BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-444 Rapid

Super Fast Cure, One Component Polyurethane Sealant with Booster

PRODUCT DESCRIPTION

Sikaflex®-444 Rapid is a one component, polyurethane-based sealant that when mixed with Sikaflex-444 Rapid Booster cures to become a complete bead of rubber that can be opened to vehicular traffic in approximately 4 hours. Sikaflex®-444 Rapid will cure without Sikaflex-444 Rapid Booster, but the cure speed will be significantly reduced. Sikaflex®-444 Rapid is principally a moisture cured sealant with a semi-self-leveling consistency that can be applied to slopes as great as 20%. Sikaflex®-444 Rapid meets ASTM C920 Type S, Grade NS, Class 35, Use T, NT, M, G, A & O, and Federal Specification TT-S-00230C Type II, Class A.

USES

- Ideal for cracks and expansion joints in parking decks, sidewalks and other concrete traffic surfaces.
- Also intended for use in properly designed, working, nontraffic joints with a minimum depth of 1/4 inch (6 mm).
- For horizontal applications only with slopes equal to or less than 20%.
- Placeable at temperatures as low as 40 °F (4 °C).
- Adheres to most substrates commonly found in construction.

CHARACTERISTICS / ADVANTAGES

- Cures in approximately 4 hours and capable of receiving vehicular traffic when mixed with Sikaflex®-444 Rapid Booster.
- Semi-self-leveling consistency; capable of handling up to a maximum 20% slope.
- Will fully cure more slowly if Sikaflex®-444 Rapid Booster is not added.
- Capable of +/- 50% movement in certain well-designed joints based on actual field conditions.
- High elasticity with a tough, durable, flexible consistency.
- Exceptional cut and tear resistance.
- Exceptional adhesion to most substrates without priming.
- Easy to mix.
- Jet fuel resistant.

PRODUCT INFORMATION

Packaging	Sikaflex®-444 Rapid Sealant - 4 gallon (15.1 liter) pail contains 3 gallons (11.4 liters) Sikaflex®-444 Rapid Booster - 1 gallon (3.8 liter) pail contains 1 gallon (3.8 liters)
Shelf Life	12 months from date of production when stored properly at room temperature conditions in original, unopened and undamaged,

	sealed containers. Shelf life of components will be impacted if stored in higher heat and humidity conditions.
Storage Conditions	Store in cool, dry, well ventilated conditions out of direct sunlight. Ideal storage temperature conditions are 60 - 75 °F (15 - 24 °C). Condition materials to 65 - 75 °F (18 - 24 °C) before using.
Color	Limestone
Consistency	Properly mixed Sikaflex®-444 Rapid has a semi-self-leveling consistency and can tolerate slopes up to a maximum 20% at 73 °F (23 °C).

TECHNICAL INFORMATION

Shore A Hardness	30 +/-5	(ASTM D2240) 7 days at 73 °F (23 °C), 50% R.H.
Tensile Strength	130 psi (0.9 MPa)	(ASTM D412) 7 days at 73 °F (23 °C), 50% R.H.
Elongation at break	550%	(ASTM D412) 7 days at 73 °F (23 °C), 50% R.H.
Tear Strength	40 lbf/in (0.71 kgf/mm)	(ASTM D624) 7 days at 73 °F (23 °C), 50% R.H.
Service Temperature	- 40 °F to 170 °F (- 40 °C to 77 °C)	
Chemical Resistance	Good resistance to water, diluted acids, diluted alkalines and residential sewage. Consult Sika Technical Services for specific data.	
Resistance to Weathering	Excellent	

APPLICATION INFORMATION

Mixing Ratio	For each 3 gallon (11.4 liter) pail of Sikaflex®-444 Rapid, add 1 CUP (i.e. one full, standard measuring cup) of Sikaflex®-444 Rapid Booster.
Ambient Air Temperature	40 °F to 100 °F (4 °C to 38 °C) Sealant should be installed when joint width is at midrange of its anticipated movement.
Substrate Temperature	40 °F to 100 °F (4 °C to 38 °C) Sealant should be installed when joint width is at midrange of its anticipated movement.
Backing Material	In accordance with industry standard joint design and practice, install appropriate bond breaker tape or backer rod to prevent bond at bottom or base of joint prior to sealant installation, to prevent three sided adhesion. Closed cell backer rod is preferred for most applications. Diameter of backer rod should be slightly larger than actual width of joint to provide a friction fit and adequate sealant support. Industry standard practice does not consider sand to be an appropriate backing material.
Pot Life	Once mixed with the booster, Sikaflex®-444 Rapid has a 30 minute usable life while still in the pail. Installer should work to use the entire pail prior to this 30 minute timeframe.
Cure Time	Sikaflex®-444 Rapid when mixed with Sikaflex®-444 Rapid Booster fully cures in approximately 4 hours.

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.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must

read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

All joint substrate surfaces must be clean, sound, free of contaminants, dust-free, dry and frost-free. Interior joint surfaces must be free of oils, grease, paints, coatings, sealers, curing compound residues, rust and any other foreign matter or bond inhibiting materials that might prevent good adhesion. Ideally substrate preparation should be accomplished by mechanical means (e.g. sandblasting, abrasive grinding, etc.). A roughened surface will enhance bond. Mask off and protect any adjacent surfaces (e.g. edges of joint) that should not receive contact with Sikaflex®-444 Rapid.

Priming:
Priming is typically not necessary. Most substrates only require priming if testing indicates a need. Sikaflex®-444 Rapid should not be subjected to immersion after cure. Testing should be done on any unknown or questionable substrates to determine if priming is needed. Consult Sika Technical Services or the Sikaflex Sealant / Adhesive Primer Product Data Sheet for additional information on priming. Appropriate backing materials are installed after the Sikaflex Primer is dry to the touch. On site adhesion testing is recommended with final system/assembly prior to the start of a job.

MIXING

Sikaflex®-444 Rapid uses the Sikaflex®-444 Rapid Booster to achieve a rapid curing process. Sikaflex®-444 Rapid base sealant is mixed with Sikaflex®-444 Rapid Booster by adding at the proper mixing ratio stated in the above Mixing Ratio section of this product data sheet.
Fill exactly one standard measuring cup (1 CUP) with Sikaflex®-444 Rapid Booster and **scrape off excess from the top of the measuring cup** so that only 1 CUP is added - no more! Add the necessary amount of Sikaflex®-444 Rapid Booster into the sealant and mix with a low speed rotary drill (400 - 600 rpm) and Sikaflex mixing paddle. Mix for 3 minutes to achieve the proper homogeneous mixture. Scrape down sides and bottom of pail periodically during the mixing procedure. Avoid entrapment of air during mixing by keeping the mixing paddle blade below the top level of the sealant's surface. When mixing in cold weather [i.e. less than 50 °F (10 °C)], do not force the mixing paddle to the bottom of the pail right away. Work it down slowly while rotating as the material warms up from the friction of the spinning mixing paddle.

APPLICATION METHOD / TOOLS

Recommended ambient and substrate application temperatures: 40 °F to 100 °F (4 °C to 38 °C). It is necessary to precondition sealant components to 65 °F to 75 °F (18 °C to 24 °C) when working at extreme ambient and substrate temperatures. Move preconditioned components to work areas just prior to application. Apply mixed sealant only to clean, sound, contaminant-free, dry and frost-free substrates. Sikaflex®-444 Rapid should be applied into joints when joint slot is at midrange of its designed expansion and contraction width. To place, load directly into bulk dispensing tool and/or use a follower plate loading system. Place nozzle of bulk dispensing tool into joint void that has received the appropriate backing material and fill entirely. Keeping the nozzle deep in the sealant, continue with a steady flow of sealant preceding the nozzle to avoid air entrapment. Also avoid overlapping of sealant since this may also entrap air. Dry tool finish sealant to ensure full contact with joint walls and further removal of air entrapment. Carefully pull masking tape soon after dry tool finishing while sealant is still uncured and tacky. Joint dimensions should allow for a typical 1/4 inch (6 mm) minimum to a 1/2 inch (13 mm) maximum depth thickness for sealant. Ideal and proper design is 2:1 width to depth sealant bead ratio. Sealant depth should be a minimum 1/2 inch (13 mm) when placed in areas exposed to vehicular or pedestrian traffic conditions.

Removal: Uncured material can be removed from unintended finished surfaces and equipment with approved solvents such as Acetone, MEK or Xylene. Strictly follow solvent manufacturer's warnings and instructions for use. Cured material can only be removed mechanically. For spillage ... collect, absorb and dispose of in accordance with current, applicable local, state, and federal regulations. Consult the current Safety Data Sheet for Sikaflex®-444 Rapid for further information.

OTHER RESTRICTIONS

See Legal Disclaimer.

- The ultimate performance of Sikaflex®-444 Rapid depends on good joint design and proper application.
- Minimum age of concrete must be 21 - 28 days, depending on curing and drying conditions.
- Minimum recommended depth of sealant in a working joint is 1/4 inch (6 mm). Maximum recommended depth is 1/2 inch (13 mm). Minimum recommended depth joints subjected to pedestrian or vehicular traffic is 1/2 inch (13 mm).
- Minimum recommended width of a working joint is 1/4 inch (6 mm). Maximum recommended width of a working joint is 1-1/2 inches (38 mm).
- Maximum expansion and contraction should not exceed 50% of average joint width.
- Avoid exposure to high levels of chlorine. (Maximum level is 5 ppm).
- Do not cure in the presence of curing silicones.
- Avoid contact with incompatible alcohol based and solvent based cleaners, primers or coatings during and after cure.
- Not for use in immersion conditions.

- Do not apply when moisture vapor transmission (i.e. moisture drive) exists from the substrate since this can cause bubbling within the sealant.
- Do not exceed one full standard measuring cup of Sikaflex®-444 Rapid Booster when adding to Sikaflex®-444 Rapid base sealant. Avoid overmixing sealant and booster.
- Install pails of Sikaflex®-444 Rapid with booster within 30 minutes after mixing.
- Sikaflex®-444 Rapid is not to be mixed with Sikaflex-2c NS EZ Mix Boosters. Only mix the Sikaflex®-444 Rapid base sealant with Sikaflex®-444 Rapid Booster.
- Do not tool with solvents, alcohol, detergent, soapy solution or any other finishing aid. Dry tool finish only.
- Color made fade slightly when exposed to ultraviolet rays and weather.
- Color may be affected if exposed to direct gas fired heating elements.
- When overcoating, a mockup and on site testing is essential to determine actual compatibility. Water based coating formulations tend to perform the best when applied over fully cured Sikaflex polyurethane sealants.
- Rigidly curing primers, paints and/or coatings will tend to crack when placed over elastomeric sealants experiencing expansion or contraction.
- Not suitable for treating joints subject to hydrostatic pressure (i.e. actively leaking or with the presence of standing water) at time of installation.
- Not suitable for joints where adhesion to painted surfaces is needed.
- Do not use in contact with bituminous/asphaltic materials

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 Data Sheet if used as directed within the product’s shelf life. User determines suitability of product for intended use and assumes all risks. User’s and/or buyer’s sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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