonchem 855 system has excellent resistance to a broad base of chemicals, including strong organic acids, alkalies, solvents and moderate to strong inorganic acids.

USES, APPLICATIONS

- Secondary containment areas/tank farms
- Concrete sumps, vaults and trenches
- Pump pads and pedestals
- Storage tanks
- Neutralization pits
- Chemical storage rooms

PRODUCT ADVANTAGES

- Excellent chemical resistance to acids, bases and solvents
- Engineering fabric resists cracking
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE

Stonchem 855 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 800 Series Chemical Resistance Guide which lists reagent concentration and temperature recommendations for each product.

PHYSICAL CHARACTERISTICS

Tensile Strength.....55 N/mm^2
(ASTM D-638)
Flexural Strength.....82 N/mm^2
(ASTM C-580)
Flexural Modulus of Elasticity .....5.5 x 10^3 N/mm^2
(ASTM C-580)
Hardness .....85 to 90
(ASTM D-2240, Shore D)
Abrasion Resistance.....0.10 gm max. weight loss
(ASTM D-4060, CS-17)
Thermal Coefficient
of Linear Expansion .....3.6 x 10^{-5} mm/m˚C
(ASTM C-531)
Color.....Gray
VOC.....800/820 Liquids 53 g/l
(ASTM D-2369, Method E) .....800 Topcoat 62 g/l

Note: The above physical properties were measured in accordance with the referenced standards. Samples of the actual floor system, including binder and filler, were used as test specimens. All sample preparation and testing is conducted in a laboratory environment, values obtained on field applied materials may vary and certain test methods can only be conducted on lab made test coupons.used as test specimens.

PACKAGING

Stonchem 855 is packaged in units for easy handling.
Each unit consists of:

Saturant

1.65 cartons of Stonchem 800/820 Liquids
A carton contains:
2 jars of Peroxide
2 cans of Resin

Engineering Fabric

1 roll of Engineering Fabric 18.58 m^2 roll

Topcoat

1 carton of Stonchem 800 Series Topcoat
A carton contains:
2 jars of Peroxide
2 cans of Resin

COVERAGE

Each unit of Stonchem 855 will cover approximately 16.72 m^2 at a thickness of 1 mm.

Note: If utilizing chopper gun applied fiberglass, there will be a reduction in saturant coverage. Questions regarding coverage rates should be directed to your local Stonhard representative or Technical Service.

STORAGE CONDITIONS

Store all components between 10 to 24˚C in a dry area. Keep out of direct sunlight. When stored in the unopened containers at the proper temperatures, the shelf life is 6 months. Store all engineering fabric in a clean and dry area .

SUBSTRATE

Stonchem 855, with the appropriate primer, is suitable for application over concrete and the following uncoated newly applied Stonhard mortars and grouts: GS, HT, UR, UT, TG6, TG8, CR5 and PM8. For questions regarding other possible substrates or an appropriate primer, contact your local Stonhard representative or Technical Service.

SUBSTRATE PREPARATION

Proper preparation is critical to ensure an adequate bond and system performance. The substrate must be dry and properly prepared utilizing mechanical methods. For existing coated surfaces, the coating must be completely removed back down to an intact mortar or substrate. Once the coating is removed, prime the prepared surface with Stonchem Epoxy Primer and broadcast with silica aggregate to refusal. Remove any excess silica aggregate prior to system overlayment. Omitting these steps could result in uncured material. Questions regarding Substrate preparation should be directed to your local Stonhard representative or Technical Service.

APPLICATION GUIDELINES

For optimal working conditions, substrate temperature must be between 15 to 27˚C. Cold areas must be heated until the slab temperature is above 13˚C to ensure the material achieves a proper cure. A cold substrate will make the material stiff and difficult to apply. Warm areas or areas in direct sunlight must be shaded or arrangements made to work during evenings or at night. A warm substrate (15 to 27˚C) will aid in the material's workability; however, a hot substrate (27 to 37˚C) or a substrate directly in the sun will shorten the material's working time and can cause other phenomenon such as pinholing and bubbling. Substrate temperature should be greater than 3˚C above dew point during application and curing period.

Application and curing times are dependent upon ambient and surface conditions. Consult Stonhard's Technical Service Department if conditions are not within recommended guidelines.

FIELD GEL TESTS

Due to the unique nature of the 800 Series resins, their reactivity is affected by storage conditions and age; therefore, it is important to test the cure of the materials prior to application. Gel tests should be performed for each lot of each product shipped to a job to prevent problems related to material curing. Field gel test kits are included in every shipment of 800 Series material. One gel test contains directions and all of the necessary materials to conduct the testing. Test all lots of material prior to use.

PRIMING

Vacuum the substrate before priming, and make sure the surface is dry. The use of Stonchem 700/800 Series Primer is necessary in all applications of Stonchem 855. This ensures maximum product performance. (See the Stonchem 700/800 Series Primer product data sheet for details.)

Note: Stonchem 700/800 Series Primer must be tack-free prior to application of the Saturant — Basecoat.

APPLYING

Saturant — Basecoat

Mix peroxide and resin in a 20 liter bucket using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Pour the saturant onto the substrate and spread out with a 0.4 mm notched squeegee. The saturant should be spread out in a sequence to allow application of the engineering fabric. Do not leave any puddling during this squeegee step. Puddling will lead to over saturation of the fiberglass.

Engineering Fabric

Place the engineering fabric on the saturant immediately after the saturant is applied. This is important to achieve maximum wetting. Press the engineering fabric into the saturant with a dry, medium nap roller. Overlap adjacent engineering fabric 26 mm. Immediately apply the next saturant step.

Saturant

Mix peroxide and resin in a 20 liter bucket using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Apply the saturant to the engineering fabric with a saturated medium nap roller. To wet the roller, dip it into the mixing container. Always work from the mixing container. Do not pour the saturant directly onto the engineering fabric. This will decrease the saturant's coverage. If air temperature is high, the use of plastic buckets will increase the pot life of the material. The engineering fabric is completely saturated when white strands are no longer present. When the engineering fabric is completely saturated, roll with a ribbed roller to release air pockets in the reinforcement and to help mesh the glass and saturant together. To saturate the overlaps, roll several times over the length of the overlap with a saturated roller. Then, roll with a ribbed roller several times until the overlap is no longer visible. Allow the saturant and fabric to cure (usually 2 to 4 hours) before proceeding.

Topcoat

Lightly sand the saturant and fiberglass in areas where protrusions exist. Vacuum the area completely. Mix the peroxide and resin in a 20 liter mixing container, using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Pour the material onto the floor and spread out with a 0,4 mm notched squeegee. Backroll the area with a medium nap roller to remove squeegee lines using long roll strokes to decrease the visibility of roller lines. For vertical surfaces, pour a bead of material along the base of the wall, using a medium nap roller, roll the material up onto the vertical surface. The wet film thickness of the coating is 250 to 300 microns. Check the thickness with a wet film gauge.

CURING

The surface of Stonchem 855 will be tack-free in one hour. Area may be returned to dry service after 4 hours and full service after 48 hours of cure at 21°C.Ultimate physical characteristics will be achieved in 7 days.

PRECAUTIONS

- Avoid contact with Stonchem 855 resin (vinyl ester resin and styrene monomer) and peroxide (catalyst/organic peroxide), as they may cause skin, respiratory and eye irritation.
- Acetone is recommended for clean up of Stonchem 855 resin (vinyl ester resin and styrene monomer) and peroxide (catalyst/ organic peroxide) material spills. Use these materials only in strict accordance with the manufacturers' recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- The use of NIOSH approved respirators using an organic vapor/acid gas car tridge is mandatory.
- The selection of proper protective clothing and equipment ,will significantly reduce the risk of injury. Body covering apparel, safety goggles or safety glasses and impermeable gloves are required.
- In case of contact, flush area with water for 15 minutes and seek medical attention. Wash skin with soap and water.
- If material is ingested, immediately contact a physician. DO NOT INDUCE VOMITING.
- Use only with adequate ventilation. Inhalation of vapors may cause severe headaches, nausea and possibly unconsciousness.

NOTES

- Safety Data Sheets for Stonchem 855 are available on line at www.stonhard.com under Products or upon request.
- Specific information regarding chemical resistance of Stonchem 855 is available in the Stonchem 800 Series Chemical Resistance Guide.
- A staff of technical service engineers is available to assist with product application or to answer questions related to Stonhard products.
- Requests for technical literature or service can be made through local sales representatives and offices or corporate offices located worldwide.
- The appearance of all floor, wall and lining systems will change over time due to normal wear, abrasion, traffic and cleaning. Generally, high gloss coatings are subject to a reduction in gloss, while matte finish coatings can increase in gloss level under normal operating conditions.
- Surface texture of resinous flooring surfaces can change over time as a result of wear and surface contaminants. Surfaces should be cleaned regularly and deep cleaned periodically to ensure no contaminant buildup occurs. Surfaces should be periodically inspected to ensure they are performing as expected and may require traction-enhancing maintenance to ensure they continue to meet expectations for the particular area and conditions of use.

CE MARKING

The harmonized European Standard EN 1504-2 „Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 2 : Surface protection systems for concrete" gives specifications for products and systems based on methods "hydrophobic impregnation", "impregnation" and "coating" for the various principles presented under EN 1504-9.

Products which fall under this specification have to be CE-labelled as per Annex ZA. 1, Tables ZA1a to ZA 1g according to the scope and relevant clauses there indicated and fulfill the requirements of the given mandate of the Construction Products Regulation nr. 305/2011.

For flooring systems not dedicated to protect or reinstate the integrity of a concrete structure, EN 13813 applies. Products acc. EN 1504-2 used as flooring systems with mechanical loads also must fulfil EN 13813. Here below indicated are the performance classes achieve according to the standard. For the specific performance results of the product to the particular tests, please see the actual values above in the PDS.

CE

Stoncor Europe
Rue du Travail 9
1400 Nivelles, Belgium

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DOP.855.2021.10.9-3

EN 1504-2

Surface Protection Product
Ingress Protection 1.3 (C)

Cap. Absorption & Permeability to Water Vapor	W<0.1 kg/m^2*h$^{0.5}$
Water Permeability	Class III
Permeability to CO_2	S_d>50m
Adhesion Strength by Pull-Off Test	>2.0 MPa
Fire Resistance	B_{fl}-s1
Abrasion Resistance	<3000mg H-22

Rev.03/22

STONHARD®

European Offices:

Belgium	+32 674 93 710	Spain	+34 933 623 785	Germany	+49 240 541 740
France	+33 160 064 419	Portugal	+351 227 535 642	The Netherlands	+31 165 585 200
Poland	+48 422 112 768	United Kindom	+44 1925 649 458	Italy	+39 022 53 751
		East Europe	+48 422 112 768		

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Excellence in flooring

9.0 STONCHEM BESPOKE DETAILS

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Please see attached engineering details for bridging expansion joints, Lining to Vertical Fascias & Corner Profile finishes that will be adopted on-site. Robertson Northwest confirm their acceptance & inclusion into the Anodising Line.

Unit G,
Taylor Business Park, Risley,
Warrington,
Cheshire. WA3 6BL

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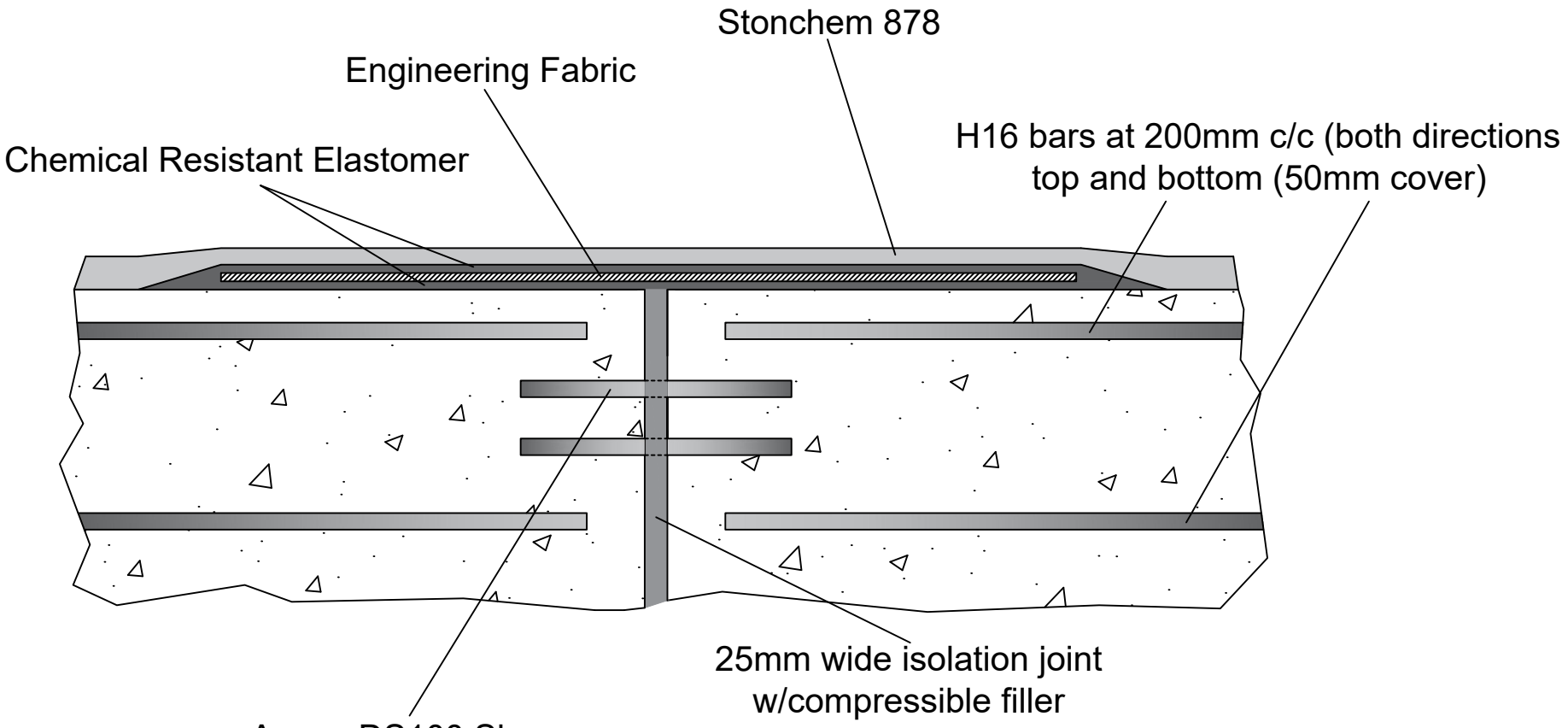
T. 01925 763045

A division of STONHARD

Registered Office: Hays Galleria, 1 Hays Lane, London SE1 2RD
Company Registration No. 1469985. VAT Registration No: 337 4785 25



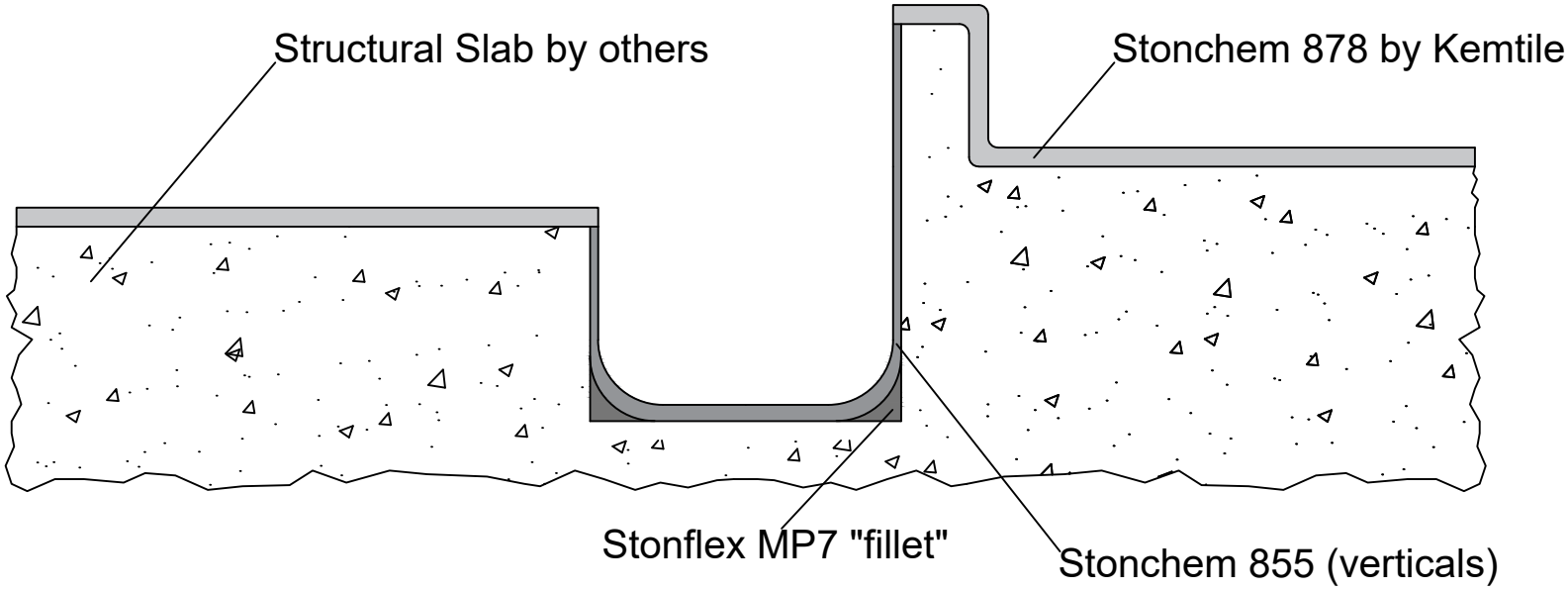
Architectural Detail

Crack Treatment

Dowelled Movement Joint Detail

STONHARD
1000 East Park Avenue
Maple Shade New Jersey 08052

Scale:	Date:	Drawing no.:	Drawn by:
NTS	08.23.2022	MISC.106	DWJ

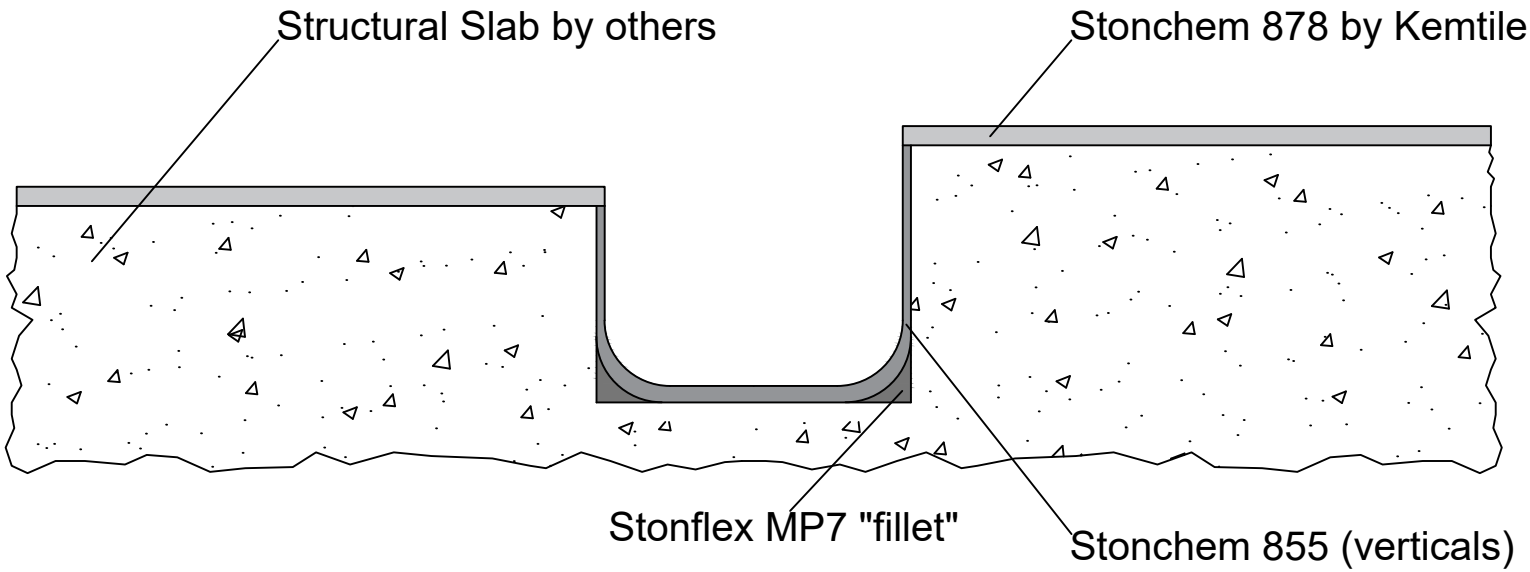


Architectural Detail

Stonchem 855 & 878

STONHARD
1000 East Park Avenue
Maple Shade New Jersey 08052

Scale:	Date:	Drawing no.:	Drawn by:
NTS	09.19.2022	DRN.111	DWJ



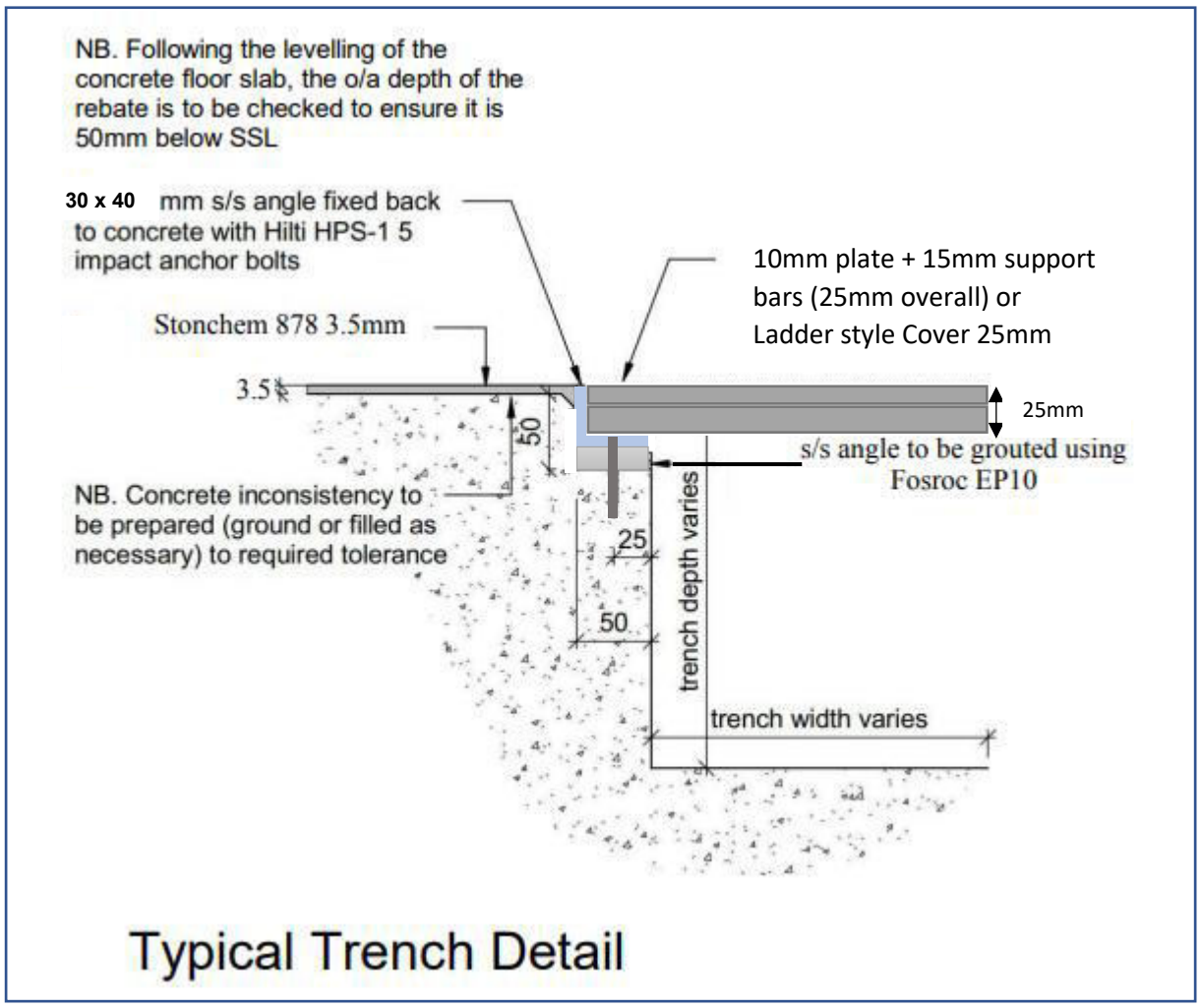
Architectural Detail

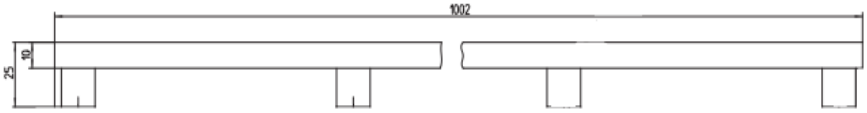
Stonchem 855 & 878

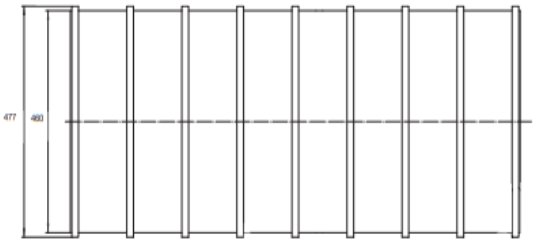
STONHARD
1000 East Park Avenue
Maple Shade New Jersey 08052

Scale:	Date:	Drawing no.:	Drawn by:
NTS	09.19.2022	DRN.110	DWJ

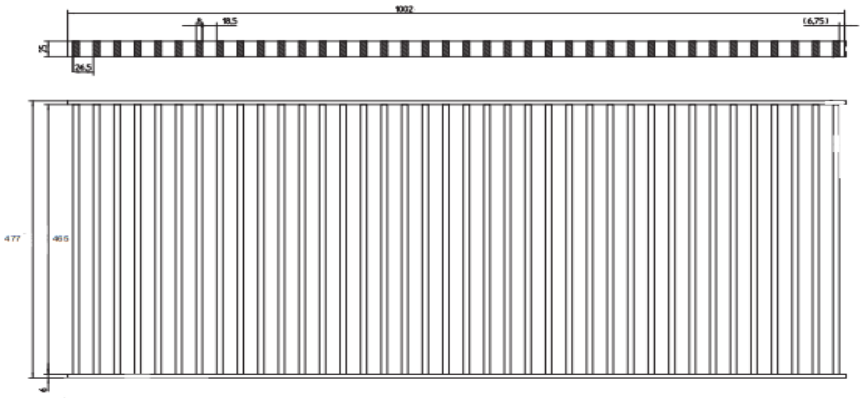
BAE Anodizing Line







Solid Plate Style Cover



Ladder Style Cover

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10.0 ANNOTATED DRAWINGS

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Please see annotated drawings showing the extent of Kemtile's coating works & how the grading inside the pre-cast channels may appear on-site. Robertson Northwest confirm their agreement; this to be included on to the Anodising Line scope.

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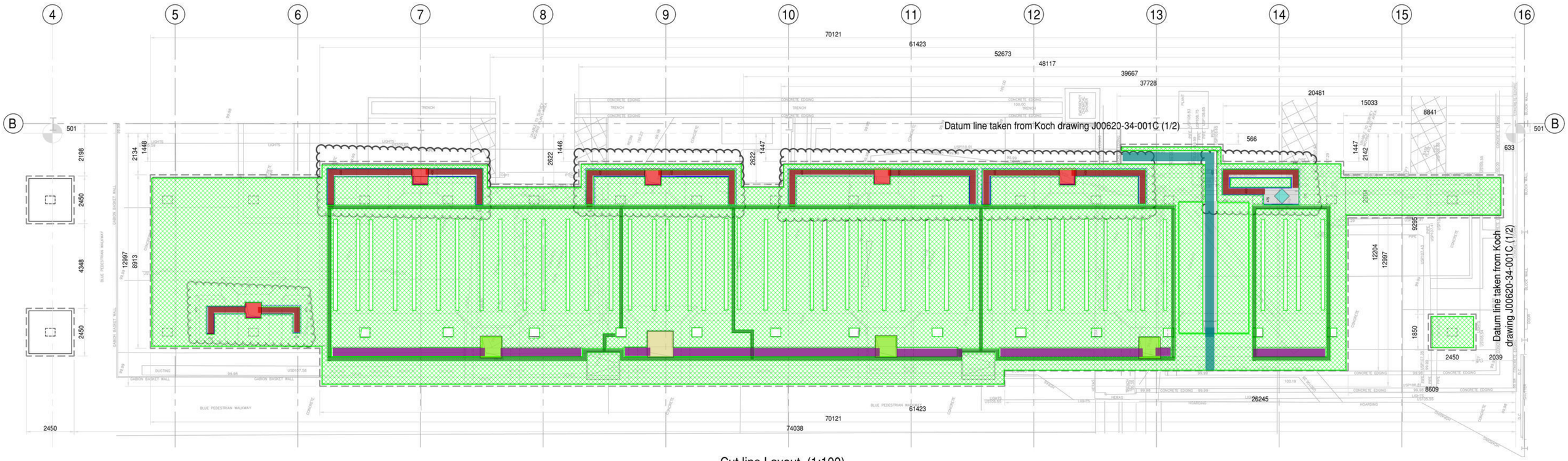
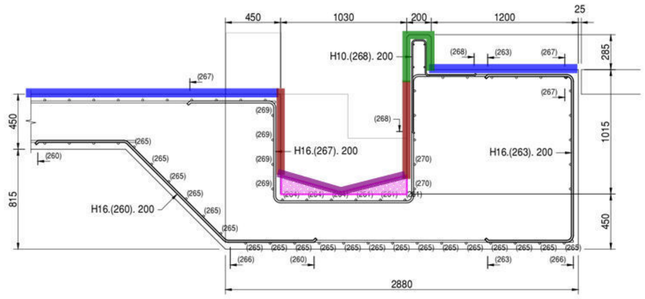
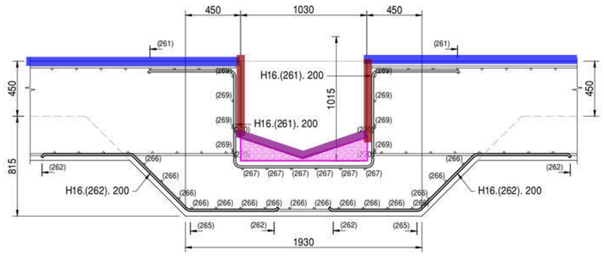
Legend	
New Resin Flooring Works	538.718 m²
400mm Wide Channels & 480mm Wide GRP Covers	55.054 m
480mm Wide Channels	37.032 m
700mm Wide Channel	15.458 m
Bund Wall Overall Girth 770mm	150.364 m
Stainless-Steel Angle	131.296 m
Sump 1080x1080mm	3 Units
Sump 1300x1300mm	1 Unit
Sump Cover 800x800mm	5 Units
Sump Cover 1875x875mm	1 Unit



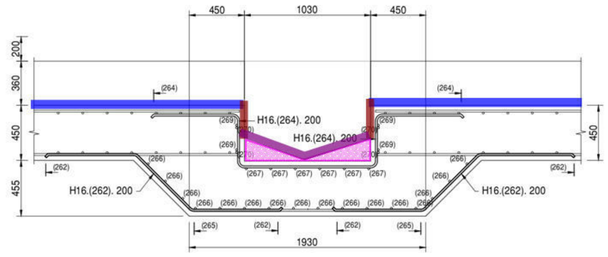
Cut line Layout, (1:100).



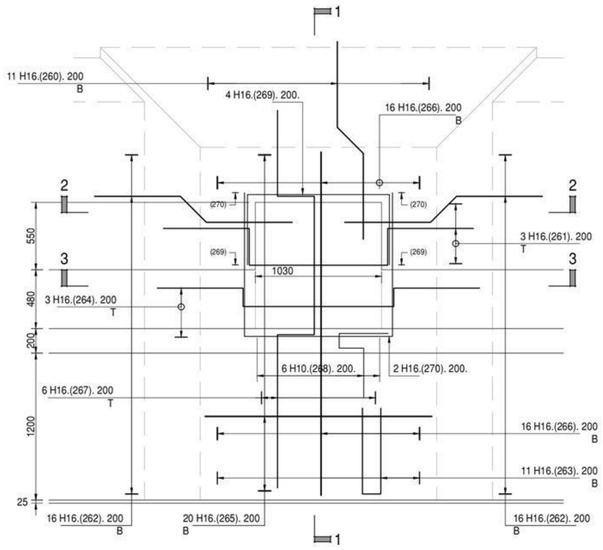
Section 1 - 1, (1:25).



Section 2 - 2, (1:25).



Section 3 - 3, (1:25).



1.03m x 1.03m x 1.015m Deep Sump Details, (1:25).
(2 No required).

Legend

- Stonset TG6 Forming Falls
- Stonchem 855 Vertically to Channel & Sump Walls
- Stonchem 888 Laid Flat to Floors
- Stonchem 888 to Bund Wall Perimeter
- Stonchem 888 to Falls within Channels & Sumps

DO NOT SCALE THIS DRAWING | A1

GENERAL NOTES:

1. Before construction commences, the setting out Engineer shall ensure that all setting out information is mutually compatible with all the drawings and documents provided by the designers. Where information is apparently contradictory or ambiguous, the design Engineer and/or the Architect is to be informed immediately. Thomas Consulting will accept no liability for setting out errors where work is constructed to incorrect information.

2. All drawings and documents are to be read in conjunction with one another, are mutually compatible and shall be read as such. All documents shall be checked to ensure that they are compatible by the contractor before construction commences. In the event of apparent ambiguity or contradiction the engineer and/or architect shall be notified immediately. Thomas Consulting accept no liability in the event of not being so notified and where construction work has commenced.

3. In accordance with CDM regulations 2015 this drawing has been prepared with due attention to identifying any unusual design hazards that may exist. Unusual design hazards are hazards that a reasonably competent contractor, experienced in this type of work may not be expected to identify. In dealing with unusual design hazards we have adopted the "ERIC" principle and where possible eliminated (E) the hazard at design stage, if it has not been possible to eliminate the hazard we have endeavoured to reduce (R) it. Where it has not been possible to eliminate these hazards, the hazard is noted on the drawing with appropriate information (I) in order that the hazard can be controlled (C) during construction. It is the contractor's responsibility to fully acquaint themselves with all construction drawings before commencing construction and if in doubt about any matter to ask for clarification from the designer.

4. All drawings issued electronically for this scheme are provided for the sole purpose of assisting the design, procurement or construction of the structures for which Thomas Consulting have been appointed as Design Engineers/Consultants. They may not be used for any other purpose, nor may they be amended, copied, redistributed or issued to third parties without the written agreement of Thomas Consulting. All drawings remain under copyright to, and the intellectual property of, Thomas Consulting. Upon completion of the project, all drawings are to be deleted from your computer systems and all other electronic copies destroyed. Where electronic copies of final drawings are to be issued, these will be provided in a digital only format by Thomas Consulting (no other copies may be retained). By opening and using this drawing, it is assumed that you agree to abide by these Terms and Conditions.

5. Unless expressly agreed with a director of Thomas Consulting Ltd, for the purposes of the CDM regulations 2015 Thomas Consulting are not the Principal Designer. The client has been advised that they are required to appoint a Principal Designer. For further information see http://www.hse.gov.uk/.

REVISIONS

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
A	10-06-22	Drawing status amended to suit.	GW	PB
B	18-07-22	Reinforcement up-dated to suit.	GW	PB

DRAWING STATUS: FOR TENDER.

THOMAS CONSULTING
STRUCTURAL & CIVIL DESIGN ENGINEERS
Offices in **Chorley**, Lancaster & Shrewsbury
Tel: 01772 299040
e-mail: info@thomasconsulting.co.uk

CLIENT: ROBERTSON.

PROJECT: CTF WORKS - BAE SAMLESBURY.

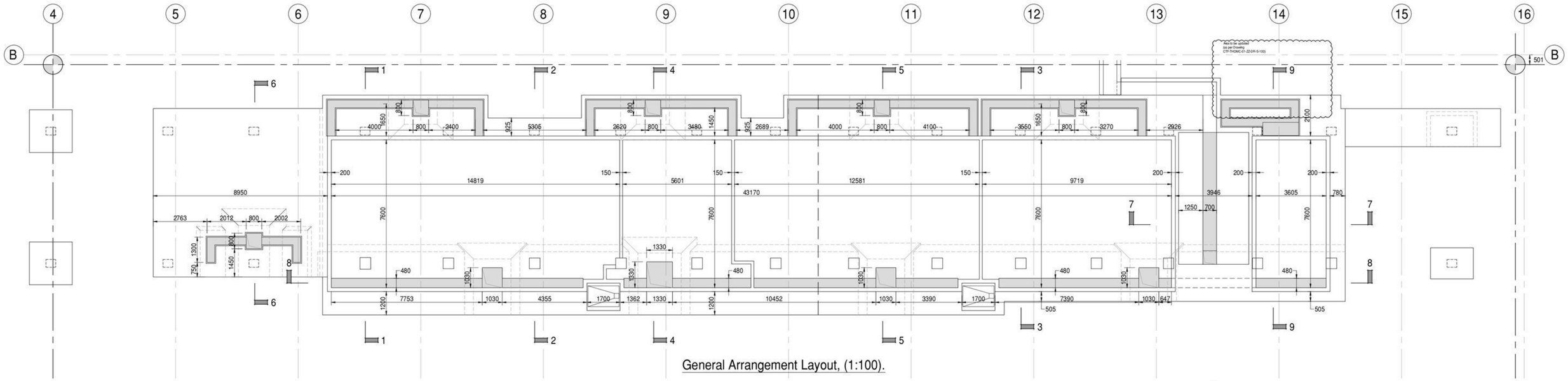
DRAWING TITLE: 1.03M X 1.03M X 1.015M DEEP SUMP REINFORCEMENT DETAILS.

DATE CREATED:	DRAWING SCALE:	DRAWN BY:	CHECKED BY:	QA CATEGORY:
29-05-2022	As noted @ A1	GW	PB	1

T.C PROJECT REF: P8626 | REV:

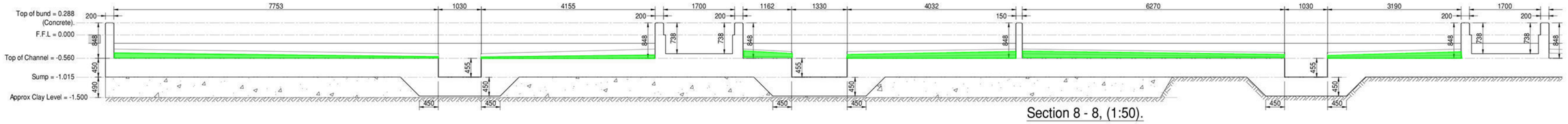
DRAWING REF: CTF-THOMC-01-ZZ-DR-S - 208 | B

DO NOT SCALE THIS DRAWING | A1

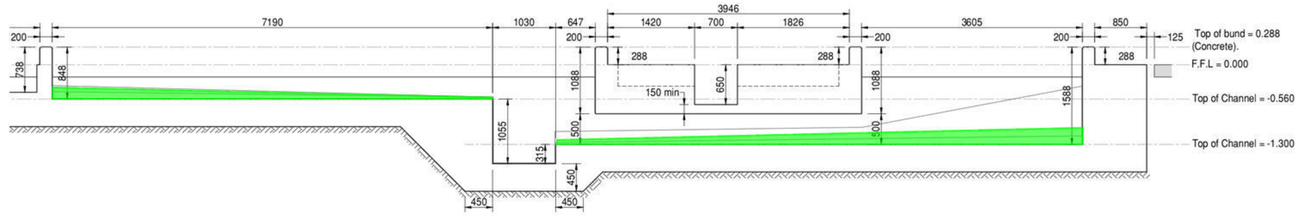


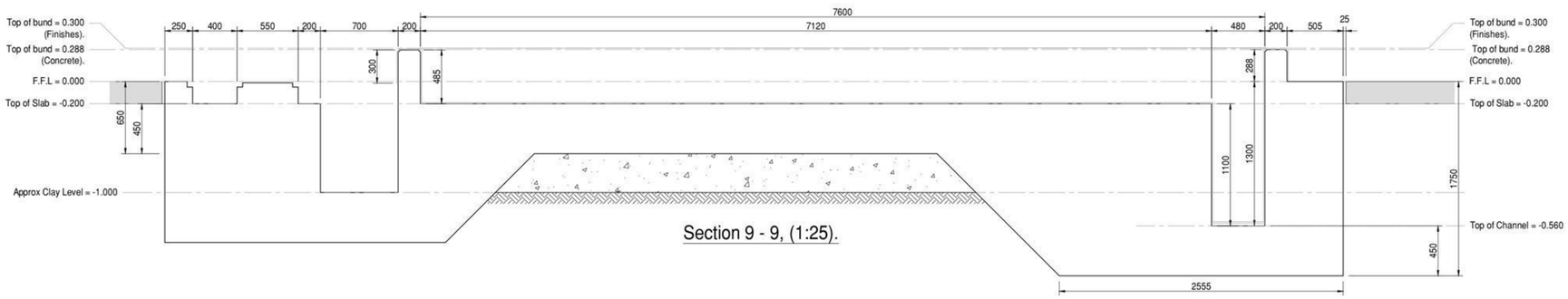
General Arrangement Layout, (1:100).

FOR SECTIONS SEE DRAWING CTF-THOMC-01-ZZ-DR-S - 103



Section 8 - 8, (1:50).





Section 9 - 9, (1:25).

Legend
Examples of Falls Formed by Kemtile

REVISIONS				
REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
A	13.06.22	Drawing Status Updated	GW	PB
B	29.07.22	Tank support plinths removed.	GW	PB

DRAWING STATUS: TENDER ISSUE

THOMAS CONSULTING
STRUCTURAL & CIVIL DESIGN ENGINEERS
Offices in Chorley, Lancaster & Shrewsbury
Tel: 01772 299040
e-mail: info@thomasconsulting.co.uk

CLIENT: ROBERTSON.

PROJECT: CTF WORKS - BAE SAMLESBURY.

DRAWING TITLE: GENERAL ARRANGEMENT SECTIONS.

DATE CREATED:	DRAWING SCALE:	DRAWN BY:	CHECKED BY:	QA CATEGORY:
29-05-2022	As noted @ A1	GW	PB	1

T.C PROJECT REF: P8626 REV:

DRAWING REF: CTF-THOMC-01-ZZ-DR-S - 102 B

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11.0 STAINLESS-STEEL COVERS

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Please see engineering drawings showing the design of the Stainless-Steel Channel cover sourced & supplied by Kemtile. Robertson Northwest to satisfy themselves that this meets with the client requirements prior to inclusion on to the Anodising Line scope.

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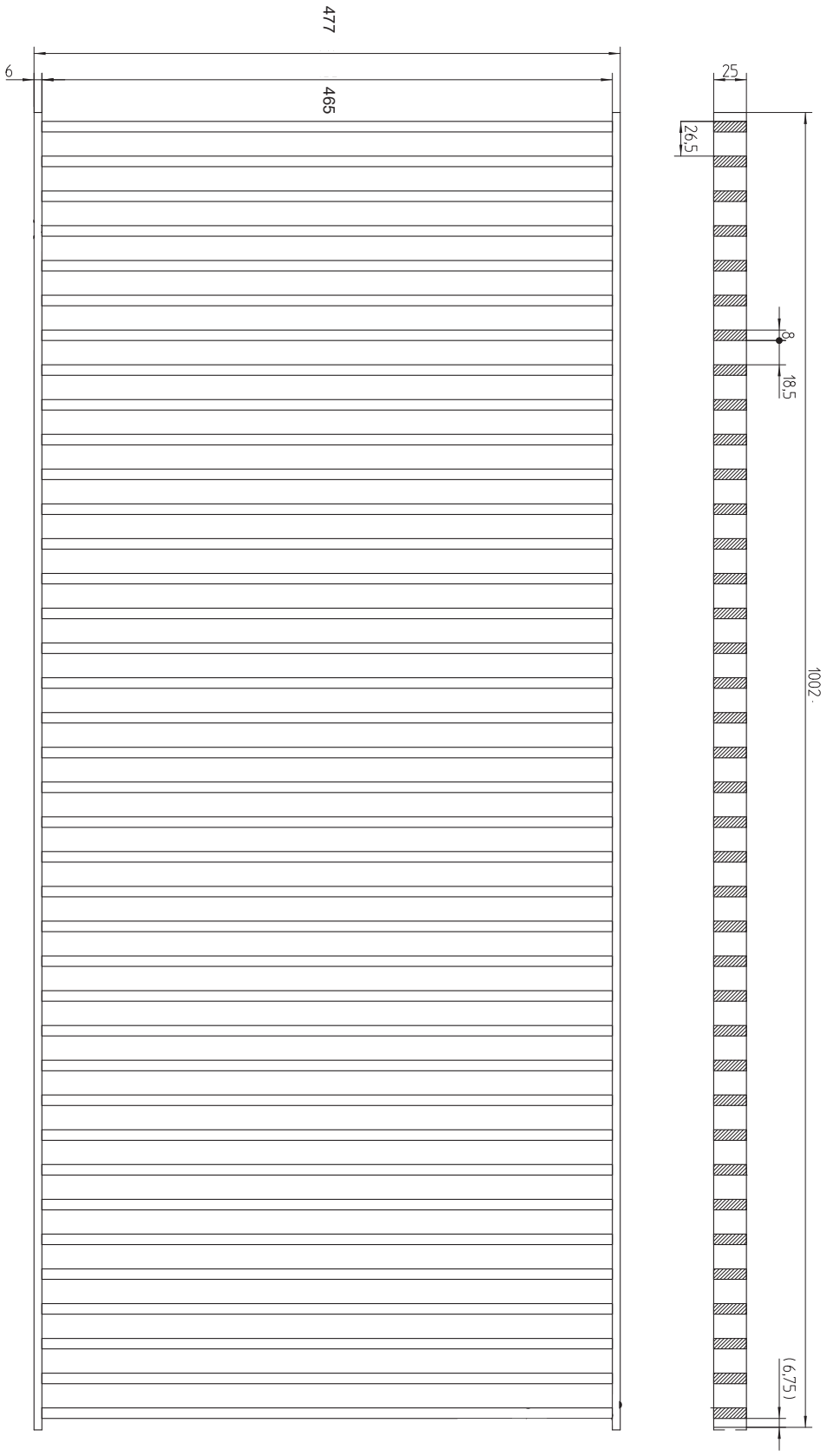
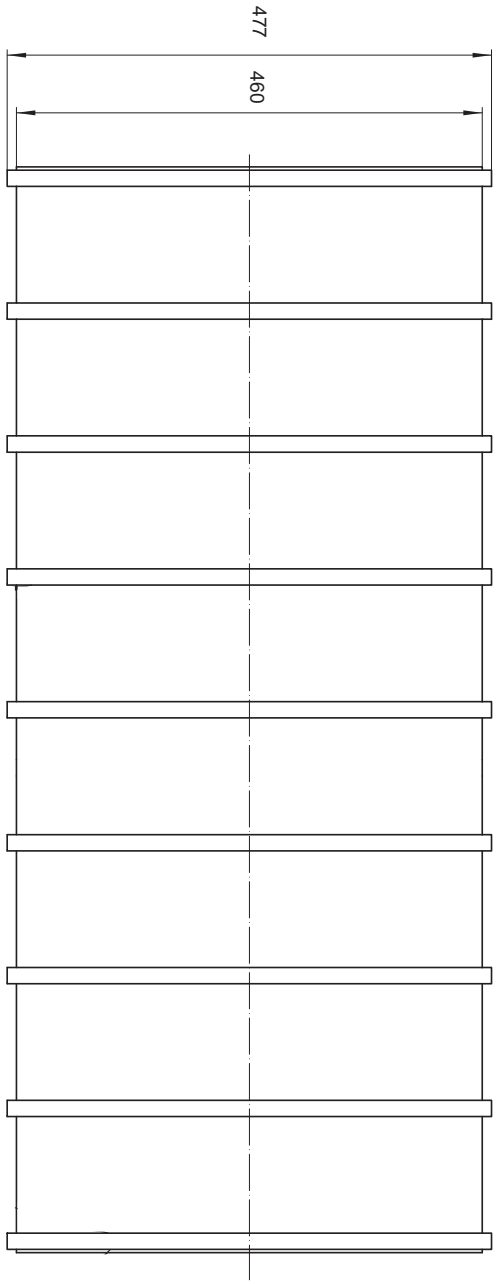
Registered Office: Hays Galleria, 1 Hays Lane, London SE1 2RD
Company Registration No. 1469985. VAT Registration No: 337 4785 25


477
6
465
25
26,5
8
18,5
1002
(6,75)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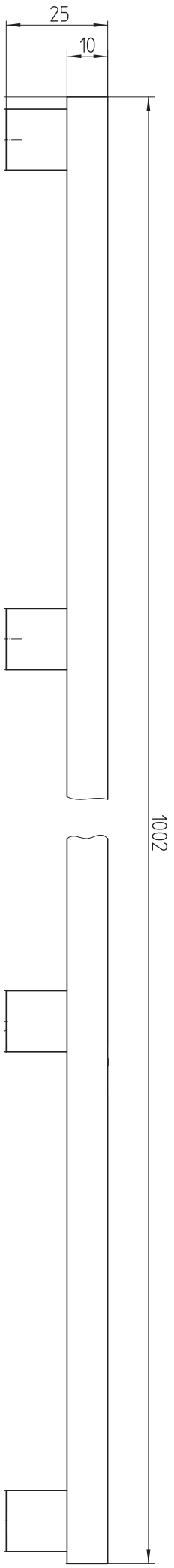
25
10
1002

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12.0 STAINLESS-STEEL SUPPORTS

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Please see engineering drawings showing the details of the Stainless-Steel angles & cross-Sump supports sourced by Kemtile. Robertson Northwest/Thomas Consulting to satisfy themselves that this meets with the client requirements prior to any inclusion on to the Anodising Line scope.

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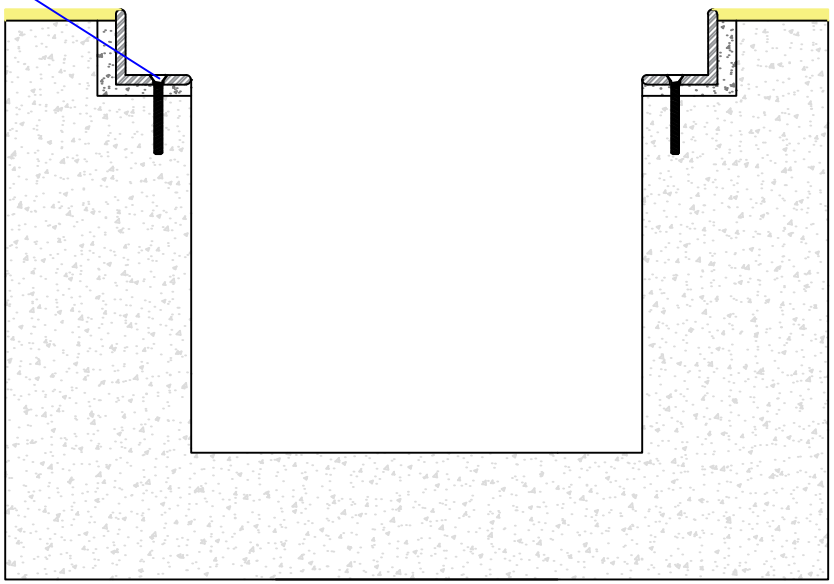
Outer plate fixed down with HUR-HR 8X75mm counter sunk ankor screws



TRENCH DETAIL

trench edges to be made of 40 x 40 5mm thick 316 grade stainless steel R.S.A, which will be fixed into existing concrete with HUR-HR 8X75mm stainless steel counter sunk ankor srcews.

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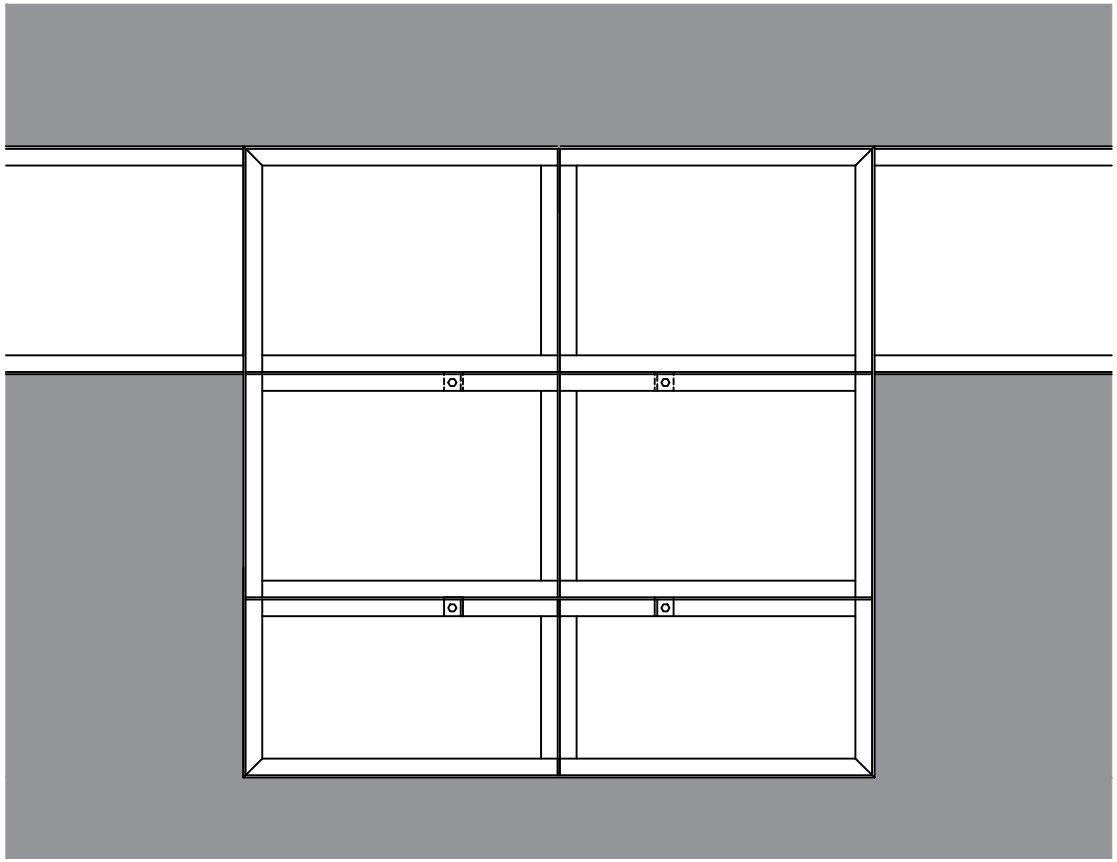
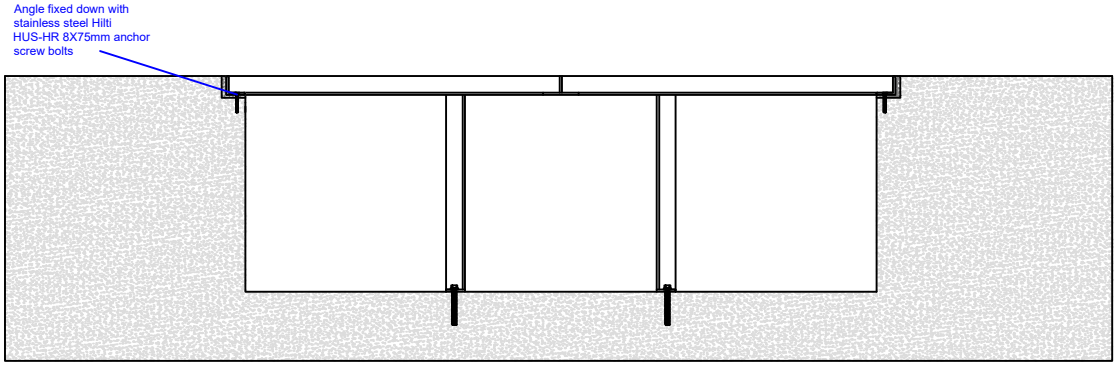
TOLERANCE	TITLE			
+0 , -0	B.A.E, SAMLESBURY - trench detail			
DATE	DRAWN	SCALE	Drg.No.	REV
21/10/22	DRH		0074	1





SUMP DETAIL

Sump edges to be made of 40 x 40 x 5mm thick 316 grade stainless steel R.S.A, which will be fixed into existing concrete with HUR-HR 8X75mm stainless steel counter sunk ankor srcews.

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TOLERANCE	TITLE			
+0 , -0	B.A.E, SAMLESBURY - Sump detail			
DATE	DRAWN	SCALE	Drg.No.	REV
22/10/22	DRH		0074	1

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13.0 STAINLESS-STEEL CONNECTION

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

Please see engineering drawings showing the details of the Stainless-Steel connection sourced by Kemtile. Robertson Northwest/Thomas Consulting to satisfy themselves that this meets with the client requirements prior to any inclusion on to the Anodising Line scope.

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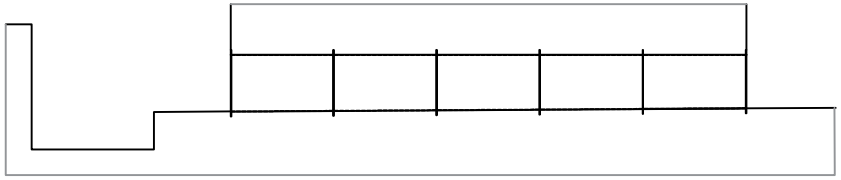
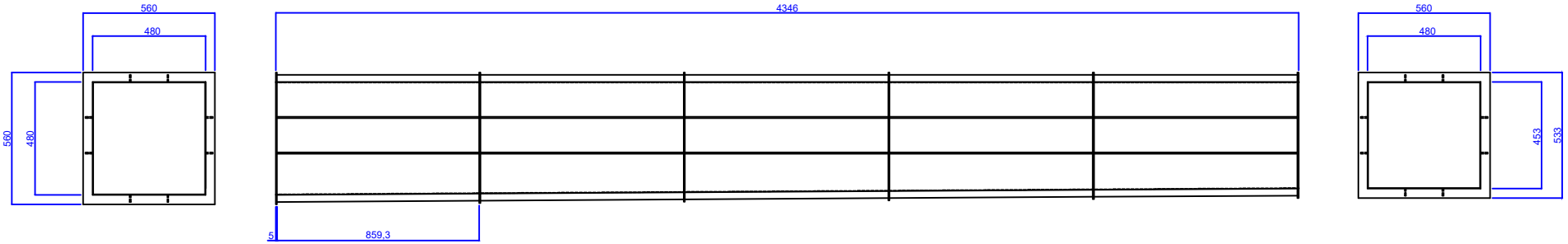
CHAMBER DETAIL





CHAMBER DETAIL

Chamber to be made of 2mm thick 316 grade stainless steel sheet folded to have an included fall of 6mm per meter,
40 x 5mm thick plate flanges stitch welded to the outer sides for extra strength.
30 x 5mm thick flat bar support bars to be stitch welded between flanges for extra support.
End flanges to be fully welded on outside edge,
chamber to be supplied only.

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TOLERANCE	TITLE			
+0 , -0	B.A.E, SAMLESBURY - Chamber detail			
DATE 14/12/22	DRAWN DRH	SCALE	Drg.No. 0074	REV 2

14.0 WARRANTY DOCUMENT

NEW ANODISING LINE
BAE SYSTEMS SAMLEBURY

21K1154 ANODISING LINE LINING SYSTEM WARRANTY DOCUMENT

Kemtile Limited, a Stonhard Company, warrants that the installed products, (Stonchem 888,878, 870 and allied products) will bond to the substrate and be free from defects in materials and workmanship for a period of one year from the date of completion. After this period, a routine maintenance visit will be made to inspect the lining, should it be found that remedial works are needed due to reasons outside of our warranty, we will return the floor to its original condition at cost and renew the warranty for a further year up to a period of 10 years.

The warranty will not apply where damage occurs due to osmotic pressure, accidental or excessive mechanical damage, normal wear and tear, substrate movement, failure or irregular occurrence, or any

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other cause beyond Kemtile's control.

Kemtile must be notified in writing of any defects covered by this warranty within 30 days of these defects being noticed or the warranty may be invalidated.

Notwithstanding the above.

1. That the lining is used as per our original discussions and that there is no deviation from that use, if so Kemtile should be informed immediately in writing.

2. The warranty will not apply where damage occurs due to osmotic pressure, accidental or excessive mechanical damage, normal wear and tear, substrate movement or failure, or any other cause beyond Kemtiles control.

3. That the lining is maintained in the correct manner and is cleaned, washed down on a regular basis to remove any dirt, debris or spillage and contamination that could be detrimental to the lining surface.

4. The warranty excludes any consequential losses (these might be covered by a separate insurance backed warranty) and is limited to the replacement of defective areas shown to be due to incorrect application of materials or incorrect specification of materials.

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5. Measures need to be taken by you or BAe to mitigate damage by not discharging hot /corrosive liquids directly onto the linings and spillages are washed / neutralizing as they occur.

6. Cost for repairs to be paid by the party responsible for the failure.

7. All costs to make available area for repair, to be the responsibility of the customer, client / owner.

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