Stairway Manufacturers’ Association
Glossary of Stair Terminology

A

Apron – A trim board attached to a vertical surface used to support the projected edge of a window stool or landing nosing. (See also Fascia)

B

Balanced Steps – Winders that do not radiate from a common center but are distributed uniformly through equal segments of the walk line. Also called dancing steps.

Balcony – An elevated area of floor with a balustrade visible from below

Balusters – A vertical member used to in-fill and restrict the size of openings within a balustrade and/or provide support to the top of a balustrade or guard system by transferring a portion of the load applied to the balustrade to the structure of a stair or floor system.

Balusters, Raked – Balusters with plinths or end blocks that follow the rake or inclination of the stair

Balusters, Stepped – Balusters with plinths that are of uniform height above the tread.

Balustrade – A system of rails, newels, balusters, panels or other ornamental components used to separate two areas. Balustrades used to minimize falls from elevated walking surfaces and the sides of stairs are also guards.

Banister – A simple post-to-post balustrade typically with small diameter, square or rectangular section balusters used to provide a handrail and minimize falls from the side of stairs.
Bending Rail – Thin, flexible, longitudinal-sections of a rail profile that are molded individually such that bending and laminating the strips together will provide a curved rail in the composite profile of the combined strips.

Blocking – Wood blocks or other elements attached to the building structure to provide for the transfer of loads and/or the secure fastening of objects at points between structural elements such as studs or joists where voids in the structure would not permit secure fastening.

Bowed Riser – A riser that is curved in plan to provide balanced winders.

Box Newel – A newel, usually square in section, often made as a “box” with a hollow center, from boards joined at the corners.

Box Stair- 1. Stairs with closed stringers on each side that “box in” the treads and risers. 2. A prefabricated straight flight of stairs with closed stringers.

Bracket – 1. A triangular structural support element used to transfer loads from one element to another by changing the direction of the applied load. 2. A support used to attach a Handrail to a wall. 3. An element connecting the tread and riser usually applied to the face stringer as a decoration. 4. An element attached to a stringer to support a tread.

Bullnose – 1. A descriptive term for a radius moulding profile applied to the edge of a moulding. 2. A type of starting step with half circular end(s) in plan projecting beyond the width of the stairs above. 3. A moulding with a rounded edge such as a landing tread or landing nosing.

Buttress – A closed stringer built up in thickness with a cap to receive the balusters and a fascia applied on the exposed face.

C

Cap – 1. A moulded object or board used to finish the top of an object such as a wall, or closed stringer. 2. That part of a rail fitting that is attached to the top end of a newel. 3. The applied top of a box newel.

Cap, Tandem – A horizontal rail fitting used to connect two rails at an angle of 180-degrees at the top of a newel.

Cap, Opening – 1. A horizontal rail fitting at the start of a level balustrade system at the top of a newel. (See cap) 2. A horizontal rail fitting used as a component of a starting easement at the top of a starting newel.
Cap, Quarter Turn – A horizontal rail fitting used to connect two rails at an angle of 90-degrees at the top of a newel.

Carriage – A system of rough stringers attached to the building structure providing for the support and or attachment of the treads, risers and face stringers of a stair and the ceiling or soffit below.

Circular stair – A curved stairway that is circular in plan

Closed string – A stringer that encloses the ends of the treads and risers typically with the top edge following the angle of the stair.

Cove – A supporting moulding profile with a concave quarter round radius or arc on the face

Curb Stringer – A buttress stringer

Curtail Step – See Volute step

Curved stair – A stair with some portion having an arc in plan that is a radius, elliptical or a combination of radii.

Cut String (see also Open String) – A stringer cut or notched on the upper edge to fit the profile of the stairs.

Cut Stringer, Mitered – A cut stringer with the riser cuts mitered to accept a riser with a complimentary miter.

D

Dextral stair - A stair that turns to the right during ascent.

Dogleg stair - A stair with two flights separated by a half landing, and having no stairwell, (in elevation the angles of the flights form a dogleg shape).

Drop – An ornamental element used at the bottom end of a newel.

E

Easing – 1. An arc that is tangent to two straight intersecting lines providing a smooth rounding instead of an angular intersection. 2. An easement in a rail or stringer, i.e. up easing, over easing. 3. Sanding or shaping a radius on the corner of a board to yield an “eased edge”.

Stairway Manufacturers’ Association  www.stairways.org  Toll Free 877-500-5759
Easement – A component that provides a vertically curved easing between two intersecting rails or a rail and cap as in a starting easement.

Face Stringer – The exposed stringer on the open side of stairs. Called a skirt board or fascia when not supporting the treads and risers.

False End Tread or Riser – Decorative elements resembling the end of a tread or riser applied to the surface at the end of a structural sub-tread or riser with the remaining exposed sub-tread/riser to have a floor covering applied such as carpet.

Face – 1. The side of a board that is exposed or visible in the finished product. 2. Describes an element that is visible i.e. face string.

Fascia – A trim board applied to a vertical surface, often with a moulding applied above and/or below.

Fillet – A thin strip or moulding that fills the exposed plow or groove between balusters in a rail, bottom rail, shoe rail or cap.

Finial – An ornamental element used at the top end of a newel post.

Fitting, Rail – A component or combination of components that are profiled to match rail patterns and used to provide a continuous rail, horizontal changes in direction, vertical transitions, or ornamentation.

Flier or Flyer – A Rectangular tread

Flight – An uninterrupted series of steps from one landing to the next.

Fluting – A series of parallel round bottom grooves used as decorative details in vertical surfaces of such elements as balusters or newels.

Freestanding Stair – A stair that is unsupported by walls and attached only to the floor systems at the top and bottom of the flight.

Gait Line – A line that follows the angle of the stair connecting the nosings of the treads also called nosing line
Geometrical Stair – A stair of complex geometry in which the strings and rails are continuous from start to end with curved and straight segments of the stairway connected by wreaths, typically without newels, except the starting newel.

Glue blocks – Blocks of wood attached to the underside of a stair at the concealed junction of the risers, treads, and or stringers to minimize movement that causes squeaks.

Going – The horizontal distance between two successive nosings. (See run, tread depth)

Gooseneck – A combination of easing(s), rail segments and/or caps that provide for the continuous transition of a rake rail to level at the top of a flight or from rake rail through a level turn to a rake rail at a turn in the stairway.

Gradient of a stair – The ratio between the rise and run of a stair used to relate the steepness in use, typically considered to be between 20 and 42-degrees when expressed as angle. Differing from ladders, which are steeper, and ramps, which are less steep.

Guard – A component or system of components such as rails, newels, balusters, panels or other ornamentals used to minimize falls from elevated walking surfaces and the sides of stairs.

H

Half Newel – A newel cut in half longitudinally used against a wall to provide for the termination of a balustrade.

Hand – 1. The direction a stair or handrail turns in ascent. (left or right) 2. The side of the stair as viewed in ascent. 3. The end of a component as referenced by the side of the stair in ascent i.e. left hand starting step, right hand returned tread.

Handrail – A sloped or horizontal rail intended for grasping by the hand as an assist for; guidance, support, pulling, or arresting a fall.

Handrailing – The art form of designing and constructing wreathed handrails for geometrical stairs.

Header – 1. A floor-framing member at the edge of a floor opening that “heads off” the floor joists running up to a well opening. 2. The joist(s) at the edge of a floor opening. 3. The joists at the edge of a landing supporting the end of a flight.
**Headroom** – 1. The clear vertical space allowed for passengers on a *stairway* to prevent striking the head. 2. The vertical distance from the plane of the *nosings* of a *flight*, extended to the floor beyond the first *riser*, to any obstruction above the walking surface of the *stair* generally a minimum of 80 inches throughout the *stairway* including the *landings*.

**Helical stair** – A stair that ascends with identical *winders* within the space that can be defined between two cylinders of concentric circular plans.

**Horse** – 1. The triangular area of a *cut string carriage* to which the *tread* and *riser* are attached. 2. A *rough string*.

**Housed stringer** – A closed *stringer* that “houses” the ends of the *treads* and *risers* projecting into routed recesses in the *stringer*. (See routed stringer)

**Kerfing** – A wood bending technique using a series of uniform, shallow cross cuts on the back of a board that do not penetrate the *face* allowing the back surface to compress to a smaller radius increasing the flexibility without reducing the thickness.

**Kite** – A *winder* in a 90-degree corner that is shaped like a kite in plan.

**Landing** – 1. The space at the top and bottom of a *flight* at a floor level to provide clear approach to the *stair* or the floor level from the *stair*. 2. An intermediate *platform* between *flights* used to change direction of the *stair* and/or provide a resting place typically with dimensions approximating the width of the *flights* served.

**Landing, Half Space** – An intermediate *landing* turning the *stair* 180 degrees

**Landing, Quarter Space** – An intermediate *landing* turning the *stair* 90 degrees

**Landing Newel** – A *newel* located at a *landing* or *balcony*.

**Landing Newel, Intermediate** – A newel located at a *landing* or *platform* between *flights* in a *stairway* or at a turn of *winders*.
**Landing Nosing** – A moulding used to finish the floor or landing edge at a level balustrade.

**Landing Tread** – 1. The top tread in a flight supported by the top riser that is attached in alignment with the floor-surface with the same nosing projection as the treads in the flight below. 2. The moulding used as landing tread and landing nosing.

**Level Quarter Turn** – A rail fitting that turns 90 degrees in the level or horizontal plane.

**Level Rail** – A horizontal balustrade attached to a floor or landing.

**M**

**Moulding Profile** – see rail profile

**Mortised Stringer** – see housed stringer

**N**

**Newel or Newel Post** – 1. A vertical element or post used to connect balustrade components to the structure of a stair or floor system. 2. A vertical post to which carriages, stringers and balustrades can be attached at junctions and angular turns in the stairway to provide the main support for the stairs and balustrades.

**Nosing** – 1. The leading edge of the tread 2. The moulding profile on the leading edge of the tread.

**Nosing Line** – see gait line

**Nosing Projection or Overhang** – The horizontal distance measured from the leading edge of the tread to the trailing edge of the tread below.

**Nosing, Return** – A moulding matching the nosing moulding profile and projection of the tread nosing that is mitered to the tread nosing and used to project the end of a returned tread over the cut string face with identical detail to the projection of the tread nosing past the riser face.

**O**

**Open Riser Stair** – A stair without risers such that the space between the treads is open.
Open Stair – a *stair* that has an *open stringer* on one or both sides

Open Stringer – A *face* stringer that is cut out for the treads and risers such that the profile of the steps can be seen from the side

Open Well Stair – a *stair* having a *stairwell*

Over Easing – Typically used to describe an *easing* in a rail with the center of its arc below the top of the rail.

Over-the-Post – A *balustrade* system that uses *fittings* to provide a continuous *handrail* over the top of the newel *posts*.

Partial Open Stair - A *stair* that has an open side that becomes closed by a wall part way up the *flight*.

Picket – A vertical element of a fence not used in *stairs* or *balustrades*.

Pin Top Baluster – A *baluster* with a round top that is fitted into holes in the bottom of the *rail*.

Pin Top Newel – An *Over-the-Post newel* that has a dowel pin turned on the top to fit into a hole in the *cap* of a *rail fitting*.

Pitch (see also Rake) – The slope or angle of a *stair* in reference to the horizontal plane

Pitch Block – A block of wood cut to a right triangle with the rise and run dimensions of a stair and used as an angle gauge in *stairbuilding* and *handrailing*.

Platform – 1. An intermediate *landing* in a *stairway*. 2. The extension of the floor *landing*, which is often used as the top, *tread* of a *spiral stairway*.

Plinth – The base of a baluster or newel

Plow – A groove with flat bottom in the length of a board or moulding

Plowed rail – A *rail*, which has had the bottom, grooved or plowed to accommodate insertion of a square *baluster* and *fillet*.

Plumb – Vertical, perpendicular to level.

Posts – see *newel*.
Post-to-Post – A *balustrade* system with *rails* that are interrupted by intersections with the side of the *newels*.

Q

Quarter Turn Fitting – A horizontal *rail fitting* that turns 90 degrees.

Quarter Turn Step – A *starting step* with a quarter circle in plan

R

Rail Bolt – A hanger bolt used to join *rails* ends to *fittings*, *newels* or walls.

Rail Fitting – A *rail* component or part used to join *rails* in a continuous fashion through horizontal turns or vertical transitions or to provide for a change in direction for the purpose of attachment to a wall or newel.

Rail Profile or Moulding Profile – The shape as described by a section of a *rail* or moulding

Rake – 1. Used to describe the particular angle of an object. 2. Used to describe an object as being inclined i.e. rake rail

Rake Rail - A *rail* at an angle or *pitch*; typically a *rail* on a *stair*.

Ramp – see *up-easing*

Reeding – A series of parallel beads used as decorative detail in vertical surfaces of such elements as *balusters* or *newels*.

Returned End – 1. The end of a moulding profile that has been mitered to extend the profile across the end and conceal the end grain 2. A handrail fitting that with the *moulding profile* shaped on the end grain and used as a termination for the end of a rail.

Returned Tread – A *tread* used on *open stringer stairs* with the *nosing* “returned” to project over the *cut face string* at the end of the *tread* by mitering a matching *return nosing* to the end of the *tread*.

Return Nosing – see *Nosing, Return*

Rise – The vertical distance between the leading edges of adjacent *treads*. Referred to in building codes as *riser* height.

Riser – The vertical component of a *step* filling the space between the *treads*.
Rosette – A decorative and anchoring wall plate used to terminate a rail into a wall.

Rough Stringer – A cut stringer to which the treads and risers are attached that is concealed and attached to the structure.

Routed Stringer – See housed stringer

Run – the horizontal distance between two adjacent tread nosings on a stair.

Scotia – A cove moulding that is taller than wide with elliptical concavity attached to the underside of the projected tread nosing.

Scroll – The terminal end of a volute that is in the horizontal plane.

Scroll Step – See volute step

Shoe Moulding – A convex shaped quarter round moulding, used at the joint between base and floor and where the starting riser meets the floor.

Shoe Rail – 1. A plowed rail that is used to receive the square bottom end of balusters when they are not connected directly to the treads (see also bottom rail). 2. A cap on the top of a closed stringer, buttress or wall that is plowed to receive the bottom square end of balusters

Sinistral Stair – A stair that turns to the left in ascent

Skirt Board – A non-structural fascia used to trim the sides of stairs to which the treads and risers are fitted.

Soffit – The visible ceiling attached to the bottom of a stair between the opposite stringers and/or opposing wall(s).

Sphere Rule – refers to the building code that restricts openings in guards to the size of a certain sphere that shall not pass through the guard.

Spindles – Turnings such as those used in chairs. Spindles are not used in stair balustrades.

Spiral Stair – A stairway that is circular in plan with uniform winders attached to and radiating from a minimum-diameter support column. (Spirals diminish to a point. The term is used here to describe the common visual perception not the geometric form of the stairway)
Stair – 1. A step or change in elevation of one riser height. 2. A change of elevation consisting of one or more risers. (International Code Council)**

Stairs – A series of steps. 2. A change of elevation consisting of one or more risers. (International Code Council)**

**The ICC requires both singular and plural forms to have the same meaning

Stairbuilder – A person with skills specific to the arts of designing and constructing stairways, and balustrades.

Staircase – That part of the building set apart for the stairs and balustrade generally including the well opening and adjacent walls.

Stairway – One or more flights of stairs, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another. (International Code Council)

Stairwell – The inner clear opening formed by turning flights within a well opening or a flight and the well opening.

Starting Easing – A rail fitting comprised of an up easing and opening cap used at the bottom of a stairway attached to a starting newel.

Starting Fitting – A rail fitting comprised of an up easing with a cap, turnout, or volute/scroll used at the bottom or beginning of a stair attached to a starting newel.

Starting Newel – The first newel used at the bottom or beginning of a stairway.

Starting Step – 1. A tread with curved end that is used at the start of the stairway at the bottom. 2. The first tread and riser at the bottom of the stair.

Starting Step, Bullnose – A tread with half round end(s) in plan projecting beyond the face string of the stair.

Step – 1. A change in elevation of one riser height to a floor or landing without a tread. 2. A unit segment of a stair consisting of a riser and a tread.

Steps – A series of treads, typically a single flight with or without a landing at the top.

Stringer or String – The inclined boards to which the treads and risers are attached that serve to transfer both live and dead loads of the stair to the structure. See also stringers listed by types; buttress, closed, curb, cut, open, face, housed, mortised, rough, routed
**Stringer Margin or Reveal** – 1. The distance from the *gait line* to the top edge of a *closed stringer*. 2. The width from the bottom of a *cut string* to the depth of the cut notch.

**Sub-Tread** – A concealed rough tread used to support the visible finish tread.

**T**

**Total Rise** – The vertical distance of a *stairway* from finish-floor to finish-floor.

**Total Run** – The total horizontal distance of a *flight of stairs*.

**Tread** – The horizontal part of a *stair* upon which the foot is placed.

**Tread depth** – The term used in building codes for *run or going*.

**Turn out** – 1. A starting *rail fitting* or *starting step* that turns 90 degrees to the *starting newel* offset beyond the width of the stair above.

**U**

**Up easing** – 1. Typically used to describe an *easing* in a rail with the center of its arc above the top of the rail.

**V**

**Volute**– A starting *rail fitting* that is designed as a spiral in plan by connecting a series of 90-degree arcs diminishing in radius by a constant value or proportion. Typically a volute consists of some portion that is flat in the horizontal plane, called a *scroll*, connected to a *wreath or easing* portion that makes the transition to the connection with the rake rail.

**Volute, Vertical** – A starting *rail fitting* that is a spiral designed in elevation by connecting a series of 90-degree arcs diminishing in radius by a constant value or proportion.

**Volute Step (see also scroll step)**– A type of *bullnose starting step* with a *nosing* designed concentric to the plan of the *volute or scroll* through at least 180-degrees. Since the spiral of the nosing must be “curtailed” to maintain the integrity of the step these are sometimes called Curtail Steps.

**W**
Walk line-1. The most common path of travel used in the design of winders determined by the distance from the handrail to the closest foot when the handrail is used in travel on a stairway. 2. A point at which winders are regulated for depth by building codes, measured 12 inches from the side of the stair where the treads are narrower on that portion within the usable width.

Wall Rail – A handrail mounted to a wall.

Wash – The slight horizontal sloping of treads such that the leading edge is lowest to allow water to run off and minimize wear at the nosing edge.

Well hole or Well Opening – The opening in a floor through which a stairway ascends.

Winder – A tread with nonparallel edges.

Winding stair – A stair that turns with winders.

Wreath – 1. A handrail that has a curve in plan and elevation referred to as double curvature or a compound curve. 2. A handrail or string transition that “twists” between a rake and level or two rakes at a curve in the plan of the stair(s) or handrail. 3. To twist

X
Y
Z