

Product Data Sheet  
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SikaSet R.H.E.

## SikaSet® R.H.E.

### Accelerating Admixture

<b>Description</b>	SikaSet R.H.E. is a unique, non-chloride accelerating admixture for concrete. When added to concrete SikaSet R.H.E initiates acceleration of setting time and strength gain over a wide range of cold weather temperatures and dosages. SikaSet R.H.E meets the requirements of ASTM C-494, Type C and E. SikaSet R.H.E. can be used as an admixture for freeze resistant concrete applications.
<b>Applications</b>	SikaSet R.H.E. is designed for concrete where accelerated setting and strength gain characteristics are desired. SikaSet R.H.E. is especially effective in concretes containing pozzolanic materials such as fly ash, silica fume and slag.  In addition to the set accelerating characteristics of SikaSet R.H.E., the early age strength gains allow earlier finishing and form removal resulting in reduction of energy costs in cold-weather conditions.
<b>Advantages</b>	<ul style="list-style-type: none"><li>■ Controlled set acceleration.</li><li>■ Superior finishability.</li><li>■ Increased durability.</li><li>■ Earlier stripping and re-use of forms.</li><li>■ Increased early and ultimate compressive and flexural strengths.</li><li>■ Reduced protection time and/or protective measures in cold weather.</li></ul>

#### How to Use

##### Dosage

The recommended dosage range for SikaSet R.H.E. is 5.0 to 60.0 ounces per 100 lbs. (325 to 3910 ml/100kg) of cementitious material. In sub-freezing ambient temperatures, dosages of 60.0 to 90.0 ounces per 100 lbs. (3910 to 5870 ml/100kg) are frequently used. Consult your Sika representative or Sika Technical Services Department at 1-800-933-7452 for dosage recommendations. Various concrete materials, slump, ambient air temperature, additions of pozzolanic materials, mixing time, and type and brand of cement will affect dosage rates. It is always recommended to conduct trial mixes in order to determine the required dosage for optimum performance with actual concrete components.

**SIKASET R.H.E  
FREEZE-RESISTANT ADMIXTURE  
RECOMMENDED DOSAGE RATE CHART**

AMBIENT TEMPERATURE	CONCRETE TEMPERATURE AT THE BATCHING PLANT	
	60-69 °F	70-75 °F
20-25 °F	80 oz.	75 oz.
26-30 °F	75 oz.	70 oz.
31-35 °F	70 oz.	65 oz.
36-40 °F	65 oz.	60 oz.
41 °F	60 oz.	55 oz.

All dosages are in oz./cwt



Construction

AMBIENT TEMPERATURE	CONCRETE TEMPERATURE AT THE BATCHING PLANT	
	15-20 °C	21-24 °C
-7 - -3 °C	5220 ml	4890 ml
-4 - -1 °C	4890 ml	4560 ml
0 - 2 °C	4560 ml	4240 ml
3 - 5 °C	4240 ml	3910 ml
6 °C	3910 ml	3590 ml

**All dosages are in ml/Kg**

The dosage rates above are a suggested starting point for your mix design. Many factors can influence mix properties and test trials are always strongly recommended. When using the dosage chart, choose the proper dosage rate by using the predicted low temperature for the eight hours after placement.

When the wind chill will be below 15°F (-9°C) this procedure is not recommended, due to rapid heat loss from the concrete.

When the load size is less than 5<sup>3</sup> yd ( 4 m<sup>3</sup>), the concrete temperature should be above 70°F (21°C) with heated sand if available. Heat loss will occur more rapidly with small loads.

Concrete temperature exceeding 75°F (24°C) may cause rapid slump loss and should therefore be avoided.

For low slump concrete mixes (2 inch/50 millimeters or less) such as curb and gutter applications:

- concrete temperatures should be between 60-69°F (15-20°C) degrees to avoid slump loss.
- reduce the recommended dosage by 20 oz./cwt (1300 ml/Kg)

**Mixing**

Add the correct amount of SikaSet R.H.E at the concrete plant. The admixture may be added manually or by automated dispenser directly into the sand or into the water line at the batch plant. Do not mix with dry cement. Field evaluations should be carried out to determine the minimum ambient and concrete temperature required, and the optimum dosage for the desired setting time and strength performance. Appropriate, sound curing practices must be followed to protect fresh concrete from excessive heat loss in extreme weather conditions.

**Combination with other admixtures:**

SikaSet R.H.E is highly effective as a single admixture or in combination with other Sika admixtures. All admixtures should be dispensed separately into the concrete mix.

**Combination with Pozzolanic Materials:**

SikaSet R.H.E can be successfully used in mix designs utilizing pozzolanic materials such as fly ash and GGBFS.

**Packaging**

SikaSet R.H.E is available in 55 gallon drum (208 liter), 275 gallon totes (1040 liters) drums and bulk delivery.

**Storage and Shelf Life**

SikaSet R.H.E. should be kept above -20°F (-29°C). If accidentally frozen, its properties can be restored by thawing and thoroughly re-mixing by mild mechanical agitation.

Shelf life when stored in dry warehouse conditions between 50°F and 80°F (10°C - 27°C) is 1 year from the dater of manufacture.



## Typical Data

<b>Appearance</b>	Dark Brown Aqueous Solution
<b>Specific Gravity</b>	Approx. 1.40
<b>CAUTION</b>	<b>WARNING: IRRITANT, SENSITIZER.</b> Contains Calcium Nitrate Tetrahydrate (CAS: 13477-34-4), Salts of thiocyanic acid (CAS: 540-72-7) and Methenamine (CAS: 100-97-0). May cause eye/respiratory irritation. May cause skin sensitization after prolonged contact. May cause gastrointestinal disturbance.
<b>Handling and Storage</b>	Avoid direct contact. Wear personal protective equipment (chemical resistant goggles/gloves/clothing) to prevent direct contact with skin and eyes. Use only in well ventilated areas. Open doors and windows during use. Use a properly fitted NIOSH respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing and launder before reuse.
<b>First Aid</b>	<b>Eyes</b> – Hold eyelids apart and flush thoroughly with water for 15 minutes. <b>Skin</b> – Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. <b>Inhalation</b> – Remove to fresh air. <b>Ingestion</b> – Do not induce vomiting. Dilute with water. Contact physician. <b>In all cases contact a physician immediately if symptoms persist.</b>
<b>Clean Up</b>	Use personal protective equipment (chemical resistant gloves/ goggles/clothing). Without direct contact, sweep up spilled or excess product and place in suitable sealed container. Dispose of excess product and container in accordance with applicable local, state, and federal regulations.

**KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY**

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**Sika Corporation**  
201 Polito Avenue  
Lyndhurst, NJ 07071  
Phone: (201) 933-8800  
Fax: (201) 933-6225  
[www.sikausa.com](http://www.sikausa.com)

**Sika Canada Inc.**  
601, Delmar Avenue  
Pointe-Claire, QC H9R 4A9  
Phone: (514) 697-2610  
Fax: (514) 697-3087  
[www.sika.ca](http://www.sika.ca)

**1-800-933-SIKA**



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

**U.S. :** **North East Region:** Fairless Hills, PA, Phone: (215) 295 -6600 **North Central Region:** Marion, OH, Phone: (800) 851-1545  
**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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Quality Certification Numbers: Lyndhurst: FM 69711 (ISO 9000), FM 70421 (QS 9000), Marion: FM 69715, Kansas City: FM 69107, Santa Fe Springs: FM 69408

