METHOD STATEMENT
Sika MonoTop® -4400 MIC

FEBRUARY 2025 / V7 / SIKA LIMITED / R. DOHERTY

BUILDING TRUST

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1 SCOPE

This Method Statement describes the step-by-step procedure for repairing and protecting concrete structures affected by biogenic corrosion or microbial induced corrosion (MIC) using Sika MonoTop®-4400 MIC.

2 PRODUCT DESCRIPTION

Sika MonoTop®-4400 MIC is a one-component, ready to use, high performance, 100% calcium aluminate mortar specially designed for the repair and protection of new or existing sewer infrastructure from biogenic sulphuric acid corrosion.

USES

Sika MonoTop®-4400 MIC is particularly suitable for the repair and protection of:

- Sewer infrastructure
- Manholes
- Lift stations, pumping stations
- Main trunk sewers, collectors
- Sewer pipes
- Waste water treatment plants
- **Sika MonoTop®-4400 MIC must NOT be used to protect concrete in bio-reactor tanks or digester tanks.**

CHARACTERISTICS / ADVANTAGES

- One-component product - only add water.
- Excellent resistance to pure water, salt water, sulphated soils and several diluted acids.
- Does not contain chlorides or other corrosion promoting additives.
- Suitable for machine application (low pressure 'wet spray' and high-pressure 'dry spray' techniques).
- High bond strength.
- High early compressive strength.
- Fast return to service (within one hour if Sikagard®-230 MIC Surface Hardener is used).

2.1 LIMITATIONS

- Sika MonoTop®-4400 MIC must only be mixed with clean water.
- Do not add Portland cement or additional aggregates.
- Spraying equipment must be clean and free of Portland cement contamination to avoid premature setting and reduced corrosion resistance behaviour.
- Avoid application under direct sun and / or strong air currents.
- Do not add water over the recommended dosage.
- Apply only to sound, prepared substrate.
- Do not add additional water during the surface finishing as this will cause discolouration and cracking.
- Products shall only be applied in accordance with their intended use.
- The most recent and relevant local Product Data Sheet (PDS) and Material Safety Data Sheet (MSDS) shall apply.
- For specific construction / build information refer to the Architects', Engineer's or Specialist's details, drawings, specifications and risk assessments.
- All work shall be carried out as directed by a Supervising Officer or a suitably qualified Engineer.
- This Method Statement is only a guide and shall be adapted to suit local products, standards, legislations or other requirements.

3 PRODUCTS

Sika MonoTop®-4400 MIC	One-component, ready to use, repair and protection mortar against biogenic corrosion.
Sikagard®-230 MIC Surface Hardener	Water based surface hardener for Sika MonoTop®-4400 MIC.

3.1 SYSTEM BUILD-UP

Concrete Repair and Protection Mortar	
Sika MonoTop®-4400 MIC	Calcium aluminate repair mortar for concrete repair and protection.

Surface Hardener	
Sikagard®-230 MIC Surface Hardener	Quick surface hardener for fast return to service.

3.2 MATERIAL STORAGE

Materials shall be stored properly in undamaged original sealed packaging, in dry, cool conditions. Refer to specific information contained in the Product Data Sheet(s) regarding minimum and maximum storage temperatures.

4 EQUIPMENT

4.1 MATERIALS

Sufficient quantities of Sika® materials	Refer to Section 10.
Sufficient potable clean water	For mixing one-component, pre-wetting substrate and cleaning.
Sufficient lubricating agent for the pump	For facilitating the pumping, avoiding blockages and reducing equipment wear (e.g. SikaPump®-Start 1 or a slurry made with Calcium Alumina Cement – **NOT** Portland cement – and water).

4.2 ESSENTIAL EQUIPMENT

Hand tools	Trowels, brushes for mortar finishing.
Damaged concrete removal	Refer to Section 4.4 and 7.
Measuring cylinder or jar	For accurate measurement of mixing water.
Sponge or pressurised air (oil free)	Wipe / blow away excess water from substrate.
Mixing equipment	Refer to Section 4.5.
Pumping and / or spraying equipment	Low pressure ‘wet spray’ or high-pressure ‘dry spray’ methods. Refer to Section 4.6.

Cleaning equipment	Suitable for removing deteriorated concrete or coatings. Refer to Section 4.4.
Curing	Water or Sikagard®-230 MIC. Refer to Section 9.6.
Cleaning	Brush, low pressure water to clean the used tools.
Waste disposal	For paper bags and excess material.

4.3 ADDITIONAL EQUIPMENT

Inflatable plug	For stopping the sewage flow during the refurbishment works.
pH measuring paper and demineralized water	For checking if the substrate has been prepared properly.
Water plugs or injection material	For stopping water infiltrations before the application of the mortar.
Sealant	For sealing equipment or pipe penetrations.

4.4 SUBSTRATE PREPARATION EQUIPMENT

A suitable cleaning method must be used for the substrate preparation. The choice will depend on the concrete damage and the depth of contaminated concrete.

NOTE: in general, when the concrete has already been affected by biogenic corrosion, leaving the aggregates visible, it is recommended to prepare the surface with a jet water pressure of 300 bar to achieve the required roughness and cleanliness.

If contamination is present deep in the substrate, higher water pressure must be used (up to 2,400 bar) until sound and clean concrete is achieved.

These procedures shall not be applied before the approval of the Supervising Officer or suitably qualified Engineer.

4.5 MIXING EQUIPMENT

Use professional equipment for mixing Sika MonoTop®. Examples of individual mixers:

Single mixer with spindle paddle

For very small quantities

Double mixer with spindle paddles

For small quantities

Planetary mixer

For large quantities

4.6 PUMPING AND SPRAYING EQUIPMENT

Use low pressure ‘wet spray’ equipment for spraying the Sika MonoTop®-4400 MIC.

Roto-stator worm compact pump (e.g. MTEC P20 400 V). With a maximum pressure of 30 bar and maximum 30m of hose. It may require an external mixer.
For small repairs, e.g. 1 manhole (Ø <1m).

Roto-stator worm pump (e.g. Putzmeister SP 11 TMR). With a maximum pressure of 30 bar and maximum 52m (Ø 50mm) of hose. No external mixer required.

For large repairs.

Spin Casting Machine. For manholes were no bends or irregular shaped portions are found.

Only for repair of manholes.

ACCESSORIES FOR PUMPING

Suitable Hoses for Pressures up to 40 bar:

Ø 25mm hose:
5 m length for small manholes (3m depth and Ø <1 m)
Ø 35mm hose:
Up to 26m length
Ø 50mm hose:
Up to 57m length (4 x 13m of Ø 50mm + 5m of Ø 35mm)

Spray Nozzle:

Use a conventional spray nozzle suitable for low pressure ‘wet spray’ process with a 12mm rubber nozzle tip.

Air Compressor:

Minimum flow rate required is 400l/min at 7 bar.
Compressed air is used to project the mortar at high velocity onto the substrate. Refer to the machine manufacturer’s requirements. Air from the equipment shall be clean, dry and free from oil or contamination. The air shall remain continuous at not less than the operating pressure and volume rate specified by the machine manufacturer.

Sika MonoTop®-4400 MIC is also suitable for high pressure ‘dry spraying’.

Concrete rotary 'dry spraying' machine (e.g. Aliva®-246 400 V/440 V/220 V or Piccola Gunite Machine). With a maximum capacity of the hopper of 45 litres and 150m of maximum horizontal conveying distance and 60m of vertical conveying distance. When more than 80m of conveying distance is required, steel tubes shall be used. A pre-wetting nozzle gun is recommended – refer to picture above – overhead application with this gun has yielded approximately 10 to 15% rebound with very little dust.

Recommended for long distance repairs, or for repairs where the cleaning equipment recommendations cannot be followed.

5 HEALTH AND SAFETY

5.1 RISK ASSESSMENT

The risk of working in confined spaces shall be properly assessed, including areas deficient in oxygen, flammable gases and toxic gases, like hydrogen sulphide.

The risk of entering in areas with potential gaseous and chemical hazards associated with sewer lines shall be properly assessed.

The risk to health and safety from falling objects or defects in the structure shall be properly assessed.

Platforms and temporary structures shall provide a stable and safe area to work. Do not take any unnecessary risks!

Necessary measure to prevent risk associated by the emission of H_2S shall be undertaken by the applicator. **ALWAYS ensure a H_2S meter is used at the place of work.**

5.2 PERSONAL PROTECTION

Work Safely!

Handling or processing cement products may generate dust which can cause mechanical irritation to the eyes, skin, nose and throat.

Appropriate eye protection shall be always worn while handling and mixing products.

Approved dust masks shall be worn to protect the nose and throat from dust.

Safety shoes, gloves and other appropriate skin protection shall be always worn.

Always wash hands with suitable soap after handling products and before food consumption.

FOR DETAILED INFORMATION REFER TO THE MOST RECENT MATERIAL SAFETY DATA SHEET.

5.3 FIRST AID

Seek immediate medical attention in the event of excessive inhalation, ingestion or eye contact causing irritation. Do not induce vomiting unless directed by medical personnel.

Flush eyes with plenty of clean water occasionally lifting upper and lower eyelids. Remove contact lenses immediately. Continue to rinse eyes for 10 minutes and then seek medical attention.

Rinse contaminated skin with plenty of water. Remove contaminated clothing and continue to rinse for 10 minutes and seek medical attention.

FOR DETAILED INFORMATION REFER TO THE MOST RECENT MATERIAL SAFETY DATA SHEET.

6 ENVIRONMENT

6.1 CLEANING TOOLS / EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened material may only be removed mechanically.

Follow the spraying equipment cleaning process recommended in Section 9.3.

6.2 WASTE DISPOSAL

Do not empty surplus material into drains. Avoid runoff onto soil or into waterways, drains or sewers. Dispose unwanted material responsibly through licensed waste disposal contractor in accordance with local legislation and / or regional authority requirements.

FOR DETAILED INFORMATION REFER TO THE MOST RECENT MATERIAL SAFETY DATA SHEET.

7 SUBSTRATE PREPARATION

7.1 CONCRETE

The concrete substrate shall be thoroughly clean, in a good sound condition and free from dust, loose material, surface contamination and materials which may reduce bond. Delaminated, weak, damaged and deteriorated concrete shall be removed by suitable means.

A suitable cleaned concrete substrate can be evaluated by the surface measurement of the pH. **A minimum pH value of 10 is mandatory for the substrate before starting the application.**

On a suitably hard surface (e.g. after surface preparation), with a hammer and steel rod, generate some dust at the surface of the concrete, wet down this dust with distilled water. On contaminated surface, it is enough to wet down the weak surface with distilled water. While the surface is wet, press a pH paper onto it for a minute or two to reveal the colour changes. Compare the colour changes to the indication given in the pH paper container:

NOTE: For a concrete already affected by biogenic corrosion, high pressure (>300 bar) water jet cleaning can be sufficient to expose the aggregate on a rough prepared substrate. However, if the appropriate roughness of the surface is not achieved, or the pH value remains below 10, additional cleaning must be done by appropriate means (i.e. sandblasting, hydro-sandblasting, mechanical roughening, hydro-demolition (pressure up to 2500 bar), etc.). These procedures shall not be applied before the approval of the Supervising Officer or suitably qualified Engineer.

Micro-cracked or delaminated concrete, including damage caused by cleaning, roughening or removal techniques, shall be removed or repaired if they might reduce bond or structural integrity. Micro-cracks can be detected by wetting the surface and allowing it to dry. Dark lines on the dried surface indicate cracks as they retain water.

The finished surface shall be visually inspected prior to application and can be tapped lightly using a metal hammer to detect delaminated concrete. The Supervising Officer or suitably qualified Engineer shall be informed immediately of any loose, cracked or damaged surfaces. In these circumstances, Sika MonoTop®-4400 MIC shall not be applied without prior written consent of the Supervising Officer or suitably qualified Engineer.

7.2 STEEL REINFORCEMENT

If steel reinforcement is corroded, concrete surrounding them shall be removed to allow fingers to go behind the bars, and shall be thoroughly cleaned and free from rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion. Tie wire and nails shall also be removed.

The whole circumference of the reinforcement bar shall be uniformly cleaned, except where structural considerations prevent this. Cleaning shall not damage in anyway the structural integrity of the steel. Immediately notify the Supervising Officer or suitably qualified Engineer if there is a possibility of damaging the steel by cleaning.

Loss of steel area on reinforcement due to corrosion, or due to any other damage, shall immediately be brought to the attention of the Supervising Officer or suitably qualified Engineer prior to any further work. Any further action such as replacing reinforcement bars shall only be carried out in accordance with the direct instruction of the Supervising Officer or suitably qualified Engineer. The scope of this Method Statement does not include replacement of steel reinforcement bars.

7.3 PRE-WETTING SUBSTRATE

Concrete surfaces shall be saturated with clean low-pressure water for some hours before the application of Sika MonoTop®-4400 MIC until a saturated surface dry (SSD) substrate is obtained.

Just before application, remove excess water (e.g. using a clean sponge for small areas or air pressure for large areas). Ensure there is no standing water on the surface. The surface shall achieve a dark matt appearance without glistening and surface pores and pits shall not contain water (i.e. SSD). Use pressurised air (oil-free) to blow away excess water in difficult to reach areas. The surface shall not be allowed to dry before application.

7.4 WATER INFILTRATIONS

If any water infiltration is observed once the surface preparation is completed, it must be treated using the appropriate Sika® water plug or injection material. Please refer to your local Sika® Technical Department.

7.5 NEW CONCRETE / REPROFILING

7.5.1 SHOTCRETE

When shotcrete (‘wet spray’) is used to reprofile the substrate in instances of heavy / deep contamination, the surface of the sprayed material shall not be smoothed but be left ‘as is’ from spraying.

The day after the spraying operation, the surface shall be cleaned with high pressure water jet to remove any loose aggregates left at the surface from the spray operation.

7.5.2 REPAIR MORTAR

When repair mortars like Sika® MonoTop® are used to reprofile the substrate in instances of heavy / deep contamination, whether applied manually or using the 'wet spray' process, the surface of the applied mortar shall not be smoothed but actually roughened using a notched trowel as shown in the picture. If standard repaired mortars are used, allow the mortar to reach at least 20 N/mm^2 to have enough strength to accommodate the aluminate mortar – depending on the temperature of the curing, this may take few days – if accelerated mortar is used, then this level of strength may be achieved faster. Do NOT use a curing compound to cure the freshly applied mortar but maintain the mortar moist. Before applying Sika MonoTop®-4400 MIC, thoroughly pre-wet the surface of the repair mortar using water jetting – around 150 bar – to remove any loose fins created by the notched trowel.

7.5.3 SITE POURED CONCRETE

When a concrete wall is significantly damaged, reprofiling cannot always be carried out, and based on the recommendation of the Structural Engineer, the wall may need to be rebuilt new with fresh concrete.

In confined environment, protection against biogenic corrosion of the new casted concrete can be done with Sika MonoTop®-4400 MIC.

Prior to casting the concrete, properly clean the formwork and apply to the formwork a surface retarder such as Sika® Rugasol®-3 W Paste.

Concrete is then cast and upon striking off the formwork, the concrete surface shall be water jetted with a pressure of around 150 bar to remove the cement laitance and expose the aggregates. Do NOT use curing compounds, but wet cure instead.

Allow the concrete to develop enough strength prior to placing Sika MonoTop®-4400 MIC.

If a surface retarder cannot be used, the concrete surface shall be wet sandblasted to satisfactorily roughen the surface.

8 MIXING

The mixing of Sika MonoTop®-4400 MIC must only be done with clean potable water, without any other additional products. The mixing ratio of the Sika MonoTop®-4400 MIC is between 2.8 and 3.2 litres of water per 20 kg of powder. Do NOT use water beyond these stated maximum and minimum limits.

Sika MonoTop®-4400 MIC can be mixed with a low speed (<500 rpm) hand drill mixer or using a forced action mixer. Pour the minimum recommended water into a suitable mixing container. While stirring slowly, add the powder to the water and mix thoroughly for at least 5 minutes, adding additional potable clean water if necessary to the maximum specified amount and adjust to the required consistency.

The consistency must be checked after every mix before carrying out any application.

Mixing shall always be carried out in accordance with the recommendations contained in the latest Product Data Sheet (PDS).

9 SPRAYING PROCEDURE

Working space shall be clean and tidy with no obstructions to prevent slips, trips and falls.

Record the substrate, ambient temperature and relative humidity. Check pot life information on bag or on the Product Data Sheet (which should be fully read and understood prior to use) and allow for climatic conditions (e.g. high / low temperatures and humidity).

External applications shall be adequately protected. Do not apply mortar repair in direct sun, windy, humid or rainy conditions, or if there is a risk of frost within 24 hours in unprotected areas.

Calculate the required volume for the application and then using the equation in Section 10 of this Method Statement, calculate the yield of the product. Make sure there is enough material on job site to carry out the work.

9.1 PREPARATION OF THE SPRAYING EQUIPMENT

- The mixer and the hopper of the machine must be completely clean to avoid contamination.
- To ensure no obstructions in the hoses, pass the cleaning sponge balls twice through the hoses.
- If several lengths of hoses are required, connect as a first length a 50mm diameter hose before connecting other smaller diameters.
- Check that there is no water inside the hoses (remove with pressurised – oil-free – air if any is present).
- Adjust the stator of the pump to reach a water pressure between 15 and 20 bar when using a 40 bar machine when 'wet spraying'.
- Check that the 12mm rubber tipped nozzle is perfectly clean when 'wet spraying'.
- Confirm that the rubber of the nozzle is correctly fixed when 'wet spraying'. Use a steel hose clamp if necessary.
- The air hose has to be adjusted at 12 to 13mm from the rubber tip when 'wet spraying'.
- Pre-wet the equipment and hoses before spraying. It is recommended to use calcium aluminate cement slurry or a lubricating agent (e.g. SikaPump®- Start 1). Dispose of the outcoming material until the mortar with the correct viscosity starts to pump out (mix a bag with a drill and paddle for comparison if necessary).
- Before starting the pumping of the mortar, check the pressure was visible in the closed valve of the machine with water before 'wet spraying'.

9.2 SPRAYING

The minimum layer thickness of the Sika MonoTop®-4400 MIC for a standard manhole (Ø <1.5m) is 15mm. In case of larger structures (e.g. bigger manholes (Ø >1.5m), pumping stations or discharge chambers, the minimum layer thickness must be 25mm.

On vertical surface, using the 'wet spray' process, the mortar can be applied in one layer of 25mm (locally 30 to 35mm should be achievable).

When spraying overhead, it is recommended to split the 25mm in two layers: Spray the first 10 to 15mm and use a notched trowel to level the surface. Do not overwork the surface to avoid debonding problems. Apply the remaining thickness when the surface of the first layer is 'fingernail hard'. This may take few hours, depending on the ambient conditions during application.

On vertical surfaces, if more thickness is required, proceed by applying in layers – as described above.

Construction joints shall be avoided whenever possible. If it is not possible, then a straightedge shall be created and left to harden. After hardening, clean the joint with high pressure air and pre-wet before spraying the adjacent layer.

Do not overwork the finishing of the surface.

Using the 'dry spray' process, there is no limitation of thickness neither on vertical, nor on overhead.

If the thickness exceeds 40 mm, additional steel mesh shall be mechanically fixed at the substrate.

To minimise cracking, large vertical surfaces shall be reprofiled using spray application. Work in bays by alternating sequences ('chessboard' arrangement). The size of the bays is depending on the project profile and can range from 5 to 10m^2.

9.3 CLEANING REGIME DURING 'WET SPRAYING'

The following cleaning recommendations shall be done to avoid any blockage during the pumping and spraying operations.

- Clean the hopper and the feeding screw every 15 minutes.
- Clean or change the nozzle every hour.
- Clean the outlet of the rotor screw at least every 2 hours.
- Clean the complete pump and the hoses at least every 3 hours.

The temperature of the stator of the pump must be checked on regular basis. If the temperature increases too fast, the stator must be cleaned immediately to avoid blockages.

9.4 APPLICATION UNDER WARM CONDITIONS (>+25 °C)

The application temperature range of the Sika MonoTop®-4400 MIC is from +5°C to +25°C, with +20°C being the optimum.

If the ambient temperature is higher than +25 °C the following measures must be taken:

- Keep the pallets of Sika MonoTop®-4400 MIC away from the direct sunlight.
- Keep the pump in the shade to avoid direct sunlight.
- Protect the hoses from direct sunlight or cool them down with cold water.
- Cool down the jacket regularly with water during the application process.
- Used cold water for mixing.

9.5 FINISHING THE SURFACE

Once the spraying of the mortar is complete, it is recommended to use a brush to finish the surface before it starts to harden. This will avoid hairline cracks. Do not overwork the surface, especially when spraying overhead.

Do not add apply additional water to the surface as this will potentially cause discoloration and cracking.

9.6 CURING

Curing is essential to avoid premature drying that could lead to cracking and debonding problems.

Proceed with wet curing as early as possible (when the mortar surface is 'fingernail hard') – be careful whenever there is ventilation for the safety of the work, the mortar surface may be subjected to premature dehydration, leading to cracking and delamination.

Whenever there is this risk, spray Sikagard®-230 MIC Surface Hardener over the freshly applied mortar as soon as the finishing works of the surface are completed.

In environments with low humidity or with strong air currents, maintain wet curing (i.e. using a sprinkler, water mist or water fog) for at least 8 to 12 hours after the spraying of Sika MonoTop®-4400 MIC.

Only in very confined spaces and for small volumes may curing may be omitted (e.g. remedial work of a small manhole while the sewer is in service – in this case, once the finish is completed, just close the access cover – humidity generated by the sewer will be enough to provide sufficient curing.

The application shall be protected from wind, rain, frost and direct sunlight. The curing period is dependent on ambient conditions. In warm temperatures with low humidity, the application shall be kept moistened to avoid premature drying.

9.7 TIME FOR RETURN TO SERVICE

Sika MonoTop®-4400 MIC needs to be hard before being exposed to sewage water – typically, this will be around 12 hours after application.

If a fast return to service is required, Sikagard®-230 MIC Surface Hardener must be applied on the surface (approximately 1 hour after the application of the surface hardener, if the water flow is moderate and slow). If not, the complete hardening of the Sika MonoTop®-4400 MIC will take between 6 to 9 hours, depending on the ambient conditions.

9.8 APPLICATION LIMITS

- Do not add Portland cement or additional aggregates.
- Spraying equipment must be clean and free of Portland cement contamination to avoid premature setting and reduced corrosion resistance behaviour.
- Avoid application in direct sun and / or strong air currents.
- Do not add water over the maximum recommended dosage. Mix consistency must be checked after every mixing / batch prior to application.
- Always check the material's pot life.
- Apply only to sound, prepared substrates.
- Do not add additional water during the surface finishing as this will potentially cause discolouration and cracking.

10 YIELD AND CONSUMPTION

The yield of a product can be determined from the following equation (**NOTE:** assumes no wastage):

Equation: $$\text{yield (litres)} = \frac{\text{(weight of powder (kg) + weight of water (kg))}}{\text{density of mixture (kg/l)}}$$

Given: weight of water 1 litre = ~1 kg

Example:

Calculate consumption of a bag weighing 20 kg mixed with 3.2 litres of water, when the density of the fresh material is 2.2 kg/l.

1 bag of 20 kg yields: $$\frac{(20 + 3.2)}{2.2} = \textbf{~ 10.5 litres of mortar}$$

Therefore, the number of bags required for 1 m^3 of mortar will be:

Nº of bags required per 1m^3 = (1/yield) x 1000

(1/10.5) x 1000 = **~ 95 bags**

Consumption of a product can be calculated as follows:

Calculate how many kg of powder is required to cover a 25 mm thick application over an area 1 m^2 (**NOTE:** assumes no wastage)

Weight of mixed mortar (kg) = volume (m^3) x density (kg/m^3)

= (1 m^2 x 0.025 m) x 2200

= 55 kg of mixed mortar (total)

Less weight of water;

If water to powder mixing ratio* = 16 % then;

Required weight of powder = 55/ ((100+16)/100)

= **~ 47.4 kg powder**

* Refer to PDS for exact figure.

11 SITE QC RECORD & MAINTENANCE FORM

Examples of appropriate Site QC Record Form for the installation, and Maintenance Form for the regular inspection are found in the embedded documents:

SITE QC RECORD

Sika MonoTop®-4400 MIC

INSTALLATION RECORD		
Project Name:	Consultant:	
Element name/reference:	Applicator:	
Presence of ventilation	Yes (describe)	No
SURFACE PREPARATION:		
Method used:		
pH of substrate	Before preparation:	After preparation:
Aspect of prepared surface (describe and insert pictures of typical surface):		
Prewetting (indicate the method used and time for start and end):		
Reinforcement bar exposed	Yes	No
If yes; indicate the spacing behind the bars (in mm) and product name (and batch number) used to protect them: Indicate as well the time between the application of the corrosion protection product and the Sika MonoTop®-4400 MIC:		
Leak/infiltration:	Yes	No
If yes; indicate the method and product used to stop the leak/infiltration (record batch number): Indicate as well the time between the leak/infiltration remedial work and the application of Sika MonoTop®-4400 MIC:		

Site QC Record Sheet
Sika MonoTop®-4400 MIC
February 2019 V-1
MDo/02-2019

Sika Services AG
Template

1/3

MATERIAL APPLICATION		
Method used:	Provide details of the equipment used and its technical characteristic.	
If wet process, indicate the water pressure obtained during the control: If wet process, indicate the type and quantity of priming used for the hose:		
Batch number(s):		
Ambient temperature:	Relative humidity:	Mortar temperature:
WET CURING		
Method used:	Duration of curing	
Is Sikagard®-230 MIC used?	Yes	No
If yes, indicate batch number and quantity used:		
FINAL INSPECTION		
Presence of crack?	Yes	No
If yes, indicate the size and if they are superficial or throughout: If not accepted, method of rectification?		
Delamination (e.g. Hammer checking)?	Yes	No
If yes, method of rectification:		

Comment			
	Installation Contractor	Consultant Representative	Client Representative
Name			
Signature			
Date			

General note: Insert as many pictures as possible to illustrate the different application steps and final aspect.

LEGAL NOTE

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. in practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the products suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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MAINTENANCE RECORD

Sika MonoTop®-4400 MIC

MAINTENANCE RECORD SHEET
Project Name:
Element name/reference:
Date of inspection:
Cleaning (describe the general aspect – provide pictures before and after cleaning - and material used):
Soundness control (with an hammer, check for any delamination and/or defect):
Presence of cracks (indicate number and width if any – indicate if there is trace of leakage; indicate if they are inert or live cracks): **Note:** If crazing, no action to be taken; if inert cracks wider than 200 µm, open further the cracks and fill them with MonoTop-4400 MIC; if live/movement cracks, contact the design engineer.
pH measurement with pH paper – provide picture of the change in colour achieved): if value of pH <3, contact the applicator for further investigation

Comment			
Position			
Name			
Signature			
Date			

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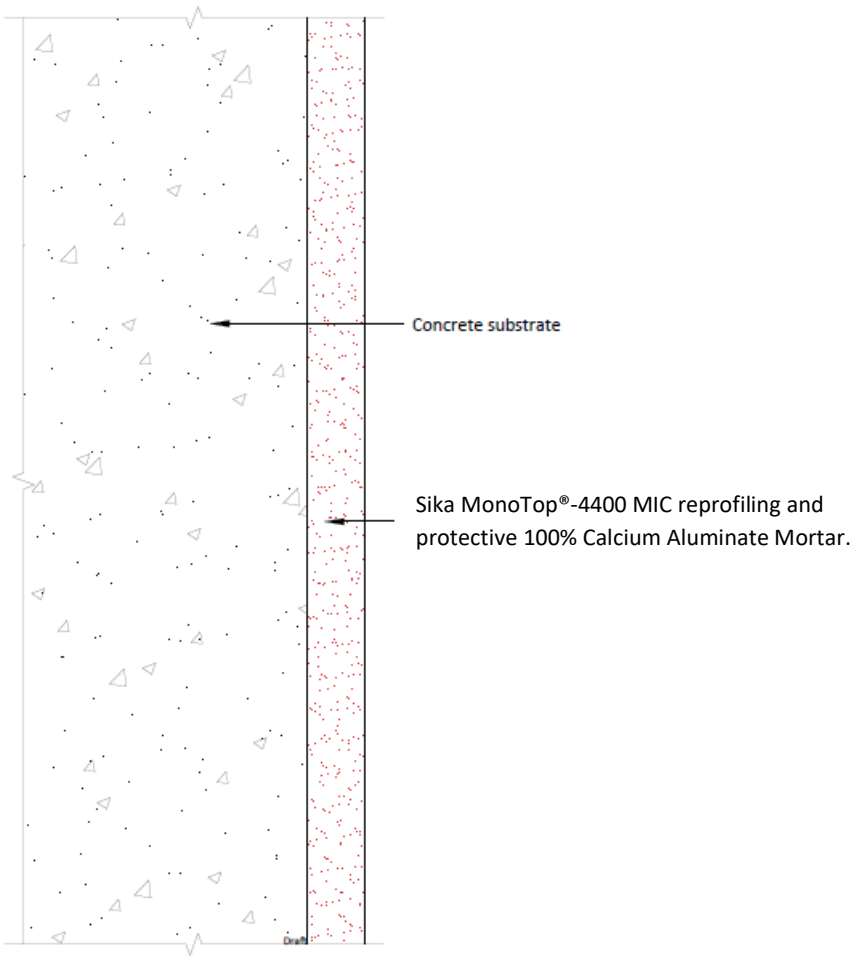
12 TYPICAL DRAWING SHOWING SYSTEM BUILD UP

This detail is for illustration purposes only and shall not be used as a construction drawing.



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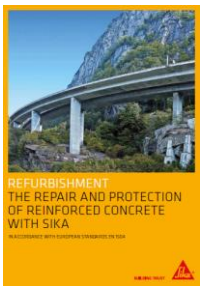
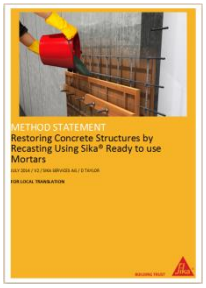
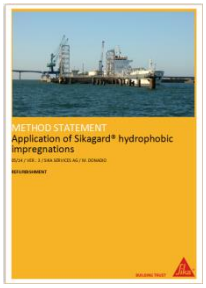
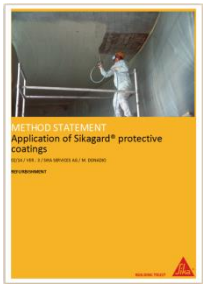
FOR MORE Repairing Concrete Using Sika® Ready to use Mortars INFORMATION:









14 KEY WORDS

Refurbishment, method, statement, process, sewer, collector, pumping station, sewerage, biogenic corrosion, MIC, microbial induced corrosion, Sika MonoTop, Sikagard, concrete, repair, damage, mechanical, spray, curing, pre-mix.

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