



CONSTRUCTION LEADERS

LETTER OF TRANSMITTAL	
DATE: March 16, 2015	PCL JOB NO: 5515002
ATTN: Chris Barker	TRANSMITTAL NO: 039

To: **State of Vermont Agency of Transportation**
One National Life Drive

(802) 828-0053

Re: Hartford Lateral Slide
Project No.: IM 091-2(79)
Contract ID.: 12A132

County: Windsor

PCL FILE NO: 5515002-25

WE ARE SENDING Attached Under separate cover via **Email & SP** the following:

Shop drawings Prints Plans Samples Specifications

Copy of Letter Change Order Other

COPIES	SPEC.	REVISION	DESCRIPTION
1	900.608		HPC Rapid Set Mix Design

TRANSMITTED for as checked below:

For approval Approved as submitted Resubmit 1 Copies for approval

For your use Approved as noted Submit Copies for distribution

As requested Returned for corrections Return Corrected prints

For review and comment

Remarks:

The included mix is to be used for the pourback of the joint between the precast approach slabs. PCL will construct a full scale mockup of (1) approach slab joint using this mix in order to guarantee that it will perform as required.

Please return an email of this approved submittal to Erich Heymann (ewheymann@pcl.com) and Jeremy Mackling (jmackling@pcl.com).

We request the review and return of this submittal within 7 days. Please advise if this request cannot be met so we can plan accordingly.

By: **Erich Heymann**, Project Engineer

COPY TO: Project Files



CONSTRUCTION LEADERS

**SUBMITTAL NO. : 25
HPC Rapid Set Mix Design**

Item No.	Specification	Description
1	900.608	HPC Rapid Set Mix Design

PROJECT:
HARTFORD LATERAL SLIDE
PROJECT NO.: IM 091-2(79)
CONTRACT ID.: 12A132

OWNER:
STATE OF VERMONT AGENCY OF TRANSPORTATION

ENGINEER OF RECORD:
STATE OF VERMONT AGENCY OF TRANSPORTATION

CONTRACTOR:
PCL CIVIL CONSTRUCTORS, INC.

MARCH 16, 2015

Project Specific Material Proposal

Fill of Joint for Precast Approach Slab using CTS Concrete Rapid Set® DOT Repair Mix

Project Name: Hartford / VAOT
Project Number: IM 091-2(79)

PART 1 GENERAL

1.1 SUMMARY

PCL Civil Constructors and CTS Concrete proposes the use of “Repair Set DOT Repair Mix” to be used as a filler of the adjacent joints between precast approach slabs. We believe this is the best product given the time constraints to achieve 5,000 PSI during the bridge closure periods (BCPs).

1.2 RELATED CONTRACT DOCUMENTS

- A. Contract Drawings: Sheets 97 thru 99 of 166
- B. Project Specifications: Section 900 Special Provision Items, items 47 thru 55
- C. Project Specifications: Item 144 (b)

1.3 SUBMITTALS

- A. Attached product manufacturer's Technical Data Sheet.
 - DOT Repair Mix
 - Set Control
 - Flow Control
- B. Attached product manufacturer's Material Safety Data Sheets (MSDS).
 - DOT Repair Mix
 - Set Control
 - Flow Control
- C. Attached product data for manufacturer's recommended Mechanical Mixer.
- D. This document with specific reference to Hartford Project – IM 091-2(79).
- E. A real size mock is intended to be done for this product prior to use.

PART 2 PRODUCTS

2.1 MATERIAL

For material information refer to the attached files mentioned under the 1.2 Submittal Section above. The following materials will be added to Rapid Set DOT Mortar per manufacturer's recommendations to allow more working time and increase fluidity specific to the job:

- A. Set Control – slows down the set time
- B. Flow Control – increases fluidity and strength
- C. Course Aggregate: 3/8 to 3/4 inch meeting ASTM C33.
- D. Potable Water

2.2 PRODUCT QUALITY ASSURANCE

- A. Please refer to attached Technical Data Sheet.

2.3 DELIVERY, STORAGE, AND HANDLING

- A. The delivery of materials to jobsite will be in original, unopened, undamaged containers that clearly show the manufacturer's name, product name, and batch number.
- B. Materials is to be stored by PCL in a dry area off the ground protected from rain, snow, and other sources of moisture. Any sand or coarse aggregate will be in a well drained area on a clean, solid surface and covered to prevent contamination with foreign matter.

PART 3 PROCEDURE

3.1 SURFACE PREPARATION

- A. Preparation of the surface will be per Project Special Provisions Section 114 (b).
- B. Concrete will be free of materials such as paint, oil, curing compound, bondbreaker, etc., that will inhibit bonding.
- C. The subgrade will be well compacted per VTrans 2011 SSFC.
- D. Reinforcing steel will be clean from foreign material.
- E. Thoroughly clean extraneous material such as dirt, loose chips, and dust from concrete surface. If compressed air is used, it will be free of oil.
- F. Concrete surface shall be saturated with potable water and standing water shall be removed from surface to achieve a Saturated, Surface Dry (SSD) condition.

3.2 MIXING

- A. Personnel and Equipment will be organized prior to starting the operation.
- B. Manufacturer recommends "PORTA0MIX PMH 80F-RL" as a mechanical mixer.
- C. Use 2 EA Rapid Set Control per 70 pound bag of Rapid Set DOT Repair Mix material.
- D. Use 2 EA Rapid Set Flow Control per 70 pound bag of Rapid Set DOT Repair Mix material.
- E. Mixed material should have a temperature of about 70°F. Warmer material will set faster than expected and cooler material will have slower strength gain. Control the mixed

temperature by protecting the bags of repair material from temperature extremes and adjust the mixed temperature by using hot or cold water.

- F. Place 45 to 50 pounds of coarse aggregate to extend the repair material. Mix concrete packets mentioned above into the water and add that water to the mixer. Add cement then mix for 2 to 3 minutes to achieve a uniform, lump-free consistency.
- G. Manufacturer recommends water to cement ratio of 0.38 to 0.42.

3.3 PLACEMENT

- A. Place repair material onto the Saturated, Surface Dry (SSD) substrate.
- B. Place repair material only if surface and ambient temperatures are above 45°F and rising.
- C. Place material immediately after mixing.
- D. Work material firmly into sides and bottom of repair area to achieve good bond.
- E. Do not featheredge material.
- F. Do not wait for bleed water, since there will probably be none. Begin final finishing as soon as possible.

3.4 CURING

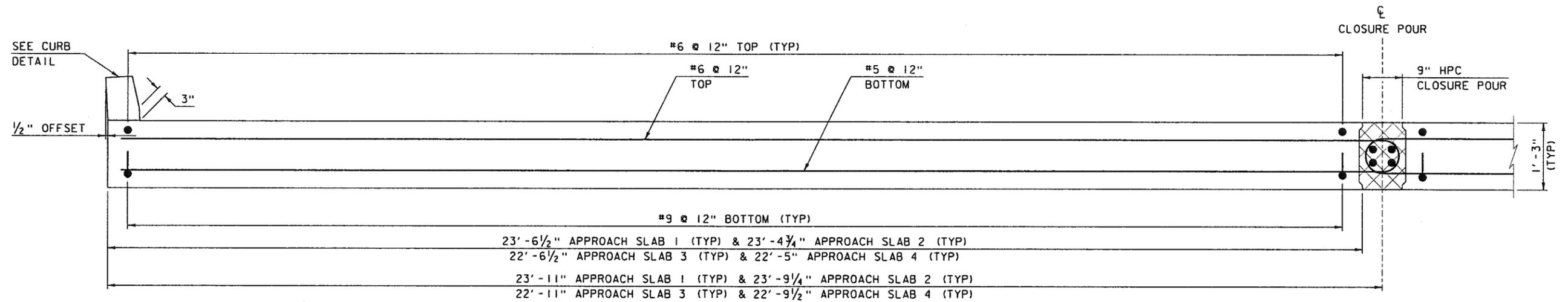
- A. Begin water cure when repair area begins to lose its moist sheen and keep continuously wet until 1 hour after final set.

3.5 TESTING

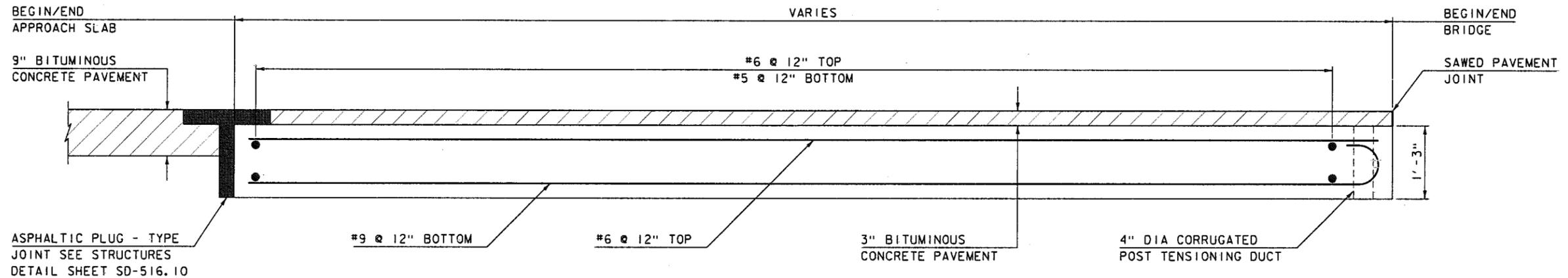
- A. Testing will be complete per Project Specific Special Provisions Section 114 (a).

3.6 CLEAN UP

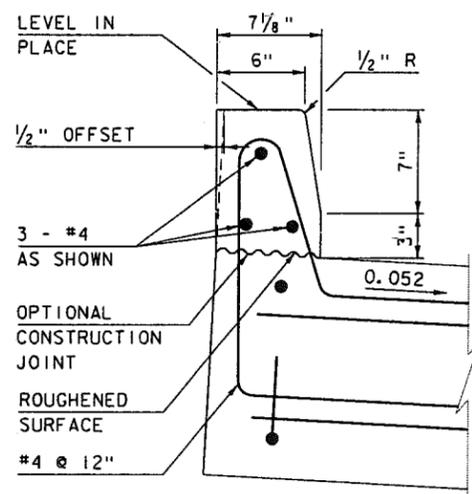
- A. Clean mixer immediately after use or add mix water and begin mixing immediately for the next batch. Do not allow buildup of hardened repair material in the mixer, since this creates inefficient mixing and the heat generated accelerates later batches.
- B. Clean all tools immediately after use.
- C. Clean excess material from surrounding areas immediately.



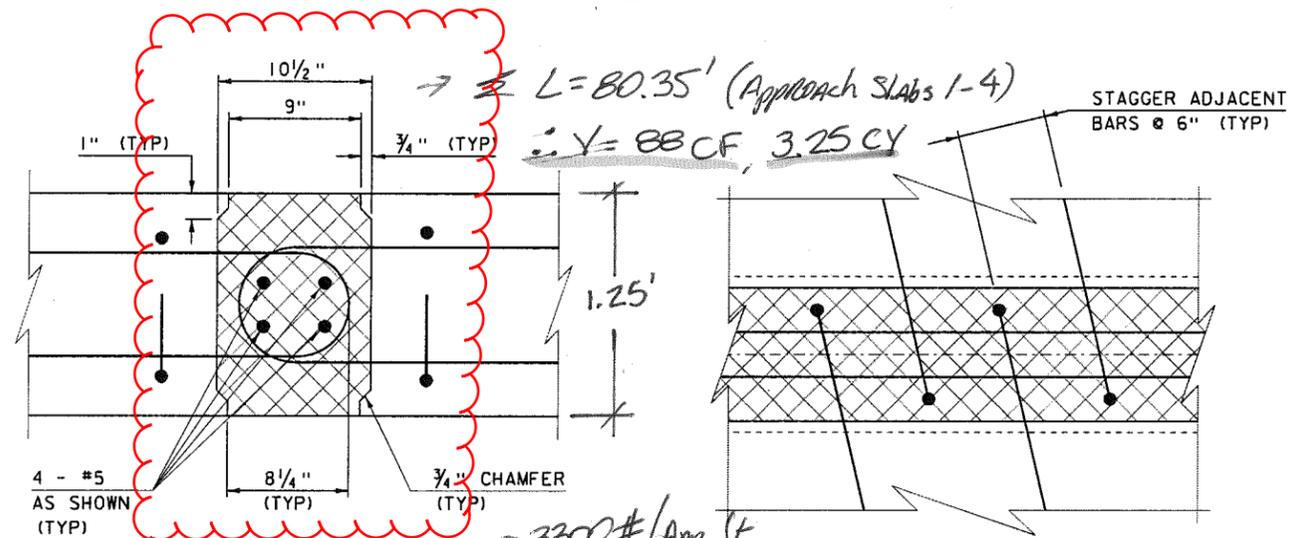
SECTION A-A
 SCALE 1" = 1'-0"



SECTION B-B
 SCALE 1" = 1'-0"



CURB DETAIL
 SCALE 2" = 1'-0"



JOINT DETAIL SECTION
 SCALE 2" = 1'-0"
 JOINT DETAIL PLAN
 SCALE 2" = 1'-0"

NOTE:

- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

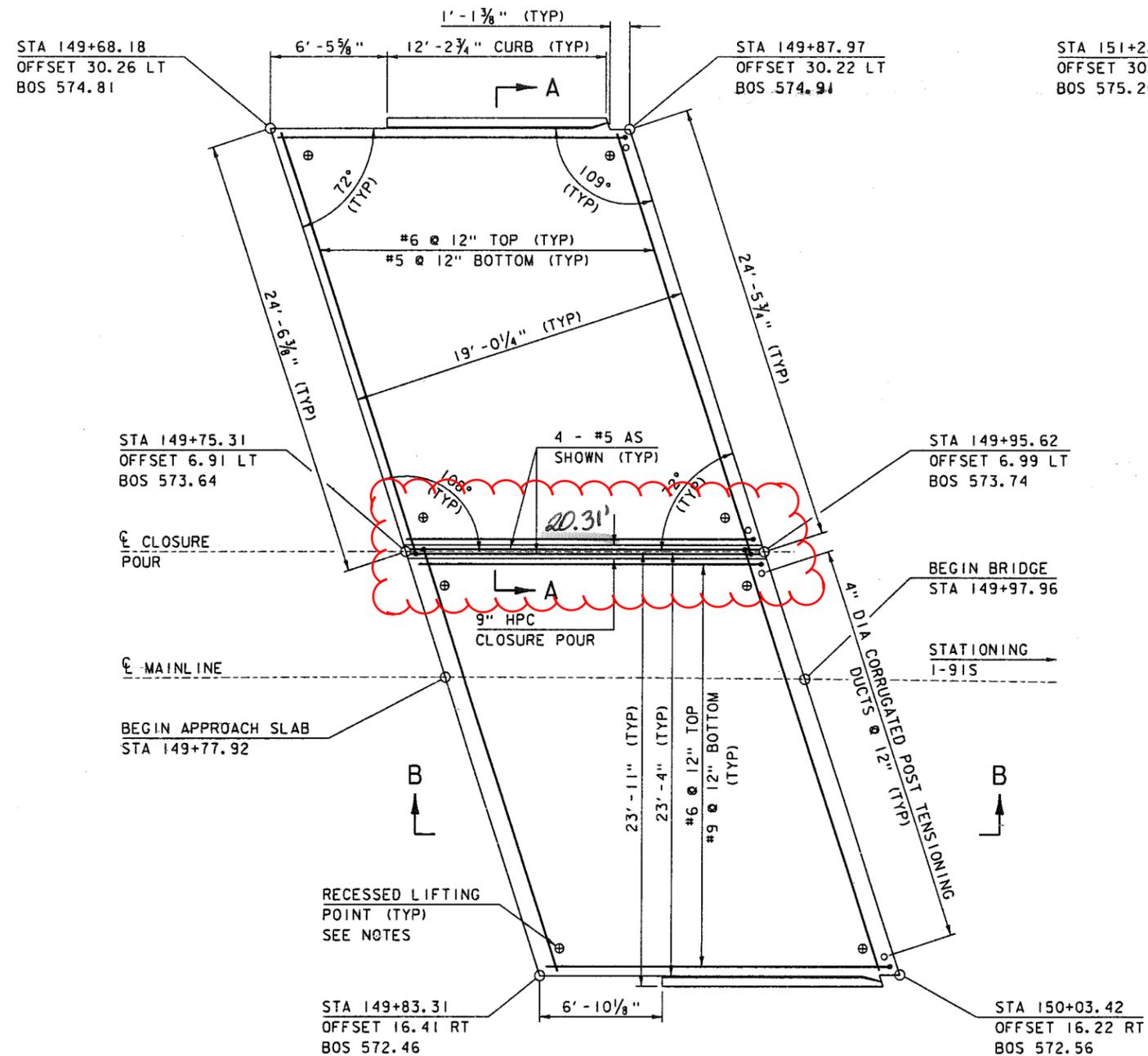
NOTES:

- 1) ALL APPROACH SLAB REINFORCING STEEL SHALL BE LEVEL II OR HIGHER.

PROJECT NAME: HARTFORD
 PROJECT NUMBER: IM 091-2(79)

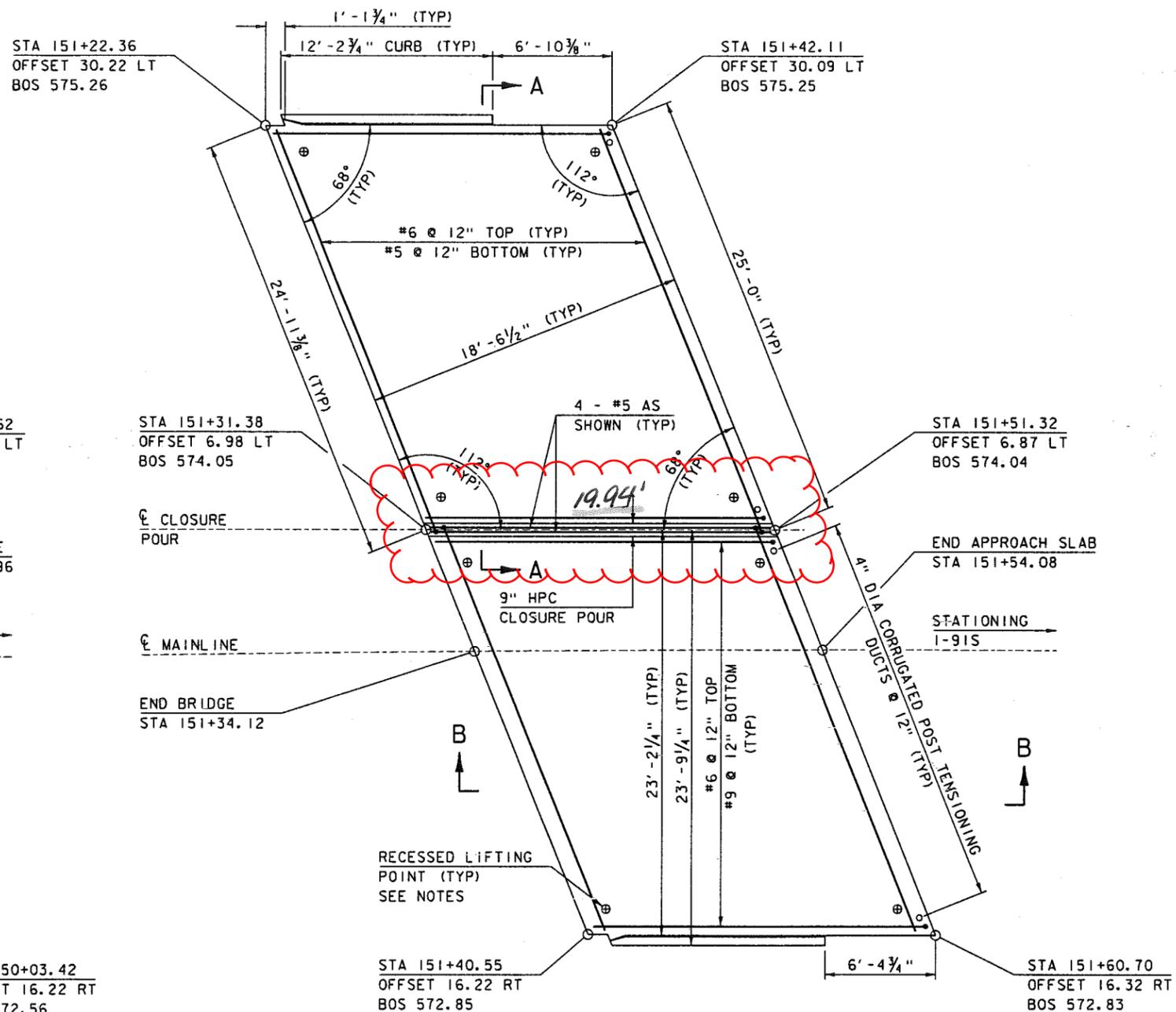
FILE NAME: sl2a132apslabs_43S.dgn
 PROJECT LEADER: K. HIGGINS
 DESIGNED BY: G. LAROCHE
 APPROACH SLAB DETAILS

PLOT DATE: 15-DEC-2014
 DRAWN BY: K. FRIEDLAND
 CHECKED BY: W. LAMMER
 SHEET 99 OF 166



APPROACH SLAB 1 PLAN

SCALE 1/4" = 1'-0"



APPROACH SLAB 2 PLAN

SCALE 1/4" = 1'-0"

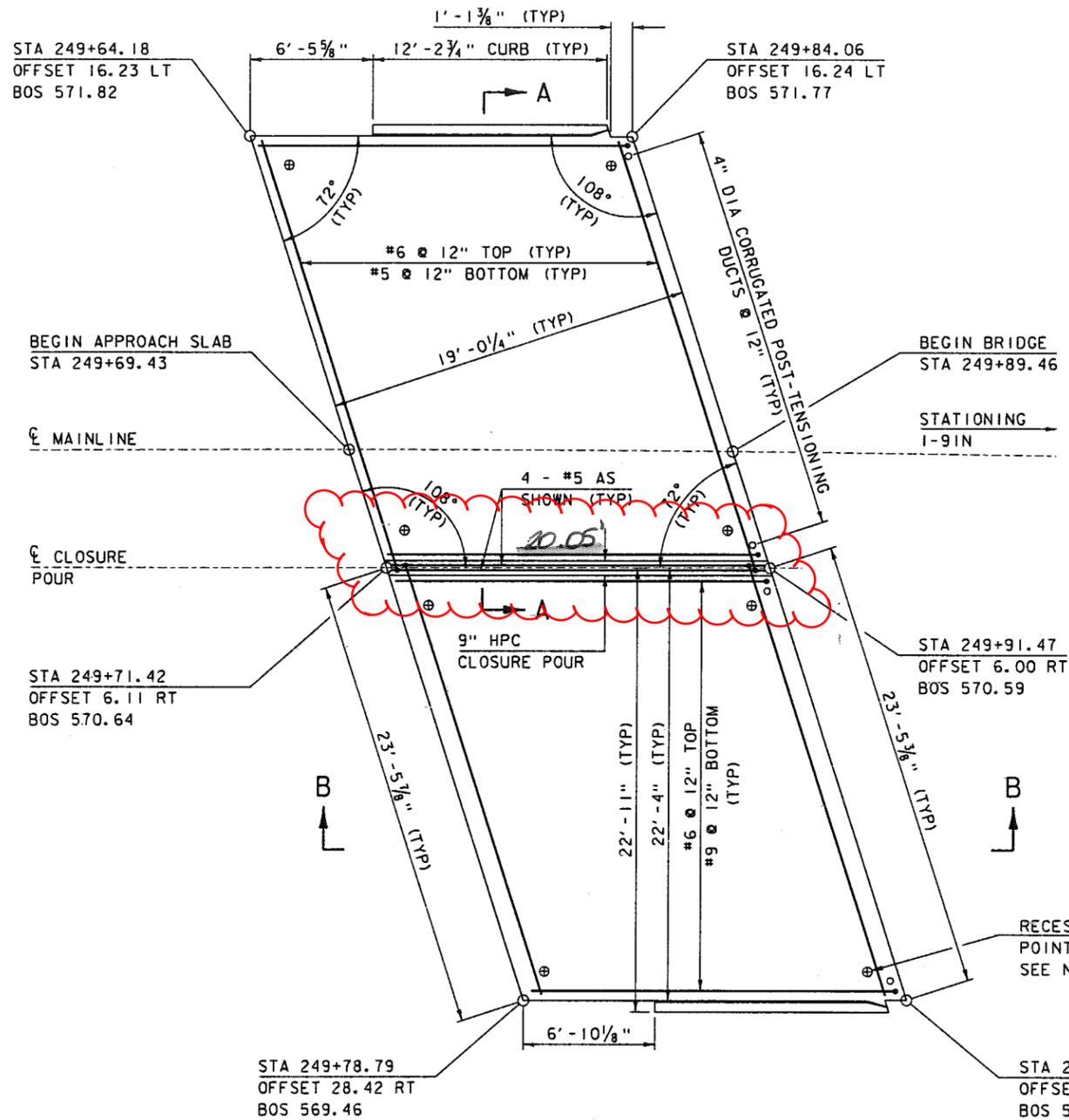
NOTES:

- 1) ALL APPROACH SLAB REINFORCING STEEL SHALL BE LEVEL II OR HIGHER.
- 2) BOS = BOTTOM OF SLAB
- 3) LIFTING POINTS SHALL BE DESIGNED BY OTHERS AND CALCULATIONS INCLUDED WITH SUBMITTAL.

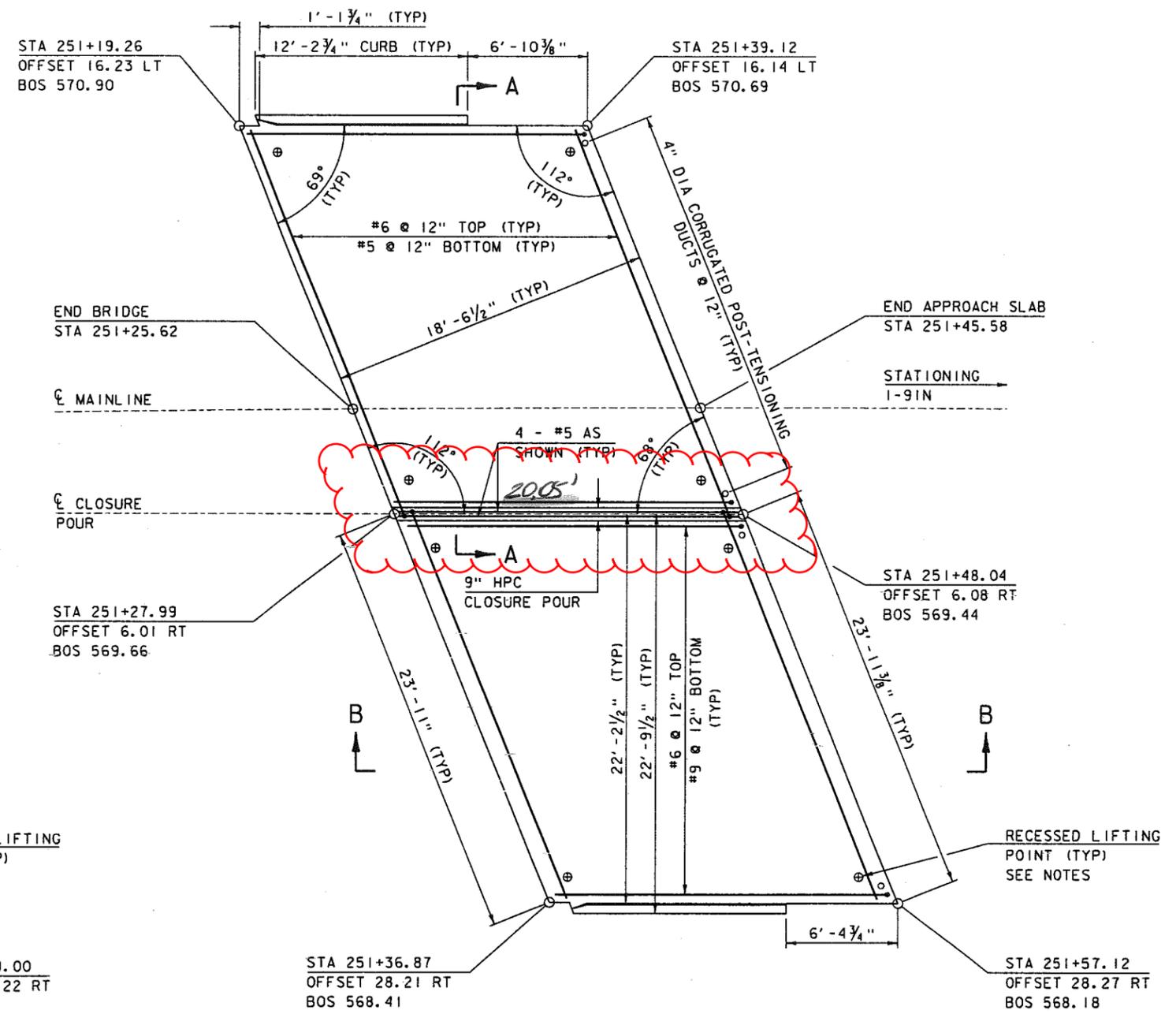
NOTE:

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 FF = FAR FACE
 EF = EACH FACE
 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: HARTFORD	PLOT DATE: 15-DEC-2014
PROJECT NUMBER: IM 091-2(79)	DRAWN BY: K. FRIEDLAND
FILE NAME: sl2a132apslabs_435.dgn	DESIGNED BY: G. LAROCHE
PROJECT LEADER: K. HIGGINS	CHECKED BY: W. LAMMER
APPROACH SLAB DETAILS 435	SHEET 97 OF 166



APPROACH SLAB 3 PLAN
SCALE 1/4" = 1'-0"



APPROACH SLAB 4 PLAN
SCALE 1/4" = 1'-0"

NOTES:

- 1) ALL APPROACH SLAB REINFORCING STEEL SHALL BE LEVEL II OR HIGHER.
- 2) BOS = BOTTOM OF SLAB
- 3) LIFTING POINTS SHALL BE DESIGNED BY OTHERS AND CALCULATIONS INCLUDED WITH SUBMITTAL.

NOTE:

- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: HARTFORD	PLOT DATE: 15-DEC-2014
PROJECT NUMBER: IM 091-2(79)	DRAWN BY: K. FRIEDLAND
FILE NAME: sl2a132apslabs_43N.dgn	CHECKED BY: W. LAMMER
PROJECT LEADER: K. HIGGINS	SHEET 98 OF 166
DESIGNED BY: G. LAROCHE	
APPROACH SLAB DETAILS 43N	



DOT Repair Mix

High Performance Concrete Repair Material



Highlights:

- **FAST**
Ready for traffic and loading in 2 hours
- **DURABLE**
Formulated for long life in critical applications
- **STRUCTURAL**
For repair and new construction
- **CONFORMS TO**
ASTM C928, California Test No. 551
- **MULTI-PURPOSE**
Use for concrete repair, highway repair, dowel bar retrofit, construction of pavements & bridges, parking decks & ramps, sidewalks & steps, joint repair, formed work and more

MANUFACTURER:

CTS Cement Manufacturing Corp.
11065 Knott Ave.
Cypress, CA 90630
Tel: 800-929-3030
Fax: 714-379-8270
Web: www.ctscement.com
E-mail: info@ctscement.com

PRODUCT NAME:

Rapid Set® DOT REPAIR MIX
High Performance Concrete Repair Material

DESCRIPTION: DOT REPAIR MIX is a high performance, fast-setting, multipurpose repair material. Durable in wet environments, DOT REPAIR MIX is a blend of Rapid Set hydraulic cement, high performance additives and ASTM C33 concrete sand. DOT REPAIR MIX is non-metallic and no chlorides are added. Mix DOT REPAIR MIX with water to produce a flowable, quality repair material that is ideal where fast strength gain, high durability and low shrinkage are desired. DOT REPAIR MIX is ready for traffic and loading within 2 hours.

APPLICATIONS: Use DOT REPAIR MIX for concrete repair, highway repair, dowel bar retrofit, construction of pavements & bridges, parking decks & ramps, sidewalks & steps, joint repair and formed work. For freeze thaw durability, in some geographical areas DOT REPAIR MIX contains an air-entraining admixture.

ENVIRONMENTAL ADVANTAGES: Use DOT REPAIR MIX to reduce your carbon footprint and lower your environmental impact. Production of Rapid Set cement emits far less CO₂ than portland cement. Contact your Rapid Set representative for LEED values and further environmental information.

RECOMMENDED USE: Apply DOT REPAIR MIX in thicknesses from 1/2" to 4" (1.2 to 10.2 cm). For thicker applications, DOT REPAIR MIX can be extended with clean, dry coarse aggregate conforming to ASTM C33.

SURFACE PREPARATION: For repairs, application surface shall be clean, sound and free from any materials that may inhibit bond such as oil, asphalt, curing compound, acid, dirt and loose debris. Mechanically abrade surface and remove all unsound material. Apply DOT REPAIR MIX to a thoroughly saturated surface with no standing water.

MIXING: The use of a power driven mechanical mixer, such as a mortar mixer or a drill mounted mixer, is recommended. Organize work so that all personnel and equipment are in place before mixing. Use clean potable water. **DOT Repair Mix may be mixed using 3 to 5 quarts (2.8 to 4.7 L) of water per 55 lb (25 kg) bag. Use less water to achieve higher strengths. Do not exceed 5 quarts (4.7 L) of water per bag.** Place the desired quantity of mix water into the mixing container. While the mixer is running add Rapid Set® DOT REPAIR MIX. Mix for the minimum amount of time required to achieve a lump-free, uniform consistency (usually 1 to 3 minutes). Do no retemper.



DOT Repair Mix

High Performance Concrete Repair Material

PLACEMENT: DOT REPAIR MIX may be placed using traditional construction methods. Organize work so that all personnel and equipment are ready before placement. Place, consolidate and screed quickly to allow for maximum finishing time. Use a method of consolidation that eliminates air voids. On flat work do not install in layers; install full depth sections and progress horizontally. Do not wait for bleed water; apply final finish as soon as possible. DOT REPAIR MIX may be troweled, floated or broom finished. To extend working time use Rapid Set® SET Control® set retarding admixture or cold mix water. Do not install on frozen surfaces. DOT REPAIR MIX may be applied in temperatures ranging from 45°F to 90°F (7°C to 32°C).

COLD WEATHER: Environmental and material temperatures below 70°F (21°C) may delay setting time and reduce the rate of strength gain. Lower temperatures will have a more pronounced effect. Thinner sections will be more significantly affected. To compensate for cold temperatures, keep material warm, use heated mix water and follow ACI 306 Procedures for Cold Weather Concreting.

WARM WEATHER: Environmental and material temperatures above 70°F (21°C) may shorten setting time and increase the rate of strength gain. Higher temperatures will have a more pronounced effect. To compensate for warm temperatures, keep material cool, use chilled mix water and follow ACI 305 Procedures for Hot Weather Concreting. The use of SET Control set retarding admixture will help offset the effects of high temperatures.

CURING: Water cure all DOT REPAIR MIX installations by keeping exposed surfaces wet for a minimum of 1 hour. Begin curing as soon as the surface starts to lose its moist sheen. When experiencing extended setting time due to cold temperature or the use of retarder, longer curing times may be required. The objective of water curing shall be to maintain a continuously wet surface until the product has achieved sufficient strength. An ASTM C309 curing compound may be applied upon final set. Adhesives, thin set or paint can be applied after 6 hours. If used as a topping that will receive traffic, a high-quality sealer or epoxy can be applied per the manufacturer's recommendations after 12 hours.

YIELD & PACKAGING: DOT REPAIR MIX is available in 55 lb (25 kg) bags. One 55 lb (25 kg) bag of DOT REPAIR MIX will yield approximately 0.5 cubic feet. When extended 100% by weight with quality coarse aggregate conforming to ASTM C33, yield is approximately 0.8 cubic feet.

SHELF LIFE: One year when stored in cool, dry conditions, out of direct sunlight.

USER RESPONSIBILITY: Before using Rapid Set products, read current technical data sheet, bulletins, product label and material safety data sheet at www.ctscement.com. It is the user's responsibility to review instructions and warnings for any Rapid Set product in current technical data sheet, bulletins, product label and material safety data sheet prior to use.

WARNING: DO NOT BREATHE DUST. AVOID CONTACT WITH SKIN AND EYES. Use material in well-ventilated areas only. Exposure to cement dust may irritate eyes, nose, throat, and the upper respiratory system/lungs. Silica exposure by inhalation may result in the development of lung injuries and pulmonary diseases, including silicosis and lung cancer. Seek medical treatment if you experience difficulty breathing while using this product. The use of a NIOSH/MSHA-approved respirator (P-, N- or R-95) is recommended to minimize inhalation of cement dust. Eat and drink only in dust-free areas to avoid ingesting cement dust. Skin contact with dry material or wet mixtures may result in moderate irritation to thickening/cracking of skin to severe skin damage from chemical burns. If irritation or burning occurs, seek medical treatment. Protect eyes with goggles or safety glasses with side shields. Cover skin with protective clothing. Use chemical resistant gloves and waterproof

PHYSICAL DATA

Conforms to ASTM C-928,
Conforms to California Test No. 551

Neat Bag (0.8 to 1.2 gal of water)	100% Extension (1.0 to 1.2 gal of water)
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Yield

0.5 cu ft	0.9 cu ft
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Compressive Strength

1 hr*	3300 psi	1.5 hrs	2500 psi
3 hrs	4800 psi	3 hrs	5000 psi
24 hrs	6500 psi	24 hrs	6500 psi
28 days	9500 psi	28 days	8000 psi



Flexural Strength, ASTM C-78

4 hrs	400 psi
1 day	700 psi
28 days	800 psi

Modulus of Elasticity

28 days	4,000,000 psi
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* After final set

boots. In case of skin contact with cement dust, immediately wash off dust with soap and water to avoid skin damage. Wash skin areas exposed to wet concrete with cold, running water as soon as possible. In case of eye contact with cement dust, flush immediately and repeatedly with clean water and consult a physician. If wet concrete splashes into eyes, rinse eyes with clean water for at least 15 minutes and go to the hospital for further treatment.

PROPOSITION 65 WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the MSDS and www.ctscement.com for additional safety information regarding this material.

LIMITED WARRANTY: CTS CEMENT MANUFACTURING CORP. (CTS) warrants its materials to be of good quality and at its option, within one year from date of sale, will replace material proven defective or refund purchase price thereof, and such replacement or refund shall be the limit of CTS's responsibility. Except for the foregoing, all warranties expressed or implied, including merchantability and fitness for a particular purpose, are excluded. CTS shall not be liable for any consequential, incidental, or special damages arising directly or indirectly from the use of the materials.



SET Control®

Additive for Extending Working Time



Highlights:

- For use with Rapid Set® cement products
- Retarder additive
- Extends the working time

MANUFACTURER:

CTS Cement Manufacturing Corp.
11065 Knott Ave., Suite A
Cypress, CA 90630
Tel: 800-929-3030
Fax: 714-379-8270
Web: www.ctscement.com
E-mail: info@ctscement.com

PRODUCT NAME:

Rapid Set® SET CONTROL®

DESCRIPTION: Rapid Set SET CONTROL is a set retarding additive that extends the setting time, allowing more time for placing and finishing.

APPLICATIONS: Use SET CONTROL with Rapid Set cement products. SET CONTROL will extend the setting time by about 15–30 minutes in normal conditions. A trial batch is recommended to fine-tune the setting time to match job-site conditions. Using SET CONTROL as recommended here does not reduce long-term strengths. SET CONTROL may be used in combination with all other products of the Rapid Set® Concrete Pharmacy®.

DIRECTIONS: Dissolve SET CONTROL into the mixing water. **Add up to 4 packets as needed to achieve the desired working time. Each packet is designed to add 15 to 30 minutes of working time to each 50-lb to 70-lb bag of Rapid Set® product.** Combine with Rapid Set® FLOW Control® to create more fluid mixtures.

SHELF LIFE: One year when stored in cool, dry conditions, out of direct sunlight.

USER RESPONSIBILITY: Before using Rapid Set products, read current technical data sheet, bulletins, product label and material safety data sheet at www.ctscement.com. It is the user's responsibility to review instructions and warnings for any Rapid Set product in current technical data sheet, bulletins, product label and material safety data sheet prior to use.

WARNING: DO NOT BREATHE DUST. AVOID CONTACT WITH SKIN AND EYES. Use material in well-ventilated areas only. Exposure to cement dust may irritate eyes, nose, throat, and the upper respiratory system/lungs. Silica exposure by inhalation may result in the development of lung injuries and pulmonary diseases, including silicosis and lung cancer. Seek medical treatment if you experience difficulty breathing while using this product. The use of a NIOSH/MSHA-approved respirator (P-, N- or R-95) is recommended to minimize inhalation of cement dust. Eat and drink only in dust-free areas to avoid ingesting cement dust. Skin contact with dry material or wet mixtures may result in moderate irritation to thickening/cracking of skin to severe skin damage from chemical burns. If irritation or burning occurs, seek medical treatment. Protect eyes with goggles or safety glasses with side shields. Cover skin with protective clothing. Use chemical resistant gloves and waterproof boots. In case of skin contact with cement dust, immediately wash off dust with soap and water to avoid skin damage. Wash skin areas exposed to wet concrete with cold, running water as soon as possible. In case of eye contact with cement dust, flush immediately and repeatedly with clean water and consult a physician. If wet concrete splashes into eyes, rinse eyes with clean water for at least 15 minutes and go to the hospital for further treatment.

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FLOW Control®

Additive to Increase Strength and Fluidity



Highlights:

- For use with Rapid Set® cement products
- Water reducing additive
- Increase fluidity
- Increases compressive strength

MANUFACTURER:

CTS Cement Manufacturing Corp.
11065 Knott Ave., Suite A
Cypress, CA 90630
Tel: 800-929-3030
Fax: 714-379-8270
Web: www.ctscement.com
E-mail: info@ctscement.com

PRODUCT NAME:

Rapid Set® FLOW CONTROL®

DESCRIPTION: Rapid Set FLOW CONTROL is a flow enhancing additive that allows higher fluidity or lower water requirement. Reducing water content by adding FLOW CONTROL will increase the final strength and durability.

APPLICATIONS: Use FLOW CONTROL with Rapid Set cement products. Add 1 to 4 packets of FLOW CONTROL to increase fluidity, and/or increase strength to satisfy jobsite requirements. A trial batch is recommended to fine-tune the dosage. FLOW CONTROL may be used in combination with all other products of the Rapid Set® Concrete Pharmacy®.

DIRECTIONS: Place desired amount of potable water into mixing container. **Add half cement product into mixing container and mix with mechanical drill/mixer. Continue mixing while adding FLOW CONTROL powder to mixing container. Add remaining cement product into mixing container. Follow product mixing instructions and maximum water requirements described on the package of the cement product. Mix to a workable, lump free consistency. Do NOT exceed 4 packets per 50 to 70 lb bag of Rapid Set cement.** Too much water in the mixture may cause aggregate segregation, which can reduce strengths.

SHELF LIFE: One year when stored in cool, dry conditions, out of direct sunlight.

USER RESPONSIBILITY: Before using Rapid Set products, read current technical data sheet, bulletins, product label and material safety data sheet at www.ctscement.com. It is the user's responsibility to review instructions and warnings for any Rapid Set product in current technical data sheet, bulletins, product label and material safety data sheet prior to use.

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Mix, Transport and Pour Directly Onto the Floor

Mixing multiple batches is faster and easier with the new MEGA HIPPO liner canister system.



Mixing and placing of products is easier and faster. Cement screeds, grout, mortar, textured coatings, sealants, adhesives and other self-leveling compounds can be mixed quickly. The MEGA HIPPO boosts productivity, lowers labor costs and reduces physical effort.

The "Easy-roll Trolley" and the balanced "Easy-tilt Cradle" let you pour and spread material at the same time. Multi-stage pours to achieve a thicker screed are often not necessary. Wheel covers ensure that the casters remain free of screed splatter.



Mix, transport and pour directly onto the floor - up to 6 bags - with one operator



USE:

- Mix compounds, including cement screeds, overlay, underlay, textured coatings, sealants, adhesives, epoxies, resins, pre-tinted material and other self-leveling compounds
- Ideal for mixing in bulk and dispensing into small containers
- Consecutive batch mixing without downtime

FEATURES:

- High-torque, 15 Amp 2-gear motor
- Full-brim capacity of 23 gallons, 350 lbs. or 6-bag batches
- "Easy-roll Trolley" and balanced "Easy-tilt Cradle" allow for pouring and spreading of material at same time
- Specially shaped mixing bowl eliminates pockets of unmixed product and allows for easy cleaning
- 8-1/2" diameter paddles with helix ribbon and side bars lift and shear product quickly to produce excellent consistency and thorough mixing of colors and additives
- Resilient, pliable liner is easily cleaned; alternating liners prevents cross contamination
- Dust extraction port for vacuum connection

Mixing Motor Specifications

PMH 80F-RL Level Floors w/ Rimless Bucket and Removable Liner	Electric 110 V* 15 Amp / 1800 Watt 2-speed Motor
PMH 80X-RL Rough Terrain w/ Rimless Bucket and Removable Liner	1st Gear: 140 RPM (Load Speed) 2nd Gear: 470 RPM (Load Speed)
*220 Volt available	

Standard Equipment includes: mixing motor, bucket, removable liner and 2 paddles – TW225 for half batches (2-3 bags) and TW225D for full batches (5-6 bags)

Key Features of the PORTAMIX MEGA HIPPO®

- Easy operation – one person can mix, transport and pour
- Accurately place material directly onto the floor
- Produces excellent mix consistency
- Ideal for mixing in bulk and dispensing into small containers
- Pre-tinted material is easily blended

Bowl Capacity: 6 x 50 lbs. mix + water (23 gal./350 lbs.)
6 x 22 kg mix + water (86 liters/160 kg)

Motor Mounting: Reversible for "alongside" mixing

Tilting Cradle: Balanced for easy operation

Weight: 109 lbs.

Reverse motor mounting allows "alongside" mixing in smaller containers



View product demonstrations at www.csunitec.com.

For Rugged Building Site Mixing and Pouring

Save time and extend bucket life with a removable liner!



Multiple Batch Mixing with Removable Liner

Mixing multiple batches is easier and faster with the new removable liner and rimless bucket system.

- Mix consecutive batches without downtime
- Resilient, pliable liner is easily cleaned
- Alternating liners prevents cross contamination
- Extends life of bucket

After mixing the first batch, the liner can be removed and cleaned. To speed up production, a second liner can be used while the first liner is being cleaned. The use of a liner also helps to prevent cross contamination and minimizes wear to the HIPPO bucket, extending its life.



Two Models Available:



PORTAMIX PMH 80F-RL
With Rimless Bucket and Removable Liner
4 Casters for Level Floor Use

Allows accurate placement – pour and spread at the same time.



PORTAMIX PMH 80X-RL
With Rimless Bucket and Removable Liner
2 Tires for Rough Terrain Use

Increased height – pour directly into buckets or carts.

The MEGA HIPPO portable mixing station is available with a pneumatic motor.

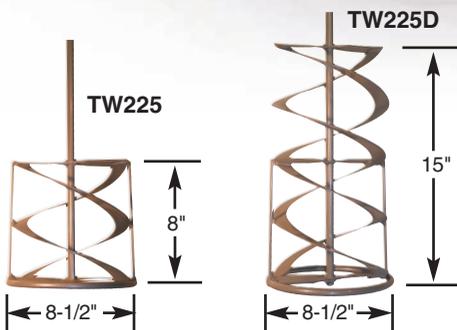
Two air-powered models are inherently safer for mixing paint, glue, epoxy, mortar, concrete, refractory cement and other materials in shipyards and the oil and gas industries.

They can be used around water with no fear of shock or blown circuitry.



PMH 80F-AIR
PMH 80X-AIR

The PORTAMIX MEGA HIPPO® is supplied with two mixing paddles:



TW225 – for half batches (2-3 bags); 8-1/2" diameter x 27" long; ideal for plasters, concrete, mortars, resins and tile adhesives. 8" long helix and side bars.

TW225D – for full batches (5-6 bags); 8-1/2" diameter x 27" long; ideal for self-leveling compounds, screeds, paints, plasters and epoxy. 15" long helix and side bars.

The 8-1/2" wide helix and side bars lift and shear the product quickly and efficiently to produce an excellent mix consistency and thorough mixing of colors and additives. The paddle's large 8-1/2" diameter provides increased peripheral speed which eliminates the need for high-RPM mixing and helps to prevent flash curing.



MATERIAL SAFETY DATA SHEET - MSDS

RAPID SET® DOT Repair Mix

Date Issued: 11-March-2013

SECTION 1 – PRODUCT AND COMPANY INFORMATION

<p>Supplier CTS Cement Manufacturing Corp. 11065 Knott Ave., Suite A Cypress, CA 90630, United States Telephone Number: 714-379-8260 FAX Number: 714-379-8270 Email: info@ctscement.com Website: www.ctscement.com</p>	<p>Manufacturer CTS Cement Manufacturing Corp. 11065 Knott Ave., Suite A Cypress, CA 90630, United States Telephone Number: 714-379-8260 FAX Number: 714-379-8270 Email: info@ctscement.com Website: www.ctscement.com</p>	<table border="1"> <tr><td>Health</td><td>1</td></tr> <tr><td>Fire</td><td>0</td></tr> <tr><td>Reactivity</td><td>0</td></tr> <tr><td>Personal Protection</td><td>E</td></tr> </table>	Health	1	Fire	0	Reactivity	0	Personal Protection	E
Health	1									
Fire	0									
Reactivity	0									
Personal Protection	E									
<p>Supplier Emergency Contact 1-714-379-8260</p>	<p>Manufacturer Emergency Contact 1-714-379-8260</p>									
<p>Product Name: Rapid Set DOT Repair Mix CAS Number: N/A Chemical Family: Cementitious Mortar</p>	<p>MSDS Number: Product Code:</p>									

SECTION 2 — COMPONENT INFORMATION

Ingredient (Specific Chemical Identity, Common Name)	CAS Number	% of Total Weight
Calcium Sulfoaluminate Cement	960375-09-1	40-60
Silica, Quartz	14808-60-7	40-60
Sodium Sulfate	7757-82-6	0-4
Methanal	50-00-0	0-0.1

SECTION 3 — HAZARDOUS INFORMATION

Primary Route(s) of Entry:	Inhalation, Skin, Eye, Ingestion
Inhalation Hazards:	May cause respiratory tract, nose, throat, and lung irritation and inflammation
Skin Hazards:	May irritate skin causing drying, redness, rash, and blistering. When mixed with water, a high alkali material is produced which can cause severe skin burns. Individuals may develop allergic dermatitis.
Eye Hazards:	May severely irritate eyes. May develop inflammation of the cornea.
Ingestion Hazards:	May be caustic to mucus tissue.
Chronic Exposure:	Individuals may develop allergic dermatitis, inflammation of the cornea, and inflammation of the nose, throat, and lungs. May cause carcinogenic effects.
Carcinogenic Effects:	May contain crystalline silica, a known Human Carcinogen (Group 1), that can cause silicosis and cancer. Exposure to crystalline silica may also increase the risk of Scleroderma, tuberculosis, and kidney disorders.



SECTION 4 — FIRST AID INFORMATION

Inhalation:	Remove the individual to fresh air. If irritation persists, get medical attention.
Skin:	Flush with water immediately. If irritation persists, get medical attention immediately.
Eye:	Flush eyes with plenty of water. If irritation persists, get medical attention immediately.
Ingestion:	If conscious, drink plenty of water, Do not induce vomiting. Get immediate medical attention.

SECTION 5 — PHYSICAL & CHEMICAL PROPERTIES

Boiling Point: >2700°F	Specific Gravity: 2.7 to 3.1	Melting Point: >2700°F
Vapor Pressure (mm Hg): None	Vapor Density (AIR = 1): None	Evaporation Rate: None
Solubility in Water: Slight		

Appearance and Odor : Beige color powder. May contain sand and rock particles. Odor N/A

SECTION 6 — FIRE & EXPLOSION PROPERTIES

Flash Point : Non-Combustible	Flammable Limits: N/A	LEL: N/A	UEL: N/A
Extinguishing Media: Water spray carbon dioxide foam dry powder	Special Fire Fighting Procedures: None		

SECTION 7 — REACTIVITY INFORMATION

Stability: Stable	Conditions to Avoid: Unintended contact with water
Hazardous Polymerization: Will not occur	

Hazardous Decomposition or Byproducts: Silica mixed with hydrofluoric acid may produce a corrosive gas.

Incompatible Materials: When mixed with water, may be highly alkali. Incompatible with acids, ammonium and salts. Avoid contact of silica with powerful oxidizing agents and acids.

SECTION 8 — ACCIDENTAL RELEASE MEASURES

Use a dust free method to clean up spills. Use the appropriate personal protective equipment.

SECTION 9 — HANDLING AND STORAGE

Waste Disposal Method: Use appropriate disposal facility complying with local regulations. Not classified as hazardous waste under RCRA or CERCLA. Do not create dust.

Handling and Storage Precautions: Use proper personal protective equipment. Do not breath dust. Avoid contact with eyes, skin, and clothing. Avoid unintentional contact with water.

SECTION 10 — EXPOSURE CONTROL MEASURES



Engineering Controls: Use with adequate ventilation to control airborne dust levels

Eye Protection: Safety glasses with side shields or goggles are recommended

Skin Protection: Impervious gloves, boots and clothing are recommended to protect the skin from contact

Respiratory Protection: In dusty environments, an OSHA, MSHA or NIOSH approved respirator is recommended.

Hygienic Practices: After handling, thoroughly wash hands and exposed skin with soap and water.

Exposure Limits: PEL: (OSHA Z1) Respirable, 5 g/m³; Total Dust, 15 g/m³

SECTION 11 — TOXICOLOGY INFORMATION

Toxicity to Animals: LC50 *Leuciscus idus*: >56 g/l, EC 10 *Pseudomonas putida*: 180 g/l . A high pH material is produced when mixed with water.

Chronic Effects on Humans: May contain Silica sand, a known carcinogen. May aggravate eye, skin, and respiratory conditions.

SECTION 12 — ECOLOGICAL INFORMATION

No Data Available

SECTION 13 — DISPOSAL CONSIDERATIONS

Not classified as hazardous waste under the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Recovery Act

SECTION 14 — TRANSPORTATION INFORMATION

Not determined to be hazardous under the U.S. Department of Transportation. Not Regulated by DOT.

SECTION 15 — OTHER REGULATORY INFORMATION

US OSHA 29CFR 1910.1200: May be considered hazardous and should be included in the employers' hazardous communication program.

SARA Section 313 Notification: Not subject to reporting requirements.

Proposition 65 Warning: This product contains chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

SECTION 16 — OTHER INFORMATION

Key/Abbreviations

ACGIH – American Conference of Government Industrial Hygienists

CAS – Chemical Abstract Service.

CERCLA – Comprehensive Environmental Response, Compensation & Liability Act.

DOT – Department of Transportation.

LEL – Lower Exposure Limit.

MSHA – Mine Safety and Health Administration.

N/A – Not Applicable.

NIOSH – National Institute for Occupational Safety and Health.

OSHA – Occupational Safety and Health Administration.

RCRA – Resource Conservation and Recovery Act.

SARA – Superfund Amendments and Reauthorization Act.



UEL – Upper Exposure Limit.

NOTE: CTS Cement Manufacturing Corporation makes no representations as to the completeness or accuracy of the information in this document; and, no guarantee or warranty of any kind, express or implied, is made herein. We are not liable for any consequential, incidental, or special damages arising directly or indirectly from the use of this information.



MATERIAL SAFETY DATA SHEET - MSDS

RAPID SET® Set Control

Date Issued: 14-April-2013

SECTION 1 – PRODUCT AND COMPANY INFORMATION

<p>Supplier CTS Cement Manufacturing Corp. 11065 Knott Ave., Suite A Cypress, CA 90630, United States Telephone Number: 714-379-8260 FAX Number: 714-379-8270 Email: info@cts cement.com Website: www.ctscement.com</p>	<p>Manufacturer CTS Cement Manufacturing Corp. 11065 Knott Ave., Suite A Cypress, CA 90630, United States Telephone Number: 714-379-8260 FAX Number: 714-379-8270 Email: info@cts cement.com Website: www.ctscement.com</p>	<table border="1"> <tr><td>Health</td><td>2</td></tr> <tr><td>Fire</td><td>1</td></tr> <tr><td>Reactivity</td><td>0</td></tr> <tr><td>Personal Protection</td><td>E</td></tr> </table>	Health	2	Fire	1	Reactivity	0	Personal Protection	E
Health	2									
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Reactivity	0									
Personal Protection	E									
<p>Supplier Emergency Contact 1-714-379-8260</p>	<p>Manufacturer Emergency Contact 1-714-379-8260</p>									
<p>Product Name: Rapid Set Set Control CAS Number: N/A Chemical Family: Crystalline Powder</p>	<p>MSDS Number: ***** Product Code: ***</p>									

SECTION 2 – COMPONENT INFORMATION

Ingredient (Specific Chemical Identity, Common Name)	CAS Number	% of Total Weight
Weak Food Grade Citric Acid	77-92-9	90-100

SECTION 3 – HAZARDOUS INFORMATION

Primary Route(s) of Entry:	Inhalation, Skin, Eye, Ingestion
Inhalation Hazards:	Lung Irritant
Skin Hazards:	May irritate skin causing drying, redness, inflammation, blistering and rash. Individuals may develop allergic dermatitis.
Eye Hazards:	May severely irritate eyes. Eye contact can result in corneal damage or blindness.
Ingestion Hazards:	May be caustic to mucus tissue.
Chronic Exposure:	Individuals may develop allergic dermatitis, inflammation of the cornea, and inflammation of the nose, throat, and lungs. Severe over-exposure can produce lung damage, choking, unconsciousness or death.
Carcinogenic Effects:	Not Available



SECTION 4 — FIRST AID INFORMATION

Inhalation:	Remove the individual to fresh air. If irritation persists, get medical attention. If not breathing give artificial respiration. If breathing difficult give oxygen.
Skin:	Flush with water immediately. If irritation persists, get medical attention immediately.
Eye:	Flush eyes with plenty of water. If irritation persists, get medical attention immediately.
Ingestion:	Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms appear.

SECTION 5 — PHYSICAL & CHEMICAL PROPERTIES

Boiling Point: Decomposes	Specific Gravity: 1.67	Melting Point: 153 Degrees Celsius
Vapor Pressure (mm Hg): None	Vapor Density (AIR = 1): None	Evaporation Rate: None

Solubility in Water: Product soluble in cold water, hot water, diethyl ether. Insoluble in benzene.

Appearance and Odor : Solid. (Crystalline powder) NA

SECTION 6 — FIRE & EXPLOSION PROPERTIES

Flash Point : Not Available	Flammable Limits: Lower 0.28 kg/m ³ , Upper 2.29 kg/m ³	LEL: N/A	UEL: N/A
Extinguishing Media: N/A	Special Fire Fighting Procedures: Small Fire: Use DRY chemical powder. Large Fire: Use water spray, fog, or foam. Do not use water jet.		

SECTION 7 — REACTIVITY INFORMATION

Stability: Stable	Conditions to Avoid: Slightly flammable to flammable in presence of heat
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Hazardous Polymerization: As with most organic solids, fire is possible at elevated temperatures

Hazardous Decomposition or Byproducts: Fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard.

Incompatible Materials: When mixed with water, may be highly alkali. Incompatible with acids, ammonium and salts. Avoid contact of silica with powerful oxidizing agents and acids.

SECTION 8 — ACCIDENTAL RELEASE MEASURES

Small Spill: Use tools to put the solids to a waste disposal container. Finish by cleaning up with water on surface and dispose in accordance with local and state authority recommendations.

Large Spill: Use water spray to reduce vapors. Do not let material get into sewers and basements. Eliminate all ignition sources. Call for assistance in disposal. Finish by cleaning with water on surface.

SECTION 9 — HANDLING AND STORAGE

Waste Disposal Method: Use appropriate disposal facility complying with local regulations. Not classified as hazardous waste under RCRA or CERCLA. Do not create dust.

Handling and Storage Precautions: Keep away from sources of heat and ignition. Do not ingest or inhale product. Avoid contact with eyes. Wear suitable clothing. If inhaled or ingested seek medical help. Keep away from oxidizing agents, reducing agents, metals, alkalis.



SECTION 10 — EXPOSURE CONTROL MEASURES

Engineering Controls: Use with adequate ventilation to control airborne dust levels to recommended exposure limits.

Eye Protection: Safety glasses with side shields or goggles are recommended.

Skin Protection: Impervious gloves, boots and clothing are recommended to protect the skin from contact

Respiratory Protection: Use a MSHA, OSHA or NIOSH approved respirator.

Hygienic Practices: After handling, thoroughly wash hands and exposed skin with soap and water.

Exposure Limits: NA

SECTION 11 — TOXICOLOGY INFORMATION

Toxicity to Animals: LD50/p.o./rat = 11.700 mg/kg, LD 50/i.v./mouse = 42 mg/kg, LD50/i.p./rat = 883 mg/kg, LD50/i.p./mouse = 961 mg/kg, LD50/p.o./mouse = 5.040 mg/kg

Chronic Effects on Humans: May aggravate eye, skin, and respiratory conditions. Hazardous in case of inhalation. Slightly hazardous to skin contact or ingestion.

SECTION 12 — ECOLOGICAL INFORMATION

No Data Available

SECTION 13 — DISPOSAL CONSIDERATIONS

Waste must be disposed of in accordance with federal, state, and local environmental control regulations.

SECTION 14 — TRANSPORTATION INFORMATION

Not determined to be hazardous under the U.S. Department of Transportation. Not Regulated by DOT.

SECTION 15 — OTHER REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: citric acid.

Other Regulations: This product is on the European Inventory of Existing Commercial Chemical Substances.

WHMIS (Canada): Class E: Corrosive Solid.

DSCL (EEC): R36/37/38 – Irritating to eyes, respiratory system and skin. S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical help. S37/39 – Wear suitable gloves and eye/face protection.

SECTION 16 — OTHER INFORMATION

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: e

National Fire Protection Association (U.S.A.):

Health: 2



Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment: Gloves (impervious). Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

NOTE: CTS Cement Manufacturing Corporation makes no representations as to the completeness or accuracy of the information in this document; and, no guarantee or warranty of any kind, express or implied, is made herein. We are not liable for any consequential, incidental, or special damages arising directly or indirectly from the use of this information.



MATERIAL SAFETY DATA SHEET - MSDS

RAPID SET® Flow Control

Date Issued: 11-March-2013

SECTION 1 – PRODUCT AND COMPANY INFORMATION

<p>Supplier CTS Cement Manufacturing Corp. 11065 Knott Ave., Suite A Cypress, CA 90630, United States Telephone Number: 714-379-8260 FAX Number: 714-379-8270 Email: info@ctscement.com Website: www.ctscement.com</p>	<p>Manufacturer CTS Cement Manufacturing Corp. 11065 Knott Ave., Suite A Cypress, CA 90630, United States Telephone Number: 714-379-8260 FAX Number: 714-379-8270 Email: info@ctscement.com Website: www.ctscement.com</p>	<table border="1"> <tr><td>Health</td><td>2</td></tr> <tr><td>Fire</td><td>1</td></tr> <tr><td>Reactivity</td><td>0</td></tr> <tr><td>Personal Protection</td><td>E</td></tr> </table>	Health	2	Fire	1	Reactivity	0	Personal Protection	E
Health	2									
Fire	1									
Reactivity	0									
Personal Protection	E									
<p>Supplier Emergency Contact 1-714-379-8260</p>	<p>Manufacturer Emergency Contact 1-714-379-8260</p>									
<p>Product Name: Rapid Set Flow Control CAS Number: N/A Chemical Family: Crystalline Powder</p>	<p>MSDS Number: ***** Product Code: ***</p>									

SECTION 2 – COMPONENT INFORMATION

Ingredient (Specific Chemical Identity, Common Name)	CAS Number	% of Total Weight
Sodium Sulfate	7757-82-6	60-100
Methanal	50-00-0	>=0.1 - <= 1.0

SECTION 3 – HAZARDOUS INFORMATION

Primary Route(s) of Entry:	Inhalation, Skin, Eye, Ingestion
Inhalation Hazards:	Lung Irritant
Skin Hazards:	May irritate or corrosive skin. May cause sensitization by skin contact.
Eye Hazards:	May severely irritate or have a corrosive effect on eyes.
Ingestion Hazards:	May be caustic to mucus tissue.
Chronic Exposure:	May cause burns. Depending on the concentration and duration of exposure, product can cause irritating or corrosive effect on skin, eyes, and respiratory system.



Carcinogenic Effects: Formaldehyde: After lifelong inhalation exposure high concentration is damaging to nasal epithelium, nasal tumors in rats. The International Agency for Research on Cancer (IARC) classified this element as Group 1 human carcinogen linking to nasopharyngeal cancer.

SECTION 4 — FIRST AID INFORMATION

Inhalation:	Remove the individual to fresh air. If irritation persists, get medical attention.
Skin:	Flush with water immediately. If irritation persists, get medical attention immediately. Do not use organic solvent to wash off skin.
Eye:	Flush eyes with plenty of water. Get medical attention immediately.
Ingestion:	Rinse mouth out quickly with water then drink plenty of water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms appear.

SECTION 5 — PHYSICAL & CHEMICAL PROPERTIES

Boiling Point: 850°C	Specific Gravity: 1.84	Melting Point: N/A
Vapor Pressure (mm Hg): None	Vapor Density (AIR = 1): None	Evaporation Rate: None
Solubility in Water: 650 g/l		

Appearance and Odor : Solid. (Crystalline powder) Odor: characteristic

SECTION 6 — FIRE & EXPLOSION PROPERTIES

Flash Point : Not Available	Flammable Limits: Not self-igniting	LEL: N/A	UEL: N/A
Extinguishing Media: Water spray, foam, dry media, carbon dioxide	Special Fire Fighting Procedures: Do not use water jet. Wear self contained breathing apparatus.		

SECTION 7 — REACTIVITY INFORMATION

Stability: Stable	Conditions to Avoid: Avoid creating dust.
Hazardous Polymerization: Will not occur	

Hazardous Decomposition or Byproducts: Possible separation of formaldehyde in small quantities. Substances formed by hydrolysis.

Incompatible Materials: Strong acids, bases, oxidizing agents.

SECTION 8 — ACCIDENTAL RELEASE MEASURES

Avoid in the creation of dust.

Small Spill: Use tools to put the solids to a waste disposal container. Finish by cleaning up with water on surface and dispose in accordance with local and state authority recommendations.

Large Spill: Use water spray to reduce vapors. Do not let material get into sewers and basements. Eliminate all ignition sources. Call for assistance in disposal. Finish by cleaning with water on surface.



SECTION 9 — HANDLING AND STORAGE

Waste Disposal Method: Use appropriate disposal facility complying with local regulations. Not classified as hazardous waste under RCRA or CERCLA. Do not create dust.

Handling and Storage Precautions: Keep away from sources of heat and ignition. Keep in dry area. Do not ingest or inhale product. Avoid contact with eyes. Wear suitable clothing. If inhaled or ingested seek medical help. Keep away from oxidizing agents, reducing agents, acids, bases.

SECTION 10 — EXPOSURE CONTROL MEASURES

Engineering Controls: Use with adequate ventilation to control airborne dust levels to recommended exposure limits.

Eye Protection: Safety glasses with side shields or goggles are recommended.

Skin Protection: Impervious gloves, boots and clothing are recommended to protect the skin from contact

Respiratory Protection: Use a MSHA, OSHA or NIOSH approved respirator.

Hygienic Practices: After handling, thoroughly wash hands and exposed skin with soap and water.

Exposure Limits:

Formaldehyde:

OSHA TWA 0.75 ppm; STEL 2 ppm; Action level 0.5 ppm

ACGIH CLV 0.3 ppm

SECTION 11 — TOXICOLOGY INFORMATION

Toxicity to Animals:

Irritation / corrosion

Skin:

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

Eye:

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

Chronic Effects on Humans: Formaldehyde: After lifelong inhalation exposure high concentration is damaging to nasal epithelium, nasal tumors in rats. The International Agency for Research on Cancer (IARC) classified this element as Group 1 human carcinogen linking to nasopharyngeal cancer and leukemia.

SECTION 12 — ECOLOGICAL INFORMATION



Fish

Acute: DIN 38412 Part 15 static

Leuciscus idus/LC50 (48 h): > 560 mg/l

Aquatic invertebrates

OECD Guideline 202, part 1 static

Daphnia magna/EC50 (48 h): > 100 mg/l

Analogous: Assessment derived from products with similar chemical character.

Nominal concentration. The product has low solubility in the test medium. An eluate has been tested. Limit concentration test only (LIMIT test). No toxic effects occur within the range of solubility.

Microorganisms

Toxicity to microorganisms:

bacterium/EC10: 1,800 mg/l

Degradability / Persistence

Biological / Abiological Degradation

Evaluation: Not readily biodegradable (by OECD criteria).

Bioaccumulation

No data available concerning bioaccumulation.

SECTION 13 — DISPOSAL CONSIDERATIONS

Waste must be disposed of in accordance with federal, state, and local environmental control regulations.

SECTION 14 — TRANSPORTATION INFORMATION

Not determined to be hazardous under the U.S. Department of Transportation. Not Regulated by USDOT, TDG, IMDG, and IATA/ICAO.

SECTION 15 — OTHER REGULATORY INFORMATION

Federal and State Regulations: TSCA US

Registration status:

Chemical DSL, CA released / listed

WHMIS classification: D2A: Materials Causing Other Toxic Effects - Very toxic material

OSHA Hazard Category: IARC 1, 2A or 2B carcinogen, NTP listed carcinogen, OSHA regulated carcinogen, Chronic target organ effects reported

SARA Hazard Categories (EPCRA 311/312): Chronic

SARA 313:

CAS Number: 50-00-0 Formaldehyde



State Regulations

State RTK (MA, NJ, PA)

AS Number: 50-00-0 Formaldehyde

Proposition 65 Warning: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION 16 — OTHER INFORMATION

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: e

Protective Equipment: Gloves (impervious). Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

NOTE: CTS Cement Manufacturing Corporation makes no representations as to the completeness or accuracy of the information in this document; and, no guarantee or warranty of any kind, express or implied, is made herein. We are not liable for any consequential, incidental, or special damages arising directly or indirectly from the use of this information.