

# Look to Sika and its global presence for superiority in concrete admixtures and construction products.

Sika Corporation has provided innovative, cutting edge technology and technical support to the concrete industry for nearly one hundred years. As a global leader, Sika's contributions and involvement, have increased concrete quality and performance around the world. From waterproofing admixtures at the turn of the century to self-consolidating concrete technology at the dawn of the millennium, we've got the right mix!

## The Sika Advantage System Approach to Concrete Design and Construction.

- ▲ Full Range Admixtures..... Sika ViscoCrete®, SikaMix®, Sika Rapid®, Sikament®, Plastiment®, Plastocrete®, Sikaplast®
- ▲ Joint Sealants..... Sikaflex®, Combiflex®
- ▲ Waterproofing Systems..... SikaProof®, SikaSwell®
- ▲ Repair/Finishing Mortars..... SikaTop®, SikaRepair®
- ▲ Crack Repair Systems..... Sikadur®, SikaPronto®
- ▲ Corrosion Inhibitors..... Sika FerroGard®, Sika® CNI
- ▲ Structural Strengthening..... Sika CarboDur®, SikaWrap®
- ▲ Protective and Decorative Coatings..... Sikagard®
- ▲ Full Range Epoxies..... Sikadur®
- ▲ Non-shrink and Precision Grouts..... SikaGrout®

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Regional Information and Sales Centers. For the location of your nearest Sika representative, contact your regional center.

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- North East Region: Fairless Hills, PA, Phone: (215) 295 -6600
  - North Central Region: Marion, OH, Phone: (800) 851-2545
  - North Central Region: Ottawa, IL, Phone: (815) 431-1080
  - South East Region: Conyers, GA, Phone: (770) 760-1300
  - South Central Region: Mesquite, TX, Phone: (972) 289-6480
  - Western Region: Santa Fe Springs, CA, Phone: (562) 903-3650

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**LIMITED MATERIAL WARRANTY**

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# Sika® Rapid Technology

## Innovative Hardening and Strength Accelerating Admixture for Concrete





# Innovative Technologies for Precast and Cast-in-place Concrete with



# Sika® Rapid

Sika Rapid Technology is a unique, patented, non-chloride based hardening/strength accelerator that increases the early and later age strengths of the concrete. Unlike conventional set accelerators, Sika Rapid Technology does not reduce slump life and has a minimal affect on the initial set time of concrete. This allows the concrete to be produced, transported, placed and finished normally without any problems. Once the concrete reaches its initial set, Sika Rapid Technology reacts with the cement and dramatically increases the concrete strength.

Sika Rapid Technology contains no chlorides and does not initiate or promote the corrosion of reinforcing steel.

The two main applications where Sika Rapid Technology can provide substantial benefits are:

- ▲ Very high early strength concrete
- ▲ Reduced carbon footprint of concrete by reducing/replacing cement with SCM's.

## Precast/ Prestressed Concrete

Faster production, easy placement, consolidation and finishing, and high early strength are the key requirements for a precast/prestressed concrete producer. Sika Rapid Technology's unique ability to avoid rapid slump loss and gain high early strength provides the following benefits to the precast concrete producer.

- ▲ Faster placement, easy finishing
- ▲ Turn forms faster
- ▲ Maintain cost effective production cycles in cold weather
- ▲ Reduce or eliminate energy costs related to heat/steam curing
- ▲ Reduce safety hazards related to curing with applied heat
- ▲ Potential to replace Type III cement with Type I/II cement

## Case Study

**Project:** Storm Water Management  
**Precast Concrete - Washington DC**  
**Owner:** District of Columbia Water and Sewer Authority  
**Concrete Producer:** Rotondo Environmental Solutions

**Mix Design:**  
Total Cementitious content: 850 lbs/cyd  
W/Cm: 0.33

**Dosage Rates:**  
Sika Rapid: 20 fl.oz/100 lbs of Cm  
Sikaset NC: 40 fl.oz/100 lbs of Cm  
Sika Viscocrete 4100: 7 fl.oz/100 of Cm

**Average Results:**  
Slump flow: 25"  
Compressive Strength (required): 2000 psi in 4 hours  
Compressive Strength (achieved): 2115 psi in 4 hours  
8500 psi at 28 days



## Cast-in-place Concrete

### Fast track repairs

During the repair and rehabilitation of concrete pavements on busy highways, time is a critical factor. Many state agencies specify the use of high early strength concrete to ensure that the road can be opened to traffic quickly after the concrete placement. The use of Sika Rapid Technology enables concrete to achieve very high early strength without any issues from batching to finishing operations.

### Benefits:

- ▲ Very high early strength concrete
- ▲ Allows traffic to reopen within 4-8 hours of concrete placement
- ▲ Avoids diversions and closure of lanes
- ▲ Allows addition of Sika Rapid Technology at the batch plant

### Fast track construction

Sika Rapid Technology can also be used for fast track construction of concrete structures. The use of Sika Rapid Technology enables higher productivity and faster completion of the project.

### Benefits:

- ▲ Faster recycle of forms, reduce number of forms required
- ▲ Meet construction deadlines, make up for lost time
- ▲ Complete projects ahead of schedule and under budget
- ▲ Maintain fast track construction even in cold weather

## Case Study

**Project:** I-64 Concrete Pavement Patches, Virginia  
**Owner:** Virginia DOT  
**Concrete Producer:** Branscome

**Mix Design:**  
Total Cementitious content: 800 lbs/cyd  
W/Cm: 0.36

**Dosage Rates:**  
Sika Rapid: 25 fl.oz/100 lbs of Cm  
Sika Viscocrete 2100: 5.0 fl.oz/100 lbs of Cm  
Sika AEA-15: 0.4 fl.oz/100 lbs of Cm

**Average Results:**  
Slump: 6"  
Air Content: 6%  
Compressive Strength (required): 2000 psi in 4 hours  
Compressive Strength (achieved): 2216 psi in 4 hours  
8200 psi at 28 days

