

**NOTE:**

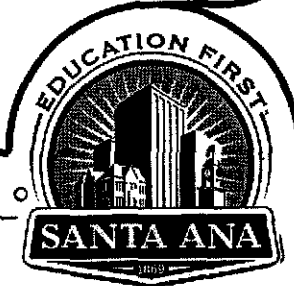
NO TRAFFIC LOADS ON CONCRETE COLLAR FOR A MINIMUM OF ONE (1) HOUR OR UNTIL MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI IS ATTAINED.

CONSTRUCTION ITEMS / MATERIALS LIST		
NO.	SIZE AND DESCRIPTION	MANUFACTURER
①	GATE VALVE, RESILIENT WEDGE	CLOW, MUELLER, OR EQUAL
②	VALVE BOX FRAME & COVER, C.I.	BROOKS 4TT FOR TRAFFIC USE OR EQUAL
③	P.V.C. PIPE, 8", SCHEDULE 40	
④	CONCRETE COLLAR (RAPID SET CONCRETE) SEE ATTACHED SPECIFICATIONS	CTS CEMENT MANUFACTURING COMPANY 11065 KNOTT AVE., SUITE A CYPRESS, CA 90630 PHONE: 800-929-3030

**NOTES:**

- ALL BURIED BOLTS SHALL BE COATED WITH 2 COATS OF MASTIC SUCH AS "3M" BRAND EC 244 OR EQUAL.
- ALL BURIED IRON SHALL BE WRAPPED WITH 1 LAYER OF 10 MIL POLYETHYLENE SHEETING TAPED IN PLACE.

Ⓐ PAVEMENT BASE MATERIAL OR COMPACTED SOIL.



APPROVED: *[Signature]* DATE: *11/21/03*

CITY OF SANTA ANA  
PUBLIC WORKS AGENCY

DATE	REVISION
1/25/00	C.E.B. CONCRETE COLLAR
5/11/00	C.E.B. CREAETED RESIDENTIAL STD.
9/28/01	A.F. UPDATED

GATE VALVE INSTALLATION  
FOR ARTERIAL AND  
COLLECTOR STREETS

STD. PLAN  
NUMBER  
1410A

# Rapid Set®

Shortform Product Specification for:  
**Rapid Set® Cement**

SECTION 03 01 30 MAINTENANCE OF CAST-IN-PLACE CONCRETE  
SECTION 03 01 40 MAINTENANCE OF PRECAST CONCRETE  
SECTION 03 01 50 MAINTENANCE OF CAST DECKS AND UNDERLAYMENT  
SECTION 03 01 70 MAINTENANCE OF MASS CONCRETE

(The above were formerly Section 03930)

[Note to specifier: Delete unnecessary Sections.]

Use Rapid Set® Cement: a rapid-setting, low shrinkage, extendable, cement that can be used from 1/2 inch to 6 inches thick when mixed with sand and from 2 inches to 24 inches thick when mixed with sand and stone. Manufactured by CTS Cement Manufacturing Corp., 11065 Knott Avenue, Suite A, Cypress, CA, 90630. Phone: 800-929-3030. Website: [www.rapidset.com](http://www.rapidset.com)

1. Compressive strength of extended material per ASTM C109 (Mod.):
  - 1 hour\* 2000 psi
  - 3 hour 4400 psi
  - 1 day 5500 psi
  - 28 day 6000 psi\* after final set
2. Flexural strength of extended material per ASTM C78 (Mod.):
  - 5 hour 500 psi
  - 1 day 650 psi
  - 28 day 750 psi
3. Bond strength of extended material per ASTM C882 (Mod.):
  - 1 day 1200 psi
  - 20 day 2500 psi
4. Freeze/thaw of extended material per ASTM C666:
  - 1000 cycles 1.10% loss
  - Dynamic modulus 88%
5. Scaling resistance per ASTM C672:

Number of cycles	Relative Modulus	Remarks
72	97.9	Slight scaling
180	89.1	Loss of surface fines
252	84.1	Increased loss
300	82.4	Moderate scaling
6. Modulus of Elasticity of extended material per ASTM C469:
  - 28 day 4,000,000
7. Shall meet ASTM C150, ASTM C597, and ASTM C1157
8. Shall be non-metallic with no added chlorides.

9. Shall have small, pre-measured packets available to add to the repair material per manufacturer's recommendations to slow down the set time, increase fluidity and strength, speed up the set time, increase bond strength, reduce plastic and crazing cracks, lighten the color of the mix, or darken the color of the mix.

Sand and coarse aggregate shall meet ASTM C33 and water shall be potable. Prepare surface, mix, place, and cure per manufacturer's recommendations.

**CTS**  
CEMENT

**RapidSet**  
Construction Cement

CTS Cement Manufacturing Corporation  
11088 Knott Avenue, Suite A  
Cypress, CA 90630  
Phone: (800) 829-8000 • Fax: (714) 379-8270  
info@ctscement.com  
www.ctscement.com



## **Rapid Set® Cement — DATASHEET** **High Performance, Fast-Setting Cement**

### **PRODUCT DESCRIPTION:**

Rapid Set® Cement is a very fast-setting hydraulic cement used in concrete applications requiring the highest durability and fastest strength gain. Mix Rapid Set® Cement with water and aggregates to produce high-performance, one-hour strength concrete, mortar and grout mixtures. The High-Strength, low shrinkage, and superior durability of RapidSet® Cement result in unparalleled concrete performance. Rapid Set® Cement has a proven record of successful projects dating back to 1960.

### **USES:**

Excellent for diverse projects including highway pavements, bridges, runways, tunnels, harbors, precast, sidewalks, floors, and many other projects. For larger jobs, Rapid Set® Cement mixtures may be batched using conventional ready-mix or volumetric mixer equipment. Many state and local municipalities throughout the U.S. specify Rapid Set® Cement in their concrete mix designs when speed and durability are important.

### **PHYSICAL PROPERTIES:**

ASTM C109 (Mod.)

#### **Compressive Strength:**

1.5 hours 2500 psi  
3 hours 5000 psi  
24 hours 6500 psi  
28 days 8000 psi

ASTM C109 (Mod.)

#### **Set Time:**

Initial Set 15 minutes  
Final Set 35 minutes

### **MIX & APPLY:**

A trial batch is recommended to optimize performance. For small projects, start with one 88-lb. bag of Rapid Set® Cement, 175-lb. of sand, 175-lb. of 3/8" to 3/4" stone and about 4-gal. of potable water. Place material quickly and strike off with a screed. Apply desired finish. Begin water curing immediately after final finishing. For more details, contact CTS. To control the set time use SET Control® and cold water. Concrete additives are available from the CTS Concrete Pharmacy®.

### **YIELD & PACKAGING:**

Rapid Set® Cement - specific gravity is 2.98 g/cu.cm. Rapid Set® Cement is available through distributors in 50-lb. and 88-lb. polyethylene-lined bags. In some locations 1-ton bulk bags and bulk tonage are available.

### **TECHNICAL SUPPORT:**

CTS offers comprehensive support to its customers. Specification consulting, mix design support, and

jobsite servicing are available.

**LIMITED WARRANTY:**

CTS Cement Manufacturing Corporation (CTS) warrants its materials to be of good quality, and, at its sole option, within one year of sale, will replace defective materials or refund the purchase price thereof and such replacement or refund shall be the limit of CTS' responsibility. Except for the foregoing, all warranties, express 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 material.

**CTS**  
CEMENT

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www.ctscement.com



## Concrete Pharmacy® SET Control® — DATASHEET

### PRODUCT DESCRIPTION:

Designed for use with Rapid Set® cement products and most other packaged hydraulic cements, SET Control® slows down the setting time of cement allowing you more time to place and finish your concrete, mortar, and grout materials. This extra time is often needed when making large or intricate placements (more than one cubic foot) of grout, mortar, or concrete. In warm weather when cement naturally sets faster, SET Control® works to slow down the hardening of the cement.

### USE:

With Rapid Set® Mortar Mix (55-lb. bag), Grout (55-lb. bag), Concrete (60-lb. bag), and DOT Repair Mix (55-lb. bag), 1/3 of a packet of SET Control® will extend the setting time by about 20 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.

### DIRECTIONS:

Dissolve SET Control® in the mixing water. Use enough SET Control® to achieve desired setting requirements. Follow product mixing instructions described on the package of the cement product. Do NOT exceed 2 packets per 50- to 60-lb. bag of Rapid Set®.

### WARNING:

May cause skin, eye, and lung irritation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Wear appropriate safety and protective equipment. **DO NOT TAKE INTERNALLY.** In case of contact, flush affected areas with water for 15 to 20 minutes. If irritation persists, seek medical attention. Wash contaminated clothing. Refer to Material Safety Data Sheet for more information.

### LIMITED WARRANTY:

Seller warrants this product is free from defects in material and workmanship and this warranty will be limited to replacement of the product. **IT IS EXPRESSLY AGREED THAT THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OF FITNESS AND MERCHANTABILITY.**