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Standard Terminology of Building Seals and Sealants¹

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1. Scope

1.1 This standard describes terms and definitions and descriptions of terms used in test methods, specifications, guides, and practices (related to building seals and sealants) consistent with the scope and areas of interest of ASTM Committee C24.

1.2 Definitions and descriptions of terms are written to ensure that building seals and sealants standards are properly understood and interpreted.

2. Referenced Documents

2.1 ASTM Standards:²

- A644 Terminology Relating to Iron Castings
- C509 Specification for Elastomeric Cellular Preformed Gasket and Sealing Material
- C542 Specification for Lock-Strip Gaskets
- C716 Specification for Installing Lock-Strip Gaskets and Infill Glazing Materials
- C797 Practices for Use of Oil- and Resin-Based Putty and Glazing Compounds (Withdrawn 2002)³
- C961 Test Method for Lap Shear Strength of Sealants
- C964 Guide for Lock-Strip Gasket Glazing
- C1021 Practice for Laboratories Engaged in Testing of Building Sealants
- C1193 Guide for Use of Joint Sealants
- D883 Terminology Relating to Plastics
- D1079 Terminology Relating to Roofing and Waterproofing
- D1565 Specification for Flexible Cellular Materials--Vinyl Chloride Polymers and Copolymers (Open-Cell Foam) (Withdrawn 1998)³
- D1566 Terminology Relating to Rubber

¹ This terminology is under the jurisdiction of ASTM Committee C24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.01 on Terminology of Building Seals and Sealants.

The boldface designations refer to the original source of the definition and the ASTM Technical Committee having jurisdiction.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

D2102 Test Method for Shrinkage of Textile Fibers (Bundle Test)

E631 Terminology of Building Constructions

3. Significance and Use

3.1 Definitions:

3.1.1 Terms and their related standard definitions in Section 4 are intended for use uniformly and consistently in all building seals and sealants test methods, specifications, guides, and practices. The purpose of such use is to promote a clear understanding and interpretation of the standards in which they are used.

3.1.2 Definitions of terms are written in the broadest sense possible, consistent with the intended meaning. Definitions have not been limited to a specific technical field when they can have a multi-field application.

3.1.3 The definition of a term that can have different meanings in different technical fields is preceded by a phrase limiting it to the specific field intended, that is, "in building construction."

3.2 Description of Terms:

3.2.1 Descriptions of Terms are special purpose definitions intended to provide a precise understanding and interpretation of the seals and sealants standards in which they are used.

3.2.2 A specific description of a term is applicable to the standard or standards in which the term is described and used.

3.2.3 Each standard in which a term is used, in a specially defined manner, should list the term and its description under the subheading, descriptions of terms.

4. Terminology

4.1 Terms and Definitions:

adhesive failure, *n*—*in building construction*, failure of the bond between a sealant and a substrate.

DISCUSSION—This definition pertains to interfacial adhesive failure, a lack of bond at the interface between the materials. Interphasal adhesive failure, within the sealant or substrate near the interface, is less common and may appear to be interfacial without the use of magnification.

adhesion failure, *n*—use **adhesive failure** (preferred term).

aerosol container, empty, *n*—*in building construction*, an aerosol container is considered empty when the product flow reaches 0.5 g per second or less.

back bedding, n—See **bedding**.

back putty, n—See **bedding**.

back-up material—See **sealant backing**.

bead, n—in building construction, in sealants and glazing, a strip of applied sealant, glazing compound, or putty.

bed, v—in building construction in glazing, to apply a bead of sealant between a lite of glass or a panel and the stationary stops or sight bars of the sash or frame.

bed, n—See **bedding**.

bedding, n—in building construction in glazing, a bead of sealant applied between a lite of glass or a panel and the stationary stop or sight bar of the sash or frame. It is usually the first bead to be applied when setting glass or panels.

bite, n—in building construction in glazing, the effective structural contact dimension of a structural sealant. (See Fig. 1 and Fig. 2.)

bloom, n—in building construction, a substance formed by blooming.

blooming, v—in building construction, movement or diffusion of a component such as a plasticizer, monomer, unreacted polymer or other formulation ingredient to a seal or sealant surface.

bond breaker—in building construction, a material to prevent adhesion at a designated interface. (Fig. 3.)

caulk, v—in building construction, to install or apply a sealant across or into a joint, crack, or crevice.

caulk, n—See **sealant**.

caulking, n—See **sealant**.

caulking compound, n—See **sealant**.

cell, n—a single small cavity surrounded partially or completely by walls. **D1566; D11**

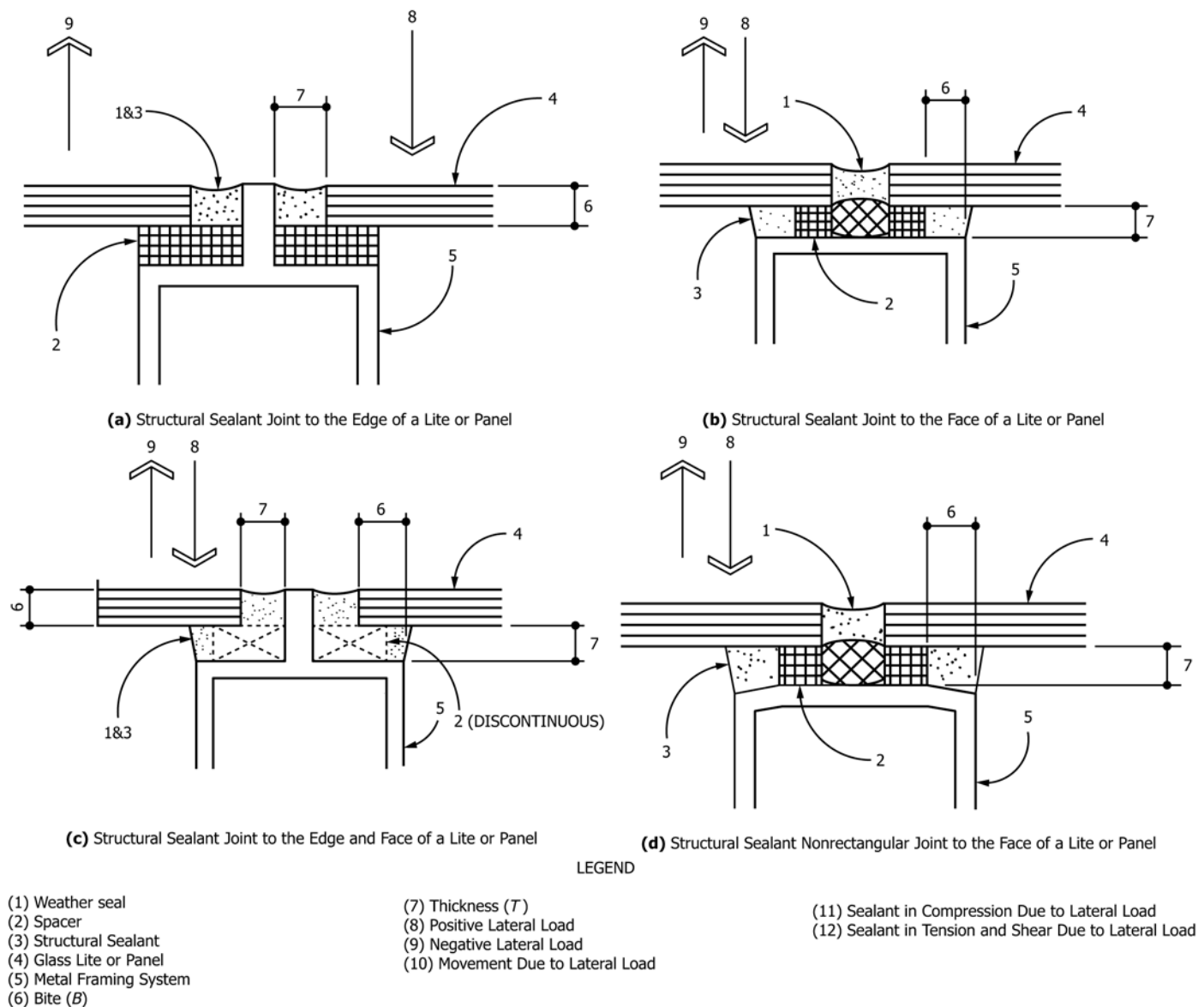


FIG. 1 Typical Structural Sealant Joint Configurations

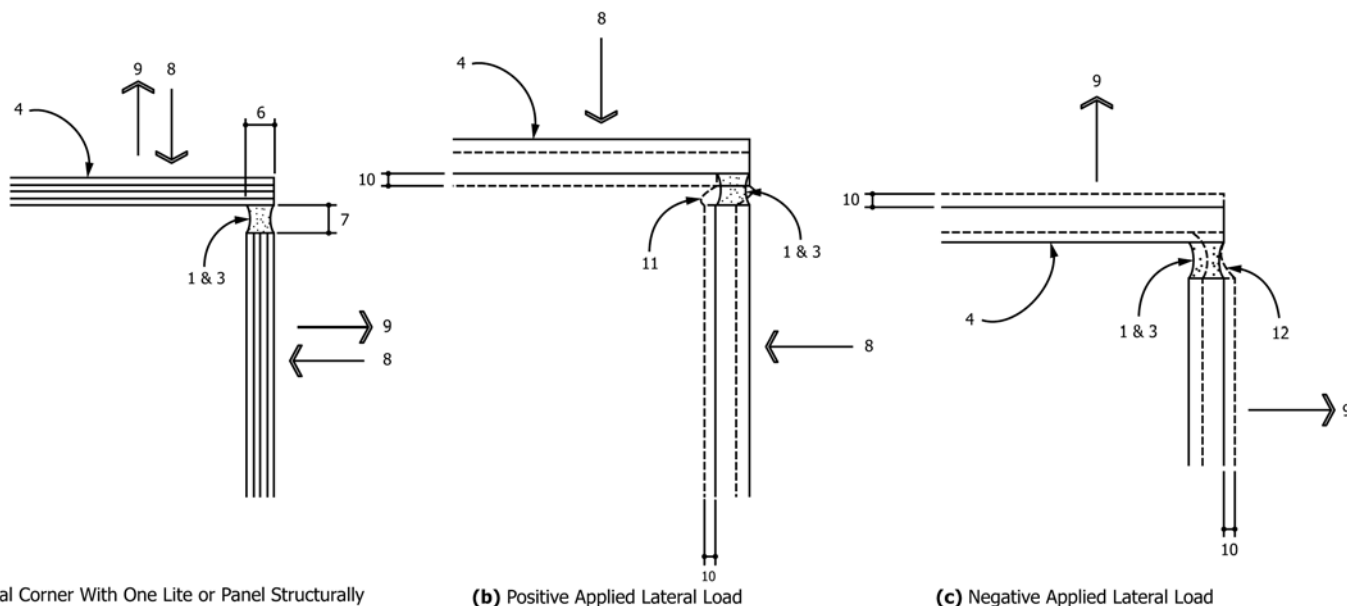


FIG. 2 Applied Load Transfer at a Vertical Corner Structural Sealant Joint (see Fig. 1 for Legend)

cellular material, *n*—a generic term for materials containing many cells (either open, closed, or both) dispersed through the mass. **D1565, D1566; D11**

chalk, *n*—*in building construction*, a powder formed by chalking

DISCUSSION—The powder is not necessarily white.

chalking, *v*—*in building construction*, formation of a powder on the surface of a sealant that is caused by the disintegration of the polymer or binding medium due to weathering.

DISCUSSION—Chalk on a light color sealant is often white, however a darker color can also exhibit chalking.

closed cell, *n*—a cell totally enclosed by its walls and hence not interconnecting with other cells. **D883; D20**

closed cell material, *n*—a cellular material in which substantially all cells in the mass are closed cells.

cohesive failure, *n*—*in building construction*, failure characterized by rupture within the sealant, adhesive, or coating.

compatibility, *n*—*in building construction*, the capability of two or more materials to be placed in contact, or near enough to interact, with no detrimental results.

compatible materials, *n*—See **compatibility**.

compound, *n*—an intimate mixture of all the ingredients necessary for a finished material or product.

crazed, *adj*—*in building construction*, having a random network of cracks in a sealant surface which do not penetrate through the body of the material.

crazed, *adj*—*in building construction*, exhibiting crazing.

crazing, *n*—*in building construction*, a network of fine cracks in the surface of a sealant.

DISCUSSION—Crazing may or may not affect product performance.

crazing, *v*—*in building construction*, the formation of a network of random surface cracks in a sealant.

creep, *n*—the time dependent part of a strain resulting from stress. **D1079; D08**

cure, *v*—*in building construction*, to attain the intended performance properties of a compound by means of evaporation, chemical reaction, heat, radiation, or combinations thereof.

cure, *n*—*in building construction*, the process by which a compound attains its intended performance properties by means of evaporation, chemical reaction, heat, radiation, or combinations thereof.

cure time, functional, *n*—*in building construction*, the period between application and the point in time that a sealant attains properties necessary to perform a specific function or in a given application.

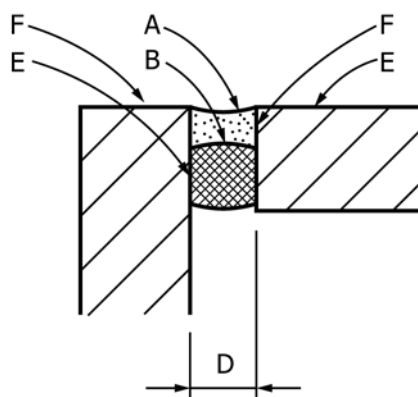
DISCUSSION—Functional cure time does not imply complete development of chemical, physical, or mechanical properties.

cure time, laboratory, *n*—*in building construction*, the period between application and the point in time when laboratory testing of a sealant begins as set forth in the procedure of a test method.

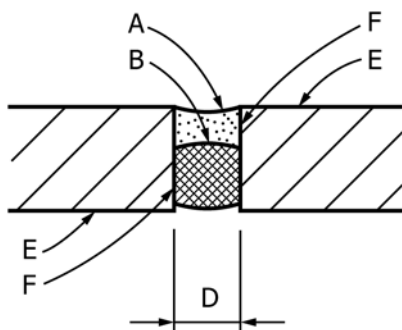
cured, *adj*—*in building construction*, pertaining to the state of a compound that has attained its intended performance properties by means of evaporation, chemical reaction, heat, radiation, or combinations thereof.

design life, *n*—*in building construction*, the period of time after installation during which a seal or sealant is expected to perform its stated intended function(s) with proper maintenance.

DISCUSSION—Proper maintenance includes, among others, replacement of discrete localized failures.



a. face to edge



b. edge to edge

A—Sealant
B—Sealant backing
C—Bond breaker
D—Joint
E—Substrate face
F—Substrate edge

FIG. 3 Butt Sealant Joint

dirt pick-up, *n*—*in building construction*, soiling caused by a foreign material other than micro-organism growth that is deposited on, adhered to, or embedded into a sealant.

DISCUSSION—Micro-organism growth can produce a similar appearance.

durability—*in building construction*, the ability of a seal or sealant to perform its required functions over a period of time within the environment to which it is exposed.

DISCUSSION—A seal or sealant's required functions may include aesthetic, economic, and functional performance considerations, among others.

durability limit, *n*—see the preferred term, **service life**.

elastomer, *n*—*for gaskets and couplings for plumbing and sewer piping*, a macromolecular material that returns rapidly to approximately its original dimensions and shape after substantial deformation by a weak force and release of the force.

DISCUSSION—a) Elastomers are divided into two major polymer systems—thermoset and thermoplastic. b) In standards for rubber, the word elastomer is not to be used interchangeably for the term “rubber”.

D1566; D11

elastomer, *n*—*in building construction in glazing*, a macromolecular material, which deformed within its service temperature range, is capable of recovering substantially in size and shape after removal of a deforming force.

elastomer, thermoplastic, *n*—a material having the general properties of an elastomer and capable of being repeatedly softened by heat and hardened to shape by cooling without significant degradation of the polymer system.

DISCUSSION—Thermoplastic elastomers have some of the properties of thermoset elastomers, but are typically more thermally and pressure sensitive and more sensitive to solvents.

elastomer, thermoset, *n*—an elastomeric material that attains its intended properties by an irreversible cross-linking reaction caused by heat alone, heat with a cross-linking agent, chemical interaction, or by radiation; whereby after cross-linking, any reprocessing with heat and pressure will severely degrade the material.

DISCUSSION—Cross-linking renders the material substantially insoluble in organic solvents (can swell), less plastic, and with improved elastic and mechanical properties (compared to its uncured state) over an extended temperature range.

elastomeric, *adj*—having the characteristics of an elastomer.

elongation, *n*—extension produced by a tensile stress. **D1566; D11**

extrudability, *n*—*in building construction*, the ability of a sealant under pressure to flow through an orifice.

flow, *v*—*in building construction*, the deformation of a tape sealant under stress.

fluid migration, *n*—*in building construction*, accumulation of a fluid from a sealant on or in an adjacent material.

DISCUSSION—Migration of a non-fluid component can also occur.

gasket, *n*—any preformed, deformable device designed to be placed between two adjoining parts to provide a seal.

gasket, compression, *n*—a gasket designed to be used under compression.

gasket, lock-strip, *n*—*in building construction*, a gasket in which sealing pressure is attained by inserting a keyed locking strip into a mating keyed groove in one face of the gasket.

glazing, *v*—*in building construction*, the installation of glass or other materials in prepared openings.

glazing, butt, *n*—*in building construction*, a glazing system wherein butt joints are formed between lites and filled with a glazing sealant.

glazing, compression, *n*—see **glazing system, compression**.

glazing, compression, *v*—*in building construction*, the act of installing components into a compression glazing system.

glazing, construction site, *n*—*in building construction*, the installation of glass or panels into a metal framing system, at a construction site, under generally uncontrolled environmental conditions.

glazing, face, *n*—the method of glazing in which a rabbeted glazing recess, with no removable stop, is used and a triangular bead of compound is applied to the face of the lite and extended onto the recess.

glazing, factory, *n*—See **glazing, shop**.

glazing, field, *n*—See **glazing, construction site**.

glazing, four-side structural sealant, *n*—*in building construction*, a glazing system wherein all sides of a rectangular-shaped lite or panel are structural sealant glazed.

glazing, needle—*in building construction*, the application of a small bead of a sealant at the sight line adhering to the sash and glass or panel by means of a nozzle with an orifice not exceeding 3.18 mm [$\frac{1}{8}$ in.] in diameter.

glazing, non-compression, *n*—see **glazing system, non-compression**.

glazing, non-compression, *v*—*in building construction*, the act of installing components into a non-compression glazing system.

glazing, protective, *n*—*in building construction*, systems with glazed openings that are designed to mitigate the effects of bomb blasts, projectiles, natural disasters, or forced entry.

DISCUSSION—Protective glazing systems assist in the mitigation of the potential for hazardous debris dispersal from natural disasters, withstand projectile impact and resist unauthorized human entry through glazed openings. Protective glazing systems include the selection of an appropriate glazing material, the design of metal framing members and their anchorages, and the retention of the glazing material within the framing all to resist a specified threat.

glazing, shop, *n*—*in building construction*, the installation of glass or panels into a metal framing system under controlled environmental conditions.

DISCUSSION—Shop glazing typically occurs at a location remote to a construction site. However, shop glazing can be performed at the construction site if acceptable to the code authority and provided appropriate management controls and environmental conditions are maintained.

glazing, stopless—See **glazing, structural sealant**, the preferred term.

DISCUSSION—Inappropriately used to describe structural sealant glazing.

glazing, structural sealant, *n*—*in building construction*, a glazing system wherein a structural sealant is used to transfer loads between a lite or panel and a supporting framework, without mechanical fasteners or other methods of attachment.

glazing, two-side structural sealant, *n*—*in building construction*, a glazing system wherein two sides of a rectangular-shaped lite or panel, usually opposing, are structural sealant glazed.

glazing compound, *n*—*in building construction in glazing*, a putty material composed primarily of oil- or resin-based ingredients used for sealing window glass in frames.

DISCUSSION—Historically these compounds cure primarily through solvent evaporation, oxidation or both. Compounds other than oil- or resin-based can be used for glazing, though they may not have a putty-like consistency.

glazing system, compression, *n*—*in building construction*, gasket(s) or a combination of sealant(s) and gasket(s) used to provide weather-tightness by way of continuous pressure on the components in the joint.

glazing system, non-compression, *n*—*in building construction*, a sealant or combination of sealant(s) used to provide weather-tightness by way of the adhesive/cohesive characteristics of the components in the joint.

gun-grade, *n*—*in building construction*, a material of a suitable viscosity to extrude through the nozzle of a hand- or power-operated device.

hardness, *n*—*in building construction*, the resistance to indentation as measured under specified conditions. **A644; A04**

hydrostatic pressure, *n*—a state of stress in which all the principal stresses are equal (and there is no shear stress), as in a liquid at rest; the product of the unit weight of the liquid and the difference in elevation between the given point and the free liquid elevation.

joint, *n*—*in building construction*, the space or opening between two or more adjoining surfaces.

joint, butt, *n*—See **sealant joint, butt** (See Fig. 3).

joint, construction, *n*—*in building construction*, a formed or assembled joint at a predetermined location where two successive placements (“lifts”) of concrete meet.

DISCUSSION—Frequently a keyway or reinforcement is placed across the joint. With proper design, this joint may also function as a control or an isolation joint.

joint, control, *n*—*in building construction*, a formed, sawed, tooled, or assembled joint acting to regulate the location and degree of cracking and separation resulting from the dimensional change of different elements of a structure.

DISCUSSION—The joint is usually installed in concrete and concrete masonry construction to induce controlled cracking at preselected locations or where a concentration of stresses is expected.

joint, expansion, *n*—*in building construction*, a formed or assembled joint at a predetermined location, which prevent the transfer of forces across the joint as a result of movement or dimensional change of different elements of a structure or building.

joint, fillet bead, *n*—Use **sealant joint, fillet** (preferred term) (See Fig. 4).

joint, isolation, *n*—*in building construction*, a formed or assembled joint specifically intended to separate and prevent the bonding of one element of a structure to another and having little or no transference of movement or vibration across the joint.

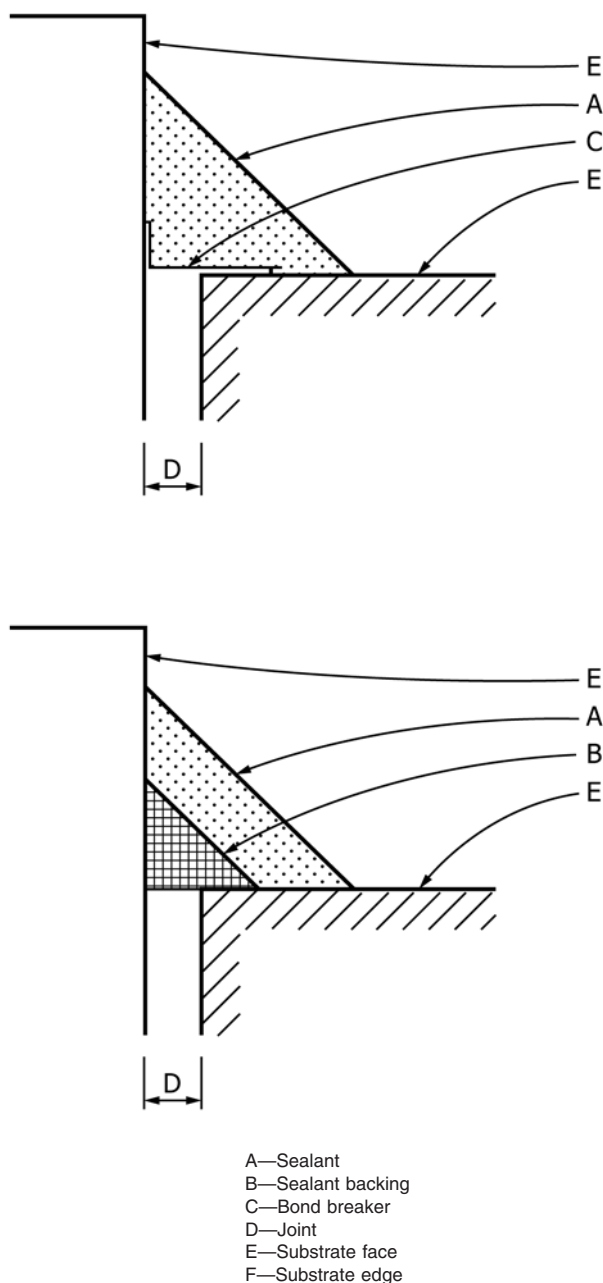


FIG. 4 Fillet Sealant Joints

joint backing—See **sealant backing**.

joint filler, *n*—a compressible material used in a partial or totally filled expansion, control, or isolation joint by its permanent placement in or between building materials such as concrete or masonry during construction; sometimes used as a sealant backing in a partially filled joint.

joint seal, expansion, *n*—in building construction, a seal or sealant system that provides an elastic, compressible, or flexible barrier to the passage of gases, liquids, or solids.

knife-grade, *n*—in building construction, a compound of such consistency that it is generally applied with a knife or spatula hand tool.

laitance, *n*—in building construction, a weak layer of cement and aggregate fines on a concrete surface that is usually caused by an overwet mixture, overworking the mixture, improper or excessive finishing, or combinations thereof.

light, *n*—Use **lite** (preferred term).

lite, *n*—one piece of glazing (also spelled light), synonym: **E631**

modulus, *n*—as related to sealants used in building construction, the stress (force/unit area) at a corresponding strain (elongation) expressed as a percent of the original dimension.

DISCUSSION—When the stress to strain values are expressed as a ratio, this describes the slope of a line tangent to the given point on the stress-strain curve. This is the tangent modulus.

modulus, secant—slope of the line connecting the origin and a given point of the stress-strain curve.

modulus, tangent, *n*—the slope of the line touching (tangent to) the stress-strain curve at a given point on the curve.

muntin, *n*—a secondary intermediate member subdividing a glazed area.

necking, *n*—in building construction, the localized reduction in cross section that may occur in a material under stress. **D883; D20**

open cell, *n*—a cell not totally enclosed by its walls and hence interconnecting with other cells. **D1566; D11**

open cell material, *n*—a cellular material in which substantially all cells in the mass are open cells.

outgassing, *n*—the emission of occluded gasses from a material by vacuum, heat, or pressure.

DISCUSSION—As applied to sealant backing materials contained within a filled joint, outgassing may occur when it is compressed or punctured causing gas bubbles to form in the overlying sealant.

pane, *n*—See **lite**.

pot life—See **working life**.

post dispensing contraction, *n*—in building construction, the volumetric decrease of a sealant that occurs between dispensing and cure.

post dispensing expansion, *n*—in building construction, the volumetric increase of a sealant that occurs between dispensing and cure.

premature failure, *n*—in building construction, **service life** shorter than **design life**.

primer—in building construction, a compatible coating designed to enhance adhesion.

putty, *n*—in building construction, a knife-grade compound generally used as a glazing compound or to fill cracks or holes.

rabbet, *n*—a two-sided, L-shaped, recess in a sash or frame designed to receive glazing.

DISCUSSION—Provides a fixed stop in the sash or frame.

reversion, *n*—*in building construction in joint sealing*, a loss of elastomeric properties and a decrease in durometer hardness of a seal or cured sealant following environmental exposure.

DISCUSSION—Softening and the ability to permanently reshape a seal or sealant usually characterizes reversion. Depending on a specific seal or sealant formulation, high heat, ultraviolet radiation, or moisture (as a liquid or vapor) may cause reversion acting either alone or in combination. The seal and sealant industry is not in agreement on reversion causes.

rubber, dense, *n*—*in building construction*, a solid rubber material substantially free of cells or porosity.

rubber, expanded, *n*—*in building construction*, an elastomeric closed-cell material made by incorporating a gas-producing ingredient into a rubber compound that decomposes during vulcanization, producing gas bubbles that expand the compound; the bubbles are predominately non-interconnecting.

rubber, latex foam, *n*—*in building construction*, an elastomeric open-cell material made by whipping or stirring air or some other gas into rubber latex compound as it is gelled and before it is subsequently cured.

DISCUSSION—The word *latex* must be in front of foam rubber so this material will not be confused with a number of chemically blown, fine cell, elastomeric products, which sometimes are incorrectly called *foam rubber*.

rubber, sponge, *n*—*in building construction*, an elastomeric open-cell material made by incorporating a gas-producing ingredient into a rubber compound, which expands the rubber compound during vulcanization into a material containing cells that are predominately interconnecting.

rubber, unicellular, *n*—See **rubber, expanded**.

rundown, *n*—*in building construction*, discoloration of a building's surfaces by movement of a contaminant due to natural forces.

DISCUSSION—Natural forces include wind, snow-melt, rain movement by surface tension, gravity, capillary action, kinetic energy, and air currents. Typical movement of contaminants include fluid migration and blooming from a sealant, deposit of atmospheric pollutants, and chemical staining.

sag, *n*—*in building construction*, the gravity-induced downward flow of a sealant or glazing compound, resulting in an uneven thickness, when applied on a vertical surface.

seal, *n*—*in building construction*, a barrier against the passage of liquids, solids, or gases.

seal, building—See **seal**.

seal, compression, *n*—a seal which is attained by a compressive force on the sealing material.

sealant—*in building construction*, a material that has the adhesive and cohesive properties to form a seal.

sealant, aerosol foam, *n*—*in building construction*, a sealant that expands in volume as it is dispensed from a container, using propellant under pressure, to form a rigid or semi-rigid cellular mass.

sealant, aerosol foam, straw-type, *n*—*in building construction*, an aerosol foam sealant that is extruded through a narrow tube.

DISCUSSION—A straw-type dispenser is attached to the valve of the container and is controlled by a lever actuator-connector.

sealant, chemically curing, *n*—*in building construction*, a compound that cures primarily through chemical reaction.

sealant, emulsion —See **sealant, latex**.

sealant, hot-applied, *n*—*in building construction*, a compound that is applied in a molten state and cures primarily by cooling to ambient temperatures.

DISCUSSION—A hot-applied sealant is sometimes called a hot-melt sealant.

sealant, latex, *n*—*in building construction*, a compound that cures primarily through water evaporation.

DISCUSSION—The terms latex sealant and emulsion sealant are sometimes used interchangeably.

sealant, non-sag, *n*—*in building construction*, a compound that exhibits little or no flow when applied in vertical or inverted joints.

sealant, precured, *n*—*in building construction*, a preformed, factory cured elastomeric material that when adhered to a joint forms a seal.

sealant, preshimmed, *n*—*in building construction*, a sealant having encapsulated therein solids or discrete particles that limit its deformation within a joint under compression.

DISCUSSION—The sealant may be in tape or bulk form. Encapsulated solids or particles may include such materials as continuous rods of resilient plastic or rubber, glass beads, or string, which act as shims or space fillers.

sealant, preshimmed tape, *n*—*in building construction*, a preshimmed sealant in tape sealant form.

DISCUSSION—The shim is usually a continuous plastic or rubber rod or discrete particles placed within the body of the tape sealant to regulate the compressibility of the tape sealant. See also **sealant, tape** and **sealant, preshimmed**.

sealant, self-leveling, *n*—*in building construction*, a compound that exhibits flow sufficient to seek gravitational leveling.

sealant, silicone, *n*—*in building construction*, a liquid-applied curing compound based on polymer(s) of polysiloxane structures.

sealant, solvent-release, *n*—*in building construction*, a compound that cures primarily through solvent evaporation.

sealant, structural, *n*—*in building construction*, a sealant capable of transferring dynamic or static (“live” or “dead,” or both) loads, or both, across joint members exposed to service environments typical for the structure involved.

sealant, tape, *n*—*in building construction*, a sealant having a preformed shape, and intended to be used in a joint initially under compression.

sealant backing—*in building construction*, a material placed in a joint before applying a sealant to prevent undesired

adhesion to a substrate, to control the depth or shape of the sealant bead, or to resist tooling pressure, or some combination thereof.

DISCUSSION—The purpose of the sealant backing is to assist in providing the proper sealant configuration, to limit the depth of the sealant, and in some cases, to act as a bond breaker.

sealant backing, bicellular, *n*—a flexible and very compressible extruded shape (usually cylindrical), with a surface skin, that is composed of both open and closed cell material.

sealant backing, closed cell, *n*—in building construction, a flexible and somewhat compressible extruded shape (usually cylindrical), with a surface skin, that is composed of closed cell material.

sealant backing, open cell, *n*—in building construction, a flexible and very compressible fabricated shape (usually cylindrical), without a surface skin, that is composed of open cell material.

sealant joint, band aid, *n*—Use **sealant joint, bridge**(preferred term).

sealant joint, bridge, *n*—in building construction, a joint where sealant is applied over the joint to the face of substrates that are in approximately the same plane (see Fig. 5).

DISCUSSION—Not to be confused with joints in bridges.

sealant joint, butt, *n*—in building construction, a joint where sealant is applied within the joint between approximately parallel substrate surfaces that are face-to-edge or edge-to-edge. (See Fig. 3.)

sealant joint, fillet, *n*—in building construction, a joint where sealant is applied over the joint to the face of substrates that are approximately perpendicular to each other (see Fig. 4).

sealant joint, lap, *n*—in building construction, a joint where sealant is applied within the joint between approximately parallel substrates that are face-to-face (see Fig. 6).

sealing material, *n*—See **seal**.

sealing tape—See **sealant, tape**.

secant modulus—See **modulus, secant**.

separator, *n*—in building construction, in sealant testing, a rigid device used to maintain a fixed dimension and parallel bond surfaces on a sealant specimen during testing after casting.

service life, *n*—in building construction, the period of time after installation during which a seal or sealant performs its intended function(s) with proper maintenance.

DISCUSSION—Proper maintenance includes, among others, replacement of discrete localized failures; however, service life would end when failures are widespread or are intolerable thereby requiring extensive replacement.

setting block, *n*—in building construction in glazing, a piece of resilient material placed to support, to distribute the load, to prevent edge contact, and to align a pane of glass or a panel within its supporting frame.

shelf-life—in building construction, the maximum time packaged materials can be stored under specified conditions and still meet the performance requirements specified.

shim—see **spacer, shim**

shrinkage—a decrease in length, area, or volume. **D2102; D13**

sight line—in building construction in glazing, the line of intersection of an opaque material with a transparent material.

FIGURE LEGEND

A	SEALANT
B	SEALANT BACKING
C	BOND BREAKER
D	JOINT
E	SUBSTRATE FACE
F	SUBSTRATE EDGE

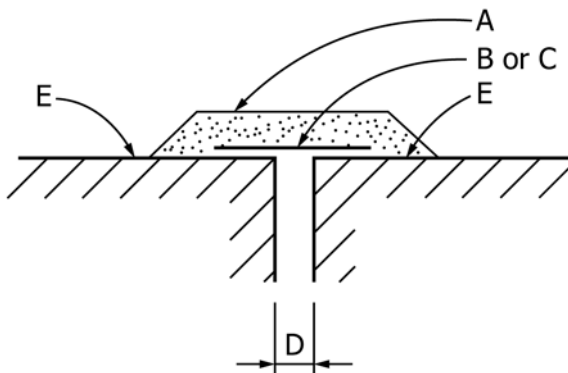


FIG. 5 Bridge Sealant Joint

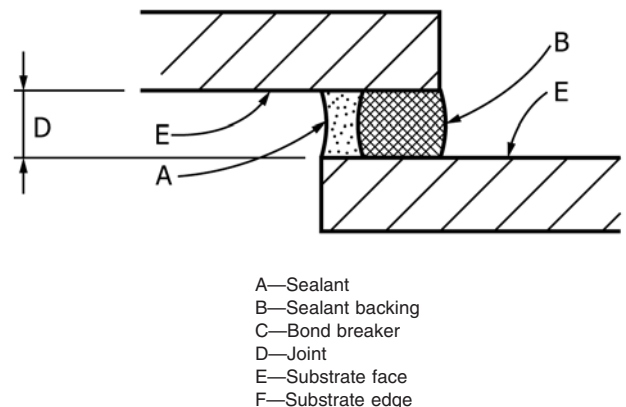


FIG. 6 Lap Sealant Joints

skin, *n*—in building construction, a thin layer at the surface of a sealant, cellular rubber gasket, sealant backing, or joint filler that differs in physical properties from the material beneath it.

DISCUSSION—The skin generally decreases the degree of permeability to water or air, or both, through or into a cellular rubber gasket, sealant backing, or joint filler. On sealants, the skin generally offers reduced surface tack, resistance to dirt accumulation, a degree of resistance to mechanical surface deformation damage, and typically indicates the end of tooling time.

spacer, *n*—in building construction, in glazing, a piece of resilient material placed to maintain space between a pane of glass or a panel and its supporting frame.

spacer, casting, *n*—in building construction, in sealant testing, a part made from polytetrafluoroethylene (PTFE) or another suitable material to which the sealant will not bond and will maintain the appropriate joint dimensions and configuration during specimen curing.

spacer, edge, *n*—in building construction in glazing, a spacer placed to prevent edge contact and to position laterally a pane of glass or a panel within the supporting frame.

spacer, shim, *n*—in building construction in glazing, a spacer designed and placed to position the face surfaces of a pane of glass or a panel between the stops and to prevent glass or panel contact with the stops.

stain, chemical, *n*—in building construction, discoloration of a building's surfaces as a result of a molecular change of a material.

DISCUSSION—Molecular change includes oxidation of metals, chalking of organic finishes, and certain forms of efflorescence, (for example, "lime run" and "manganese staining"). Contributing factors for molecular change include solar radiation, moisture, and atmospheric components (for example, carbon dioxide and ozone). Chemical stains can alter the appearance of a material.

stain, inadvertant, *n*—in building construction, discoloration of a building's materials caused by improper application of a product.

DISCUSSION—Improper application includes: (1) Application of a primer on the exposed surface of a material. (2) Excessive application of a sealant causing contamination on an exposed surface of a material, when care or masking is not used. The excess, when removed from a non-porous surface such as polished stone or glass, appears invisible to casual observation; however, the residue can create a discolored "waterproofing" effect when wetted.

stain, natural, *n*—in building construction, discoloration of a building's surfaces caused by contamination due to environmental factors.

DISCUSSION—Environmental factors include: rain and snow melt rundown, accumulation of atmospheric pollutants such as particulate matter and hydrocarbons, acid deposition, and other naturally occurring effects.

stain, penetrated, *n*—in building construction, discoloration of a building's surfaces as a result of sorption by a porous material(s).

DISCUSSION—Blooming and fluid migration are known causative factors for a penetrated stain due to movement and sorption (adsorption and absorption) of components from a sealant. Rundown of natural and chemical stains can also result in a penetrated stain. Porous materials

include natural stone (for example, limestone, marble, granite), face brick, and cement-based products. Penetrated stains can alter the appearance of a material.

stain, rundown, *n*—See rundown.

stain, surface, *n*—in building construction, discoloration of a building's surfaces as a result of accumulation of a contaminant on the material(s).

DISCUSSION—Blooming and fluid migration are known causative factors for a surface stain wherein components from a sealant run down a surface. Rundown of natural and chemical stains can also cause surface staining. It is typically applicable to non-porous materials such as glass, metals, and ceramics. Surface stains can alter the appearance of a material.

standard conditions, *n*—in building construction, laboratory conditions consisting of equipment set points for relative humidity of 50 % and air temperature of 23 °C at ambient atmospheric pressure, with tolerances (allowed operational fluctuations) of ± 10 % relative humidity and ± 2 °C air temperature.

DISCUSSION—The laboratory environment should be free from direct sun rays and the effects of vapors, gases, and other contaminants. This standard does not address tighter operational fluctuations of temperature and relative humidity that may be required in some laboratories.

stop, *n*—in building construction, in sealants and glazing, a strip of metal, plastic, or wood used around the periphery of a lite of glass or a panel to secure it in place (also referred to improperly as a bead).

substrate, *n*—in building construction, (1) a material upon which films, treatments, adhesives, and sealants, are applied; (2) materials that are bonded or sealed together by adhesives or sealants.

tack, *n*—in building construction, the sticky condition of the surface of an applied sealant.

tangent modulus—See modulus, tangent

thickness, *n*—in building construction in glazing, the minimum structural sealant dimension between structurally bonded substrates (see Fig. 1 and Fig. 2).

DISCUSSION—When adhesion surfaces are not parallel the minimum dimension between those surfaces shall be used (see Fig. 1d).

tooling—*in building construction*, the act of compacting and contouring a sealant in a joint.

tooling time, *n*—of a sealant, the time interval after application of a one-component sealant or after mixing and application of multi-component sealant during which tooling is possible.

vulcanization, *n*—an irreversible chemical reaction during which a rubber compound's chemical structure is changed to make it less plastic, more resistant to solvents, and have improved physical and mechanical properties.

DISCUSSION—Generally, sulfur or other cross-linking agents, or both, are used. High energy radiation curing is a new and important innovation.

waterproofing, *n*—in building construction, treatment of a surface or structure to prevent the passage of liquid water under hydrostatic, dynamic, or static pressure.

weatherability, *n*—*in building construction*, the function of a seal or sealant relative to the effects of weather due to, among other factors, solar radiation; temperature and its variations; and moisture in the form of rain, dew, and humidity.

DISCUSSION—The environmental exposure of sealants used in joint applications causes periodic movement, which contributes to the effects of weathering.

weathering, *n*—*in building construction*, any change of an installed sealant due to the action of atmospheric elements.

DISCUSSION—Atmospheric elements include, among others, solar radiation, temperature, temperature changes, moisture (solid, liquid, or vapor), wind, ozone, carbon dioxide, pollution, and freeze-thaw cycling.

weathering, *v*—*in building construction*, the exposure of an installed sealant due to atmospheric elements.

DISCUSSION—Atmospheric elements include, among others, solar radiation, temperature, temperature changes, moisture (solid, liquid, or vapor), wind, ozone, carbon dioxide, pollution, and freeze-thaw cycling.

weathertight, *adj*—*in building construction*, impermeable to the passage of air or water or both under certain conditions as determined by test.

weathertightness, *n*—*in building construction*, the degree of permeability to the passage of water or air or both under certain conditions as determined by test.

working life, *n*—*of a sealant*, the time interval after opening a container of a single component sealant, or after mixing the

components of a multi-component sealant, during which application and tooling is possible.

DISCUSSION—Working life and pot life are equivalent terms applicable to multi-component sealants.

yield, aerosol foam sealant, *n*—*in building construction*, the cured volume of a compound after it is dispensed from a container.

4.2 Descriptions of Terms:

applicator—any device used to mechanically apply molten sealants that is capable of delivering the required volume at the specified application temperature. **C961**

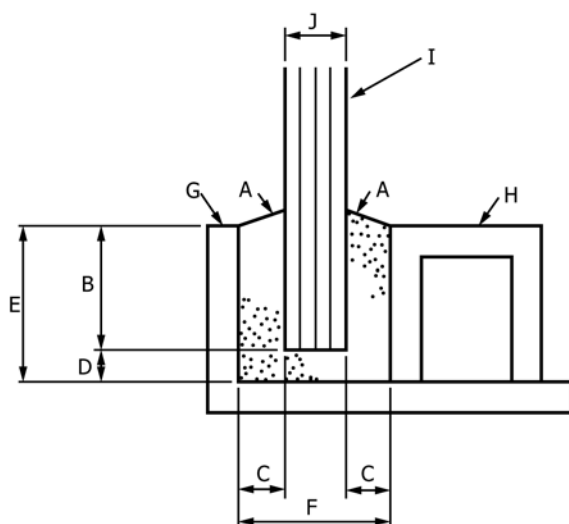
authority—the person (organization) authorizing the testing. **C1021**

channel glazing—the method of glazing in which lights or panels are set in a channel formed by two stops (see Fig. 7). **C797**

clamping pressure—the pressure exerted by the lip of the lock-strip gasket on material installed in the channel, when the lock-strip is in place. **C542; C716; C964**

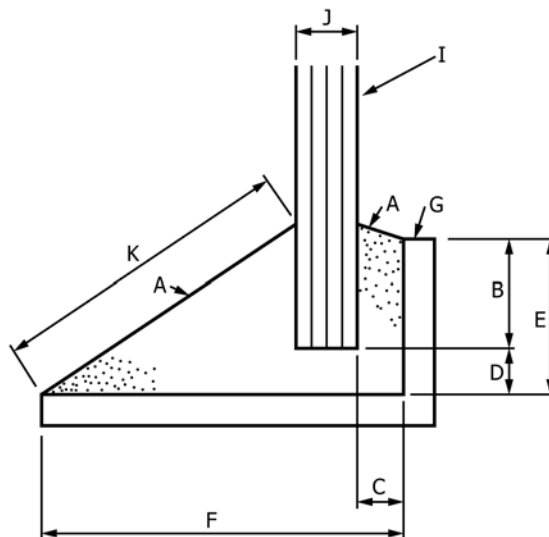
compatible—nonstaining to substrate and sealant and nondestructive to sealant performance. **C962**

durometer—(1) an instrument for measuring the hardness of rubber-like materials. (2) a term used to identify the relative hardness of rubber-like materials, for example “low durometer” (relatively soft) or “high durometer” (relatively hard). **C542; C716; C964**



Channel Glazing

A—Finish edge of glazing or sealing surface
B—Bite
C—Bed thickness
D—Edge clearance
E—Channel or rabbet depth
F—Channel or rabbet width



Face Glazing

G—Fixed stop
H—Removable stop
I—Lite (glass or panel)
J—Lite thickness
K—Face dimension

FIG. 7 Typical Glazing Profiles

edge clearance—the distance between the bottom of a channel of a lock-strip gasket and the edge of material installed in the channel. (See Fig. 8). **C542; C716; C964**

filler strip—See **lock-strip**, the preferred term. **C542; C716; C964**

flange—that part of a lock-strip gasket which extends to form one side of a channel (see Fig. 8). **C542; C716; C964**

gasket glazing—a method of setting glass or panels in prepared openings, using a preformed gasket to obtain a weathertight seal. **C509**

gasket, lock-strip, H-type—two channel recesses, of equal or unequal sizes, one on either side of a central web (see Fig. 8). **C542**

gasket, lock-strip, reglet-type—a channel recess on the inner edge and a tongue, or spline, on the outer edge, the latter being designed for insertion in a reglet (see Fig. 8). **C542**

gasket, structural—See **lock-strip gasket**, the preferred term. **C542; C716; C964**

gasket, zipper—See **lock-strip gasket**, the preferred term. **C542; C716; C964**

H-gasket—See **gasket, lock-strip, H-type** and Fig. 7. **C542; C716; C964**

hinge—the minimum thickness of gasket material between the channel recess and the lock-strip cavity; the plane at which bonding occurs when the flange is bent open to receive or release installed material. **C542; C716; C964**

horizontal ladder gasket—a ladder gasket installed in a vertical plane in such a way that the intermediate cross members (muntins) are vertical members (see Fig. 9). **C716; C964**

joint width—See Fig. 9. **C1193**

ladder gasket—a lock-strip gasket in the form of a subdivided frame having one or more integrally formed intermediate cross members (see Fig. 9). **C542; C716; C964**

lip—the inner face of the tip of a flange on a lock-strip gasket (see Fig. 8). **C542; C716; C964**

lip pressure—the pressure exerted by the lip of a lock-strip gasket on material installed in the channel, when the lock-strip is in place. **C542; C716; C964**

lip seal pressure—the lip pressure required to effect a seal against the passage of water and air. **C542**

lock strip or locking strip—the strip that is designed to be inserted in the lock-strip cavity to force the lips against material placed in the channel (see Fig. 8). **C542; C716; C964**

lock-strip cavity—the groove in the face of a lock-strip gasket designed to receive and retain the lock-strip (see Fig. 8). **C542; C716; C964**

point—a thin, flat, triangular or diamond-shaped piece of zinc used to hold glass in wood sash by driving it into the wood. **C797**

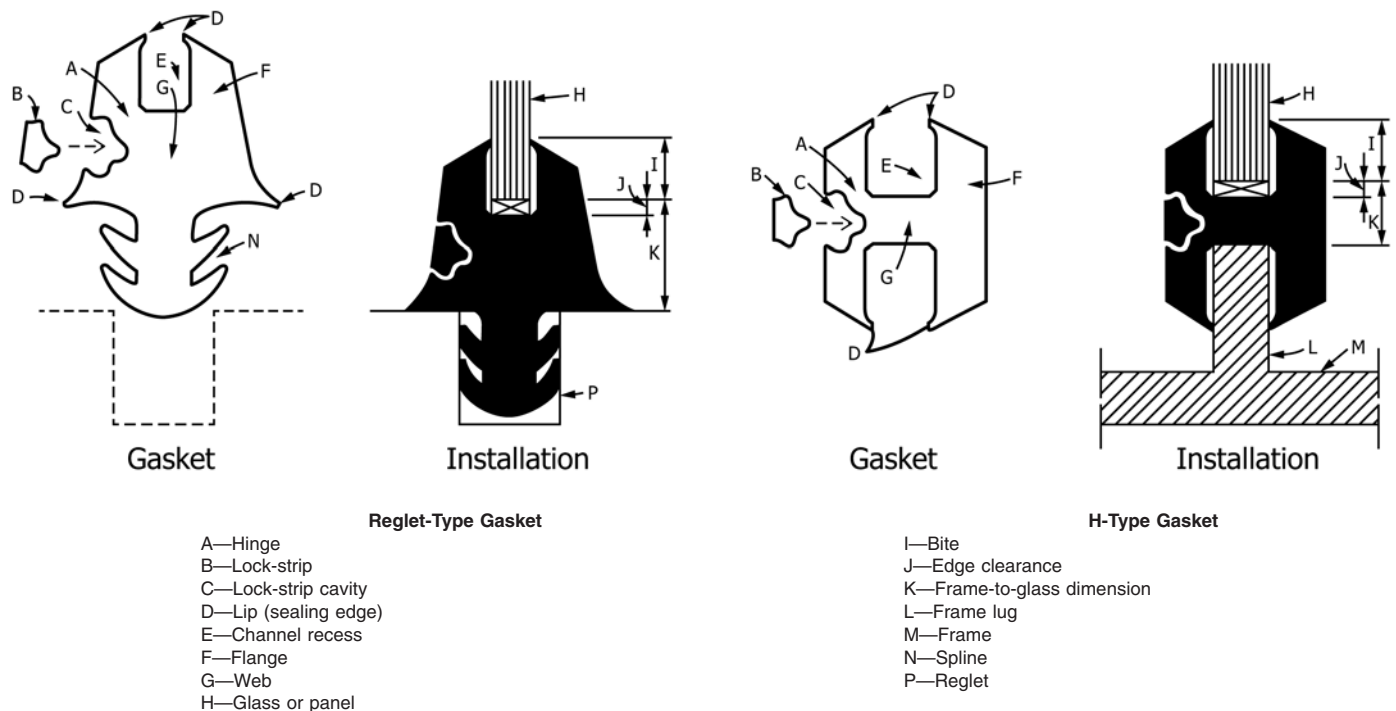


FIG. 8 Basic Lock Strip Gasket Glazing Profiles, Functional Principles, and Nomenclature

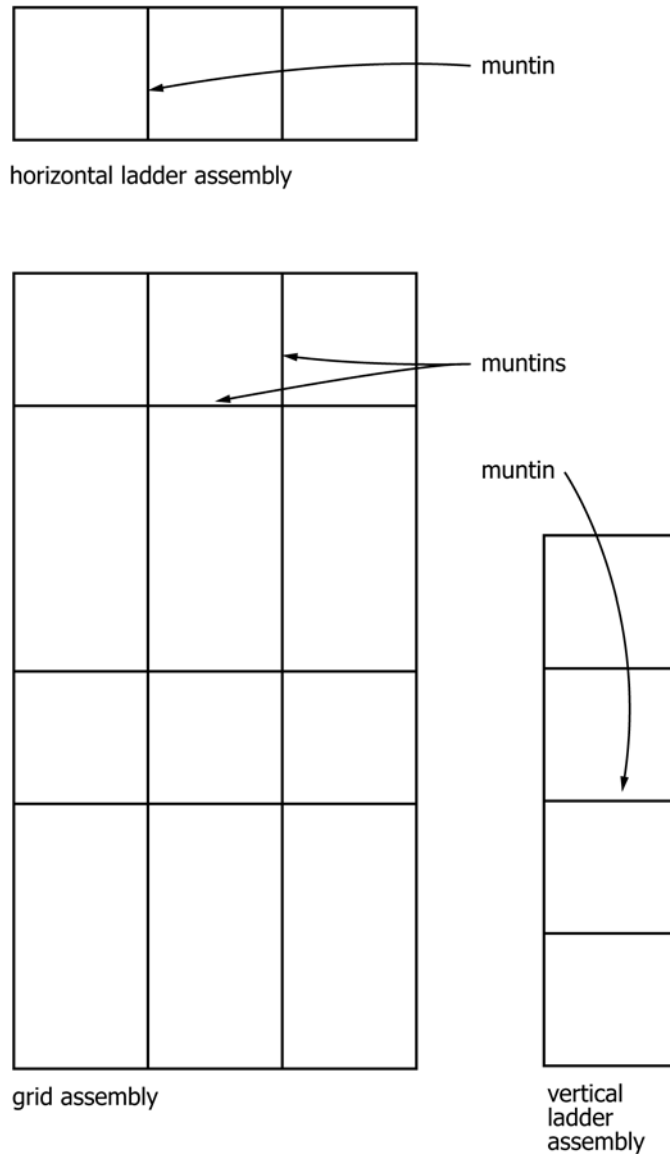


FIG. 9 Gasket Systems

preformed gasket—an elastomeric compound molded in the form of a continuous strip, channel, or other shape, for use in filling joints and providing weathertight seals in glazing or between building components. **C509**

preformed sealant backing—See Fig. 10. **C1193**

reglet, *n*—in building construction, in glazing, a continuous groove, slot, or recess in a building component into which the spline of a lock-strip gasket is inserted.

DISCUSSION—A reglet can be a continuous prefabricated metal or plastic device containing a groove, slot or recess which can be cast into (as a form) or mounted onto a building component.

reglet gasket—See **gasket, lock-strip, reglet type**. **C542**

sealant backing depth—See Fig. 9 **C1193**

sealant contact depth—See Fig. 9 **C1193**

sealant depth—See Fig. 9 **C1193**

sealant recess depth—See Fig. 9 **C1193**

sealant width—See Fig. 9 **C1193**

specified temperature—application temperature specified by the sealant manufacturer. **C961**

spline or tongue—that part of a reglet-type lock-strip gasket which is designed to be installed in a reglet in supporting material (see Fig. 8). **C542; C716; C964**

structural gasket—See **lock-strip gasket**, the preferred term. **C964**

supported gasket member—a gasket member held in place by a supporting frame member. **C716; C964**

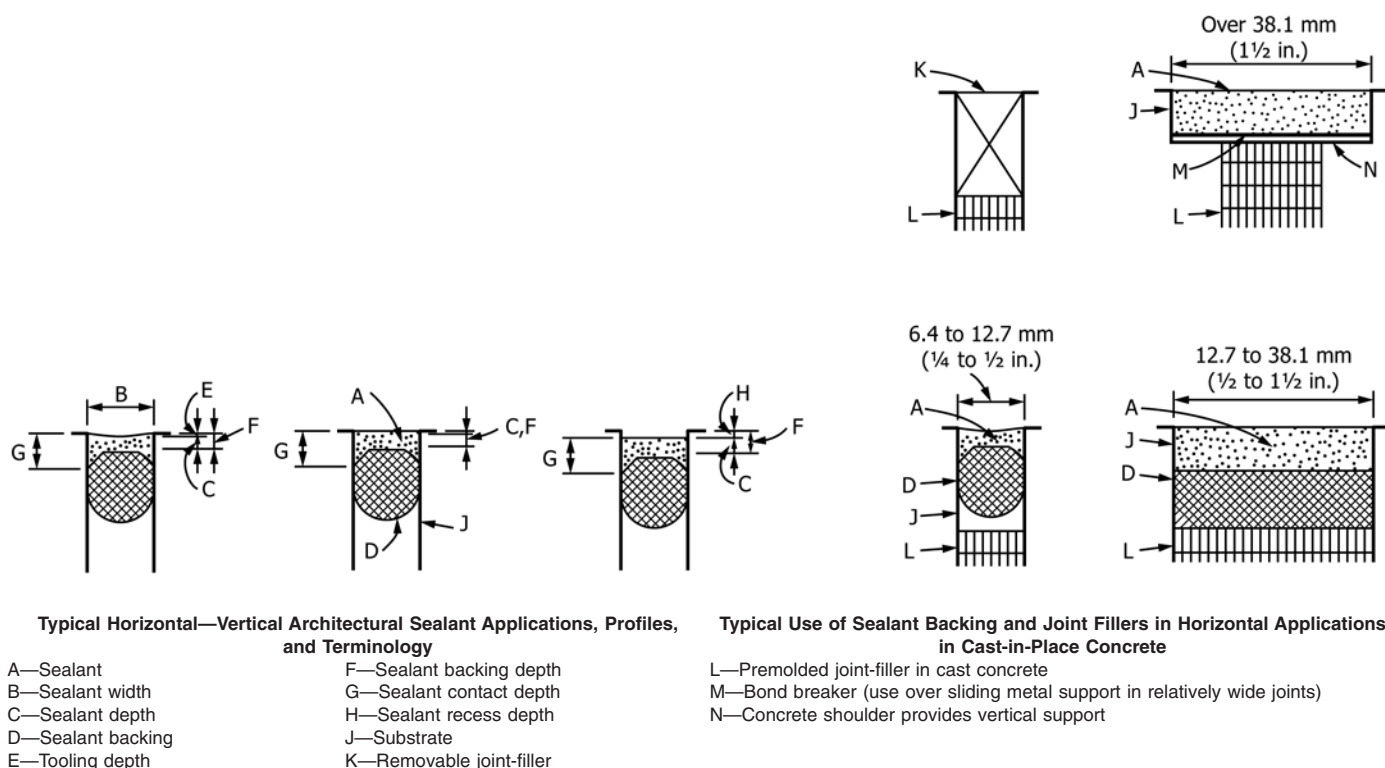


FIG. 10 Sealant, Backing, and Filler Profiles

technician—an employee of the testing laboratory assigned to perform the actual operations of testing. **C1021**

testing laboratory—a qualified organization authorized to test building sealants for compliance with specified standards. **C1021**

tooling depth—See Fig. 9.

united millimetres (or united inches)—the sum of the dimensions in millimetres (or inches) of the length and width of a light of glass or panel. **C797**

unsupported gasket member—a gasket member joining infill materials without being held in place by a supporting frame member. **C716; C964**

vertical ladder gasket—a ladder gasket installed in a vertical plane in such a way that the intermediate cross members (muntins) are horizontal members (see Fig. 9). **C716; C964**

web—that part of an H-type lock-strip gasket which extends between the flanges, forming two channels and that part of a reglet-type lock-strip gasket which extends between the flanges and spline (see Fig. 8). **C542; C716; C964**

zipper gasket—See **lock-strip gasket**, the preferred term. **C964**

5. Keywords

5.1 caulk; gasket; glazing; joint; seal; sealant; structural sealant

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