

## Glossary of Terms

**ABS** – Abbreviation for **A**crylonitrile-**B**utadiene-**S**tylene pipe. Plastic pipe installed usually for drain, waste, vent and sewage.

**Annular Space** - is the distance between the penetrating item and the periphery of the opening or the distance between multiple penetrations.

**ANSI** – Abbreviation for **A**merican **N**ational **S**tandards **I**nstitute.

**ASTM** – Abbreviation for **A**merican **S**ociety for **T**esting and **M**aterials.

**ASTM E-814** – “Standard Method of Fire Tests of Though Penetration Firestops”.

**ASTM E-84** – “Standard Method for Surface Burning Characteristics pf Building Materials”.

**AWG** – Abbreviation for **A**merican **W**ire **G**auge – used in combination with a number to identify a particular size wire.

**Backer Rod** - A round polyurethane or polyethylene foam material installed to support and provides correct depth of caulk or sealant material.

**Calcination / Calcined** - To heat to a high temperature but without fusing in order to drive off volatile matter or to affect changes (as oxidation).

**Ceramic Fiber** - High temperature man made fiber (45% alumina, 53% silica) used as insulating material where high service temperatures are required. Design service use 2300 deg. F (1260 deg. C) melting 3200 deg. F (1760 deg. C) available in 4, 6 and 8 pcf density batts/blankets. Some times used instead of mineral wool for 3 and 4-hour systems.

**Closed System** - usually refers to a piping system for water distribution when the pipe is full, under pressure and closed at pipe termination. In some jurisdictions electrical conduit is considered closed.

**Collars (Pipe Collars)** - A one-piece prefabricated device consisting of intumescent strips and a restricting metal collar. Used on plastic pipes to direct the intumescent expansion.

**CMU** – Abbreviation for **C**oncrete **M**asonry **U**nit (i.e. a hollow concrete block).

**Concentric** - Centered, the penetration will be positioned in the center of the opening.

**Control Joint** - A device or design feature that provides a continuous transition in linear openings within a fire-resistive structure and that does not exceed a maximum joint width of 5/8” (16mm). A control joint system consists of the device or designed construction feature but does not include the fire resistive structure in which it is installed.\*\*

**CPVC Pipe** – Abbreviation for **C**hlorinated **P**olyvinyl **C**hloride Pipe, a high performance plastic pipe used for hot and cold-water distribution. CPVC pipe is commonly used for sprinkler pipe.

**Curtain Wall** – a rated or non-rated, non-load bearing exterior wall assembly secured to and supported by the structural members of the building.

**DWV** – Abbreviation for **D**rain, **W**aste and **V**ent pipe. Also referred to as an **open system**. The pipe is empty, not pressurized.

**Eccentric** - Offset or off center, the penetration will not be centered in the opening.

**Elastomeric material** - Rubbery type of material that when stretched directionally will elongate. When the pressure is released will go back to its original shape, size and not lose its properties or characteristics. (like an elastic band)

**EMT** – Abbreviation for **E**lectrical **M**etal **T**ubing; conduit. Thin wall galvanized steel pipe, containing electric cables and wires.

**Endothermic** - Pertaining to or produced from the absorption of heat. A change that takes place with absorption of heat and requires high temperature for initiation and maintenance.

**Exposed Side** - The exposed surface of an assembly refers to the surface facing the fire during a test.

**F Rating (in the United States) or “FH” Rating (in Canada)** – The time in hours that a firestop system will prevent the passage of flames through an opening and not permit the projection of water stream through a fire rated assembly as determined by standard test methods ASTM E-814, UL 1479 or CAN/ULC S115.

**F Rating (in Canada)** – The time in hours that a firestop system will prevent the passage of flames through an opening in a fire rated assembly as determined by standard test methods CAN/ULC S115.

**Fire-Resistive Joint System** – is an assemblage of specific material or products that are designed, tested and fire-resistive in accordance with UL 2079 to resist, for a prescribed period of time, the passage of fire through joints made in or between fire resistance-rated assemblies.

**Firestop System** – A specific construction consists of any materials or device intended to close off an opening or penetration during a fire and/or materials that fill an opening in a wall or floor assembly where penetration is by cables, cables trays, conduits, ducts, pipes, and any poke through termination device.

**Ga** – Abbreviation for **Gauge**.

**Galv** – Abbreviation for **Galvanized**.

**Intumescent** - A material that swells or expands when exposed to direct flame or high heat (300° F, 150°C). Produced for firestopping materials in several forms; caulks, pipe collars, wrap strips, sticks and pads. Most common usage is to close gaps and voids when plastic pipe has melted.

**Joint** - The linear opening between adjacent fire-resistive assemblies. A joint is a division of a building that allows independent movement of the building, in any plane, which may be caused by thermal, seismic, wind loading or any other loading.\*

**Joint System** - A device or designed construction feature that provides a continuous transition in linear openings between adjacent fire resistive structures. A joint system consists of the device or designed construction feature but does not include the fire resistive structure in which it is installed.\*\*

**Fireblocking** - Building material installed to resist the free passage of flame and gases to other areas of the building through small-concealed spaces.\*

**Fire Separation Wall** - A fire-resistive rated assembly of materials having protected openings, which is designed to restrict the spread of fire.

**GWB**- Abbreviation for **Gypsum Wall Board**; Type X gypsum wallboard manufactured to provide specific fire-resistive characteristics. (GWB type X, 5/8” thick has a 30-minute fire-resistive rating).

**Hose Stream Test** - Part of the acceptance criteria of ASTM E119, ASTM E814, CAN4 S115, UL 2079. After the test assembly has passed the furnace burn, a steady stream of water is directed onto the fire exposed side of the assembly through a 2 ½” hose. Water is not permitted to pass through the firestop fill material to the unexposed side. The integrity of the unexposed side must remain intact.

**Linear Opening** - A discontinuity between or within fire resistive structures.\*\*

**L Rating** - An *optional* test performed to determine the amount of air leakage through a firestop system (in cubic feet per minute per square foot of opening) Tested in conjunction with UL 1479, ULC S115-M95, ASTM E 814 or UL 2079.

**Listed System Design** – An informational listing by an *Accredited Testing Agency* developed from *Passive Fire Protection Partners Reports* depicting the correct use and installation of firestop materials. These published listings contain drawings depicting geometry, minimum/maximum dimensions for all the individual components tested including penetration item types and size, annular space, insulating materials used, substrate types and thickness, sealant types and thickness, etc.

**Maximum Joint Width** - The greatest width to which the joint system is designed to extend taking into consideration all axes of movement.\*\*

**Membrane Penetration** - An opening made through one side (wall, floor or ceiling membrane) of an assembly.\*

**Mineral Wool** - A fire-resistant fibrous material used as a insulation and filler material in a firestop system, capable of withstanding temperatures of 1832 deg. F (1000 deg. C) Supplied in loose and blanket board form. The most popular used for firestopping is 4 and 6-lb batts, 24" x 48" (8-lb is fairly rigid and is usually used in larger construction joints).

**Minimum Joint Width** - The narrowest width the joint system is designed to accommodate.\*\*

**Movement Capability** - The range of movement that a joint system is designed to accommodate without diminishing its fire resistive performance.\*\*

**Non-Sag Caulk** - Any compound that does not flow or sag out after application usually installed in a vertical joint or wall penetration.

**Open System** - A series of designed pipes through which waste materials and liquids are vented to a central system. In some jurisdictions, EMT is considered an open system. Air duct systems have also been seen by some as an open penetration.

**Party Wall** – A wall jointly owned and jointly used by two parties under easement agreement or by right of law, and erected at or upon a line separating 2 parcels of land each of which is, or is capable of being, a separate real estate entity.

**pcf** – Abbreviation for **p**ounds per **c**ubic **f**oot.

**Penetration** - An opening created in a membrane or assembly to accommodate penetrating items for electrical, mechanical, plumbing, environmental, and communication systems.\*

**Penetration Firestop System** - An assemblage of specific materials or products that are designed, tested and fire- resistive in accordance with UBC 7-5 to resist, for a prescribed period of time, the passage of fire through penetrations.\*

**Perimeter Fire Containment Systems** - A specific construction consisting of a floor with an hourly fire endurance rating, an exterior curtain wall with no hourly fire endurance rating, and the fill material installed between the floor and the curtain wall to prevent the vertical spread of fire in the building.

**PEX Pipe** – Abbreviation for Cross-Link Polyethylene pipes, typically for domestic water distribution and hydronic heating. High temperature and pressure properties.

**Point Contact** - Penetrating item is touching the side of the substrate or another penetrating item.

**Putty Pad** - A rectangular or square pad installed on the outside of an electrical outlet box. Material may be intumescent or non-intumescent.

**PVC Pipe**- Abbreviation for **P**oly**v**inyl **C**hloride pipe, a plastic pipe usually used for water waste distribution. (vented, open system)

**Rating** - The time period the penetration firestop system limits the passage of fire through the penetration when tested in accordance with ASTM-E814 (UBC 7-5).\*

**Rated Wall/Floor** - Any wall or floor that has a fire-resistive rating tested to ASTM E119 (UBC 7-1).

**Safing Material** - Insulation material installed in joints and annular spaces to prevent the fire from getting to the unexposed side. Installed before the firestop sealant is applied. (usually mineral wool).

**Safing Slot** - Opening/gap between the exterior wall of a building and the edge of the floor slab.

**Splice** - The result of a factory or field method of joining or connecting two or more lengths of a fire-resistive joint system into a continuous entity.\*

**Structure** - The fire resistive floor and/or wall segments between which the joint system is installed.\*\*

**T Rating** - The time period that the penetration firestop system including the penetrating item, limits the maximum temperature rise to 325 degrees F (163 deg C) above its initial temperature through the penetration on the non-fire side, when tested in accordance with ASTM-E-814 or UBC 7-5.\*

**Third Party testing Agency** – An accredited testing agency approved to perform Fire Endurance Testing.

**Through-Penetration Firestop System** – An assemblage of specific materials or products that are designed, tested and fire-resistance rated to resist for a prescribed period of time the spread of fire through penetrations. The F and T rating criteria for penetration firestop systems shall be in accordance with ASTM E 814 (ULC S115-M95).

**Top-of-Wall** - The gap/joint above the GWB or concrete wall and below the ceiling, metal deck of floor.

**Slab Edge** - The edge/end of the floor slab

**UL Classification** - an identification method used by UL to classify and rate manufacturer's that require Code or Standard Compliance. These products are classified and are subject to the UL "Follow-Up Service." Firestop materials are UL Classified, they are not "approved" nor "listed." products tested to be used in specific applications.

**07840** - "Firestopping and Smoke Protection" section of the architectural specifications guide

**07270** - Firestop Section of the Architecture Specifications Guide, recently changed to 07840

**UL** - Abbreviation for Underwriters Laboratories, Inc. Non-profit, independent third party testing Laboratory located in Northbrook, Illinois.

**Unexposed Side** - The unexposed surface of an assembly refers to the surface away from the fire during a test.

**I.T.S. (Warnock Hersey)** - Independent third party testing laboratory located in Coquitlam, B.C. and Pittsburg, CA for firestop testing. Proper company name is Intertek Testing Services (ITS)

**Wrap Strip** - A flexible intumescent material approximately 2" wide, 1/16" thick installed around the circumference of a plastic pipe, between the pipe and the substrate

\* Definition from 1997 Uniform Building Code

\*\* Definition from UL - Test for Fire Resistance of Building Joint Systems UL 2079