BUILDING TRUST

PRODUCT DATA SHEET

SikaGrout®-295 US

Cement Based, Fluid, Expanding Grout with High Mechanical Resistance

PRODUCT DESCRIPTION

SikaGrout®-295 US is a one component, cement based, nonshrink, nonmetallic grout with high mechanical resistance. It is supplied ready to use, only requiring the addition of water.

USES

- For structural grouting applications that require high initial or high final mechanical resistance
- To support bearing plates, baseplates, machine plates, sole plates, precast panels, curtain walls, etc.
- To create grout pads, equipment pads and machine foundations
- To embed steel reinforcement; to set anchor rods in oversized anchor holes for concrete posts, precast construction columns, etc.
- To fill cavities, gaps and recesses in concrete elements (beams, columns, walls, ceilings, etc.)
- On grade, above grade and below grade applications
- Interior and exterior applications
- Applications where a nonshrink material is needed to achieve maximum effective bearing area for optimal transfer of load

CHARACTERISTICS / ADVANTAGES

SikaGrout®-295 US offers the following Characteristics/Advantages:

- Easy mixing and placement in forms
- Excellent flow, pourable; will self level as placed
- Free from intentially added chlorides and metallic particles
- Does not oxidate in the presence of humidity; protects embedded metal parts against corrosion with a basic pH
- Slight positive expansion
- Quick initial mechanical resistance development; high cured mechanical resistance
- Great adhesion capability to existing concrete, mortar and steel substrates; monolithic joining is possible
- Offers solid impact and vibration resistance
- Waterproofing; resistant to water intrusion and oils
- Non-toxic / Non-corrosive

APPROVALS / STANDARDS

- Compliant with U.S. Corps of Engineers CRD-C 621: exhibits positive expansion
- Compliant with ASTM C1107: 2 stage expansion grout; Grade C

PRODUCT INFORMATION

Chemical Base	Portland cement based formulation containing selected fillers, aggregates and special additives
Packaging	55 lb. (25 kg) bags
Appearance / Color	Gray powder
Shelf Life	12 months from date of production if stored properly in original, unopened and undamaged, sealed packaging.
Storage Conditions	Store in a cool, dry place at 40 - 95 °F (4 - 35 °C). Protect from moisture. If permitted to become damp or hardened, discard material.
Density	Approximately 143.5 lbs/ft³ (2.3 kg/L)
Volatile organic compound (VOC) content	Less than 5 grams/liter
Texture	Fluid consistency

TECHNICAL INFORMATION

Compressive Strength	1 Day	8,800 psi (60.7 MPa)	ASTM C109 73 °F (23 °C), 50% R.H.
	3 Days	11,000 psi (75.8 MPa)	
	7 Days	12,400 psi (85.5 MPa)	
	28 Days	13,100 psi (90.3 MPa)	
Flexural Strength	28 Days	1,450 psi (10 MPa)	ASTM C293 73 °F (23 °C), 50% R.H.
Expansion	Maximum 0.3%		
Splitting tensile strength	28 Days	1,450 psi (10 MPa)	ASTM C496 73 °F (23 °C), 50% R.H.

APPLICATION INFORMATION

Mixing Ratio	11.5 - 12% water by mortar weight: 6 pints, 5 fl.oz. to 6 pints, 10 fl. oz. (approximately 3 liters) of water per 55 lb. (25 kg) bag	
Coverage	0.8 ft³ (23 liters) of mortar / 55 lb. (25 kg) bag	
Layer Thickness	Minimum:	3/8 inch (10 mm)
	Maximum:	2 inches (50 mm)
	For application thickness greater than 2 inches (50 mm), multiple lift installations can be considered.	
Product Temperature	65 - 75 °F (18 - 24 °C)	
Ambient Air Temperature	Minimum:	40 °F (4° C) and rising
	Maximum:	95 °F (35 °C)
Substrate Temperature	Minimum:	40 °F (4 °C) and rising
	Maximum:	95 °F (35 °C)

Application Time	Place SikaGrout®-295 US immediately after mixing. Waiting time before placement should not exceed 10 minutes maximum.		
Flowability	30 Minutes	11.0 inches (27.9 cm)	ASTM C230 73 °F (23 °C), 50% R.H.
	1 Hour	10.5 inches (26.7 cm)	
	1.5 Hours	10.5 inches (26.7 cm)	

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.
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LIMITATIONS

- SikaGrout®-295 US is not intended for surface leveling due to its expanding effect. Not to be used as an overlay, patch repair or in unconfined applications.
- It is recommended to apply SikaGrout®-295 US immediately after mixing to take advantage of its expanding characteristics. Do not wait more than 10 minutes to place SikaGrout®-295 US after mixing.
- If used to fill cavities, gaps or recesses, the opening size to deliver into the space should be a minimum 3/8 inch (10 mm) or larger.
- The minimum ambient, substrate and mix temperature during application should be 40 °F (4 °C). Ideal ambient, substrate and material conditioning temperature is 73 °F (23 °C).
- Elevated temperatures will decrease working time. Rate of strength gain will be reduced at colder temperatures. On site testing is recommended.
- Avoid application in direct sun, during precipitation and/or when strong winds prevail.
- Apply to sound, well prepared substrates. Substrates should be profiled, clean, saturated surface dry (SSD) and free of frost and contaminants.
- Do not add additional water after application as this may cause cracking.
- Protect freshly applied material from freezing and frost.
- Keep exposed surfaces to a minimum.
- Do not use resin based or solvent based curing compounds on exposed SikaGrout®-295 US surfaces.
- SikaGrout®-295 US does not form a vapor barrier.
- Egg beater paddles are not recommended for use with SikaGrout®-295 US as they tend to entrap excessive air in the mix.
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potentail areas of contact by coating aluminum bars, rails, posts, etc. with an appropriate epoxy such as Sikadur®-32 Hi-Mod.

ENVIRONMENTAL, HEALTH AND SAFETY

Ecology:
- Do not dispose of into environmental water or soil. Dispose of properly in accordance with local rules and regulations.

Transport:
- Non-hazardous

Safety Precautions:
- SikaGrout®-295 US contains cements of high alkalinity which could affect people with sensitive skin.
- In case of contact with the skin wash thoroughly with soap and water.
- Protective clothing, gloves and eye protection should be worn while handling.

Toxicity:
- Non-Toxic when fully cured.

For additional information, please see the current Safety Data Sheet and/or consult with Sika's Environmental, Health & Safety (EHS) Department at phone number 201 933 8800.

SURFACE PREPARATION

Concrete
- Surfaces must be clean and sound. Remove all deteriorated concrete, dirt, dust, oil, grease, contaminants, laitance and other bond inhibiting materials from the area to be grouted within the form.
- Be sure the grout area is not less than 3/8 inch (10 mm) in depth.
- Preparation work should be done by needle scaling, abrasive blasting, scarifying, high pressure water jetting, scabbling or other appropriate mechanical means. Obtain an exposed aggregate condition with a minimum surface profile of + 1/16 inch (2 mm) [ICRI CSP-4] on clean, sound concrete.
- Prior to placement, mechanically prepared surfaces should be brought to a saturated surface dry (SSD) condition.

Steel

Reinforcing Steel:
- Should be thoroughly prepared by mechanical cleaning to remove all traces of rust and scale.
- For corrosion protection of reinforcing steel located above the waterline use Sika® Armatec corrosion protection products or Sikadur®-32 Hi-Mod epoxy (consult applicable current Product Data Sheets).

Corrosion Resistant Metals:
- As specified, should be mechanically prepared in accordance with industry standards (e.g. stainless steel, galvanized steel, etc.).

FORMING

- When utilizing SikaGrout®-295 US as a pourable grout, construct forms to retain grout without leakage.
- Forms should be constructed in such a manner to ensure that minimum surface areas are left exposed.
- Forms must be able to rigidly confine the grout during placement and its positive expansion process.
- Forms around baseplates should be constructed high enough to accommodate head of grout.
- Ensure that an adequate volume of mixed grout is available to allow for a continuous and uninterrupted placement.
- Avoid the entrapment of air pockets in the form by installing bleed tubes and/or provide openings or vents that will allow air to escape.
- Forms scheduled for removal after grout has sufficiently cured, should be lined with a suitable bond breaker (e.g. plastic) or form release agent.
- When necessary, construction of a grout headbox is recommended to assist the flow of SikaGrout®-295 US and maintain a continuous placement.

MIXING

- After assembly and preparation of forms, make sure all mixing, placing and clean up materials are on hand.
- It is recommended to mix mechanically. Do not manually hand stir!
- Initially wet down all contact parts of mixing equipment.
- Pour the appropriate volume of clean water, approximately 73 °F (23 °C) into a suitable mixing container or appropriate mortar mixer. DO NOT OVER WATER!
- Ambient, substrate and material temperatures should be as close as possible to 73 °F (23 °C). If temperatures are higher, use colder water; if temperatures are lower, use warmer water.
- While mixing, slowly add the entire bag's content of powder to the water. Mix only full bags for best results.
- Mix thoroughly with a low speed (400 - 600 rpm) drill using a an appropriate mortar paddle, or in an appropriate mortar mixer to avoid entraining too much air. Approximately midway through procedure, scrape side walls of container to ensure a proper mix. Continue to mix until homogenous, uniformly blended with no lumps.
- Mix until uniform in consistency for a maximum 3 minutes (typical).

APPLICATION

- Place SikaGrout®-295 US immediately after mixing to take advantage of its expanding effect. Within 10 minutes after mixing, place SikaGrout®-295 US into forms in a manner to avoid air entrapment and achieve flow or compaction.
- SikaGrout®-295 US must be confined by forms and baseplates in horizontal and/or vertical direction, leaving a minimally exposed surface.
- For bearing plates, it is necessary to have an entrance hole and an air evacuation hole.
- After the material has sufficiently hardened, trim or shape exposed SikaGrout®-295 US shoulders to desired profile.
- Refer to ACI 305, the "Guide to Hot Weather Concreting" or ACI 306, the "Guide to Cold Weather Concreting" when there is a need to place this product while either hot or cold temperatures prevail. Thinner placements will be more sensitive to the temperature conditions.

CURING TREATMENT

- Keep visible exposed SikaGrout®-295 US surfaces to a minimum.
- Per ACI recommendations for Portland cement based materials, moist curing is required.
- Wet cure exposed surfaces for a minimum of 3 days at normal temperature conditions (longer for colder temperature conditions) by covering with wet burlap, polyethylene or a a fine mist of water.
- Alternately, apply a suitable, compatible curing compound (e.g. Sikagard-1315 KNS or Sikagard-180 KNS WB) that meets ASTM C309.
- Leave forms in place for a minimum 3 days, depending upon actual temperature conditions.

CLEANING OF TOOLS

- Tools should be cleaned with water, immediately after its use while SikaGrout®-295 US is still in an uncured condition.
- Removal of cured SikaGrout®-295 US can only be done by mechanical means.

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

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

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates (“SIKA”), the user must always read and follow the warnings and instructions on the product’s most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA’s Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product

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Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: +1-800-933-7452
Fax: +1-201-933-6225
usa.sika.com