

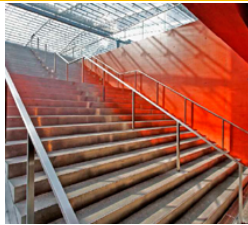
JOINT SEALANTS

PRESENTED BY: JOE ROCHA, NATIONAL MANAGER
STRATEGIC PROJECTS AND ACCOUNTS
FEBRUARY 4, 2020



SIKA has a focus on 11 Prime Business Units

PAREX - MERKRETE
EIFS/STUCCO/TILE SETTING MATERIALS



Concrete –
Admixtures &
Decorative Concrete



Waterproofing –
Greenstreak



PVC Roofing –
Sarnafil



Flooring –
Resinous Coatings



Liquid Applied Roofing –
RoofPro & RoofCoat



RSB –
Concrete Repair /
Protection, Sealants,
Deck / Traffic Coatings,
and MUCH MUCH
More



Polyiso Insulation –
Rmax



Interior Finishing –
Floor Bonding &
Moisture Mitigation

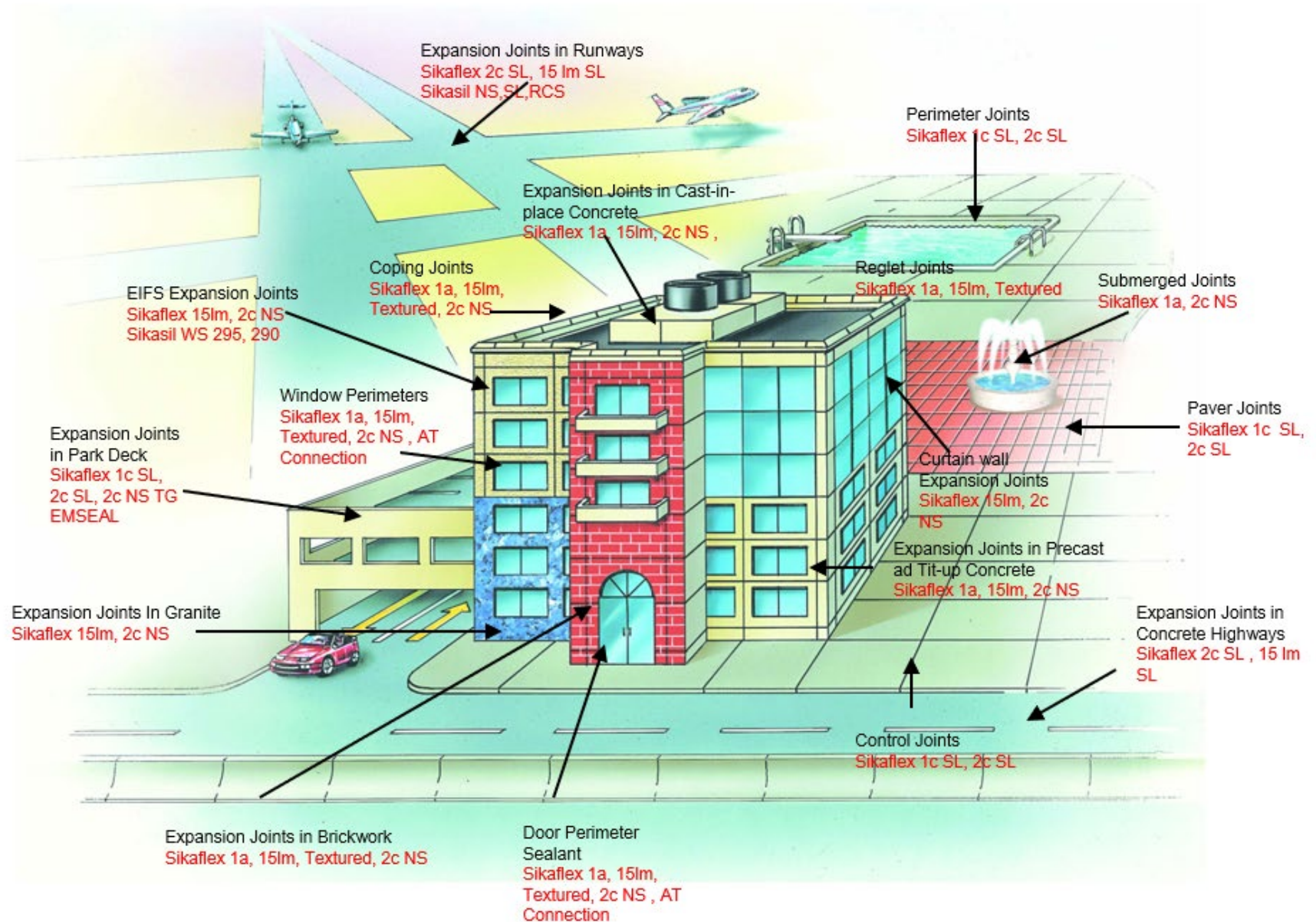


Vertical Glass –
Structural Glass &
Glazing



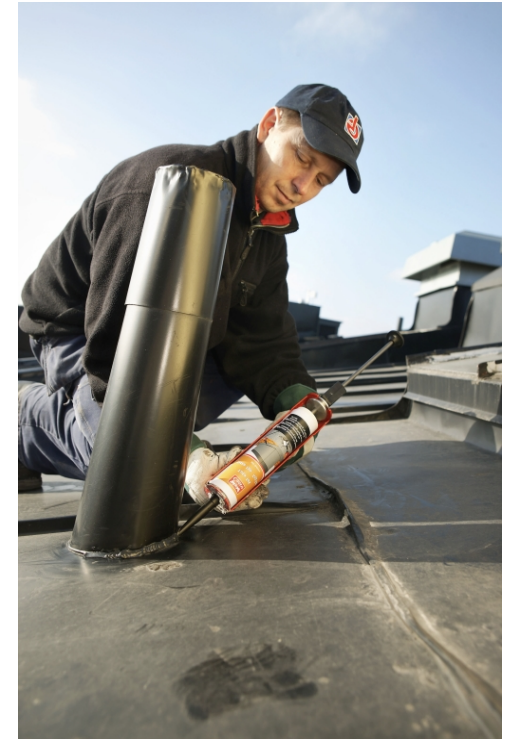
Expansion Joints –
Emseal

TYPICAL CONSTRUCTION APPLICATIONS



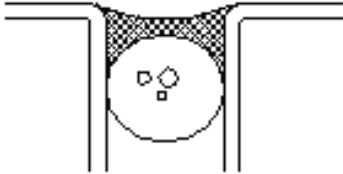
WHAT IS THE ROLE OF A SEALANT?

- **Stop Water and Air Intrusion**
- **Join dissimilar materials: Consider Coefficient of Thermal Expansion**
 - Aluminium = 12.9×10^{-6} in/in/deg F
 - Concrete = 6.5×10^{-6} in/in/deg F
 - Brick = 3.1×10^{-6} in/in/deg F
 - Acrylics = 40×10^{-6} in/in/deg F
- **Sealant joints accommodate differential thermal movement and other structural movements protecting facades & saving energy**
- **Contributes to the project Control layers. Air, Vapor, Thermal, & Moisture.**
- **Accommodate surface substrate temperature conditions.**

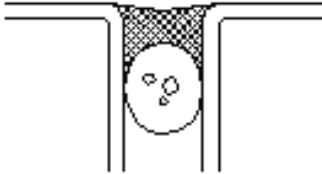


MOVEMENT CONSIDERATIONS

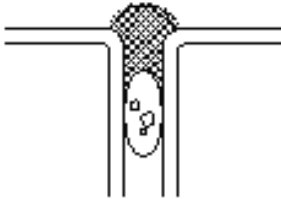
WORKING JOINT



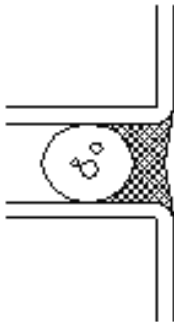
EXTENSION



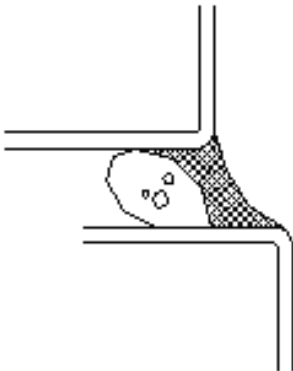
ORIGINAL



COMPRESSION



ORIGINAL



SHEAR

IMPORTANT SEALANT PROPERTIES

Flexibility

- Modulus
- Movement Capability

Adhesion

- Primer requirements
- Compatibility

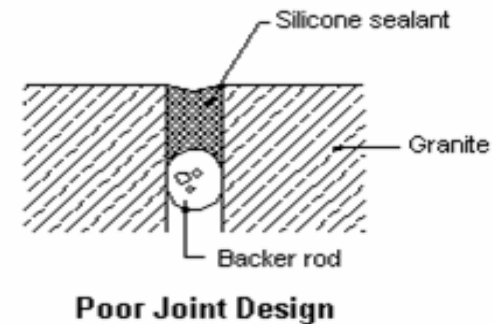
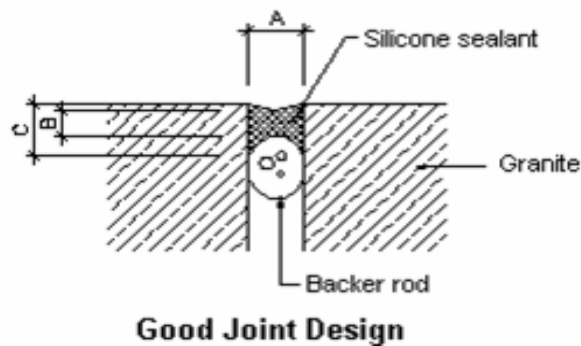
Durability

- Change of Properties
- Life Expectancy

Worth the study: while less than 1/10th of 1% of the total building construction cost, sealant failure is 2nd most common building owner complaint

WEATHERSEAL PROPER JOINT DESIGN

- 2 x's expected movement for low to medium modulus sealants, 4x's + for medium to high modulus sealants
- ¼"x¼" smallest working joint size
- 3/8" to 1", 2 to 1 width to depth ratio up to 1", then never deeper than 3/8" to ½ max."
- NEVER design to movement capability of the sealant- allow for safety factor, construction tolerance, time of year, etc.

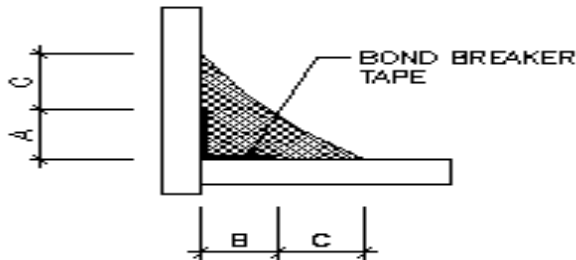


TYPICAL JOINT CONFIGURATIONS

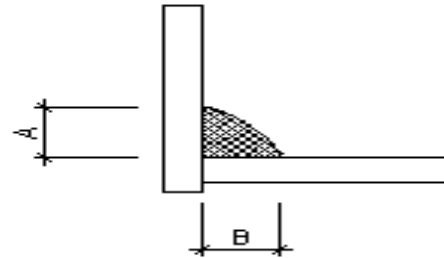
Moving Corner Joints

MOVING CORNER JOINT

GOOD JOINT DESIGN



POOR JOINT DESIGN



Good Joint Design

Key Points:

1. Dimension A and B must be at least 6mm (1/4").
2. A bond breaker tape or backer rod must be present if joint movement is anticipated.
3. Joint must be tooled flat or slightly concave.
4. Dimension C must be at least 6 mm (1/4").

Poor Joint Design

Concerns:

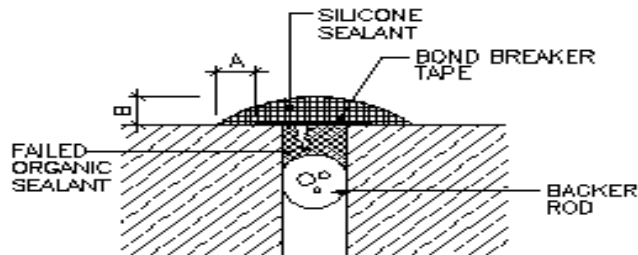
1. Dimension A or B less than 6 mm (1/4").
2. Joint not properly tooled.
3. No bond breaker material; therefore the joint will not accept movement.

TYPICAL JOINT CONFIGURATIONS

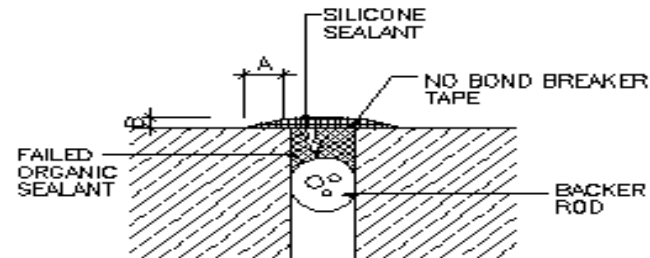
Remedial Joints

REMEDIAL JOINTS

GOOD JOINT DESIGN



POOR JOINT DESIGN



Good Joint Design

Key Points:

1. Dimension A must be at least 6mm (1/4").
2. Dimension B must be at least 3 mm (1/8")
3. Bond breaker tape must be used to isolate fresh sealant from failed organic weatherseal and to allow joint movement.

Poor Joint Design

Concerns:

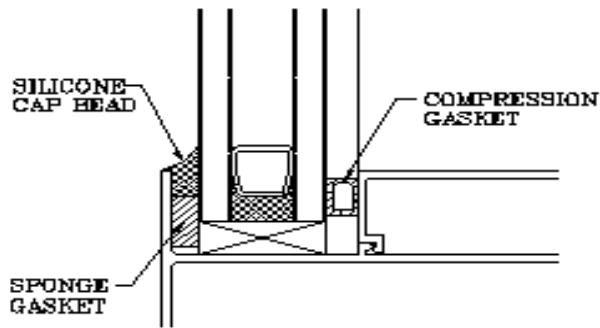
1. Dimension A less than 6 mm (1/4") increases difficulty in obtaining adhesion and increases the likelihood for voids.
2. Dimension B less than 3 mm (1/8") increases the likelihood of pinholes or voids in tooling; poor cohesive integrity.
3. No bond breaker material; therefore the joint will not accept movement.

TYPICAL JOINT CONFIGURATION

Cap Bead Glazing Joints

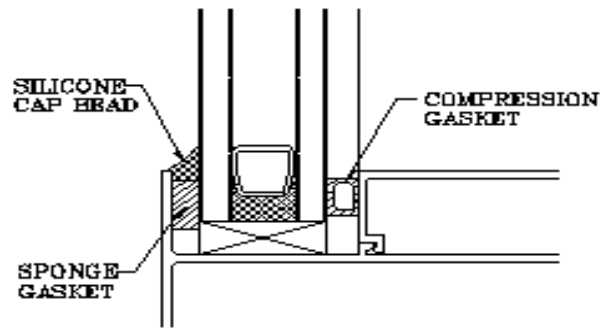
CAP BEAD GLAZING JOINT

GOOD JOINT DESIGN



Good Joint Design

POOR JOINT DESIGN



Poor Joint Design

Key Points:

1. Adhesion contact on glass and metal is at least 6 mm.
2. Silicone is compatible with gasket.
3. Dark-colored sealant masks possible discoloration from the gasket.

Concerns:

1. Inadequate contact between sealant and external metal.
2. Gray sealant prone to discoloration.

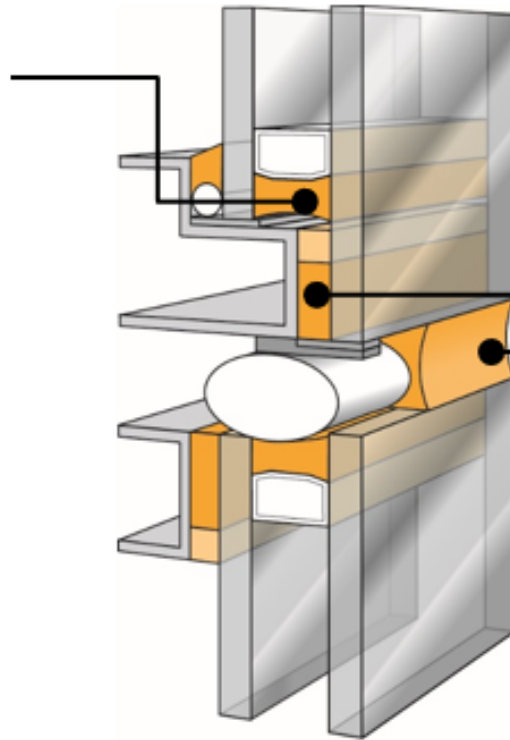
STRUCTURAL SEALANT GLAZING

IG Sealants

Sikasil® IG-25
Sikasil® IG-25 HM Plus

Pretreatment

Sika® Cleaner P
Sika® Cleaner G&M
Sika® Aktivator-205
Sika® Aktivator-100
Sika® Primer-210
Sika® Primer-790



Structural Glazing

Sikasil® SG-20,
Sikasil® SG-18
Sikasil® SG-500
Sikasil® SG-500 CN
Sikasil® SG-550

Weathersealing

Sikasil® WS-305 CN
Sikasil® WS-295

Backer Rod type

- **Open Cell Polyurethane**
- **Closed Cell Polyethylene**
- **Hybrid - Open cell with closed cell skin.**

- **Make sure backer rod is 25% larger than joint width (under compression) to offer good tooling base**
- **Do not puncture closed cell backer rod when installing prior to sealant installation. Outgassing**
 - Will cause bubbling in sealant

POLYMER TYPES: SEALANTS & ADHESIVES

Organics

Acrylics

Butyls

Polysulfide's

Polyurethanes

Hybrids

Inorganics

Silicones

Silicone Extrusions

Sika Urethane Sealants

Sikaflex 1A

General Purpose, Elastomeric

Sikaflex 15LM

High Performance, Low Modulus

Sikaflex 1CSL

High Performance, Self Leveling

SikaHyflex 150LM

High Performance, Hybrid

Sikaflex 11FC

All-in-One, Sealing and Bonding

Sikaflex 2C NS

2 Component, Non-Sag

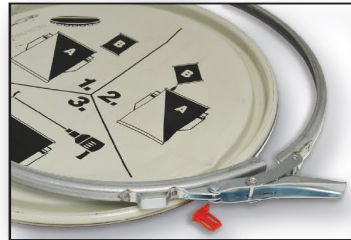
Sikaflex 2C SL

2 Component, Self Leveling

Sikacryl 20 FC



Sikaflex® 2c New Lever Lock Lid!



OPENING PAILS JUST GOT EASIER

- Remove lid in under 3 seconds
- Simple to reclose un-used pails
- Time and labor saving

...it's that easy.

FOR MORE INFORMATION:

Contact Sika: Phone 800.933.SIKA(7452) Website: www.usa.sika.com

Sika Corporation
201 Polito Avenue,
Lyndhurst, NJ 07071

BUILDING TRUST



BUILDING TRUST



Sika Silicone Sealants



Sikasil WS-295 & FPS
Medium modulus silicone

Sikasil WS-290 & FPS
Low modulus silicone

Sika Silbridge 300
Low modulus Silicone Tape
System

Sikasil N Plus & GP
General Purpose Silicones

Sikasil-728 DOT
SL, NS, & RCS



Title of Presentation / Meeting Name

NEW SIKA SEALANT TECHNOLOGY

Sikaflex Artic: Low temperature Urethane.

Sikaflex 1a +: Green Concrete.

Sika Hyflex 150LM: Fast Cure low mod.

Sika Hyflex 407 Ever Flash: Flashing and
Weather Barrier for Plastics.

Sika Load Flex 524 EZ: 2 component Polyurea
joint filler.



THANK YOU FOR YOUR ATTENTION

FOR MORE INFORMATION ON SIKA BUILDING ENVELOPE SOLUTIONS
VISIT SIKA BOOTH: SOUTH HALL, BOOTH # S10715