

Steelwork glossary

89 terms you will meet on steel drawings, quotes and building sites, explained in plain English.

2R + G A comfort check for stairs: twice the rise plus the going, kept between 550 and 700 mm.

Acrow prop An adjustable steel prop used to support floors and walls temporarily while openings are formed and beams installed.

Approved Document A Building Regulations guidance in England covering structure, including loads and structural design.

Approved Document K Building Regulations guidance in England covering stairs, ramps, guarding and protection from falling.

Baluster A vertical bar in a balustrade that fills the space between the handrail and the base.

Balustrade The complete guarding system along a stair, landing or balcony: posts, balusters or panels and handrail.

Baseplate A steel plate welded to the foot of a column and bolted down to the foundation.

Bracing Diagonal steel members that stop a frame racking sideways under wind or other loads.

Building control The approval and inspection of building work, by the local authority or a registered building control approver.

Butt weld A weld joining two parts edge to edge, often through the full thickness of the steel.

Camber A slight upward curve built into a beam so it ends up level once loaded.

CHS Circular hollow section: round steel tube.

Cleat A short piece of angle or plate used to connect one steel member to another.

Cold-formed section A steel section shaped from strip at room temperature, such as cold-formed hollow sections to BS EN 10219.

Declaration of Performance (DoP) A document stating the performance of a construction product, supplied with UKCA marked structural steel.

Deflection How much a beam bends under load. Designers limit it, for example to span/360, to avoid cracking finishes.

Dry film thickness (DFT) The thickness of a paint or coating once dry, measured in microns.

Dry pack A stiff, low-water mortar packed between the top of a beam and the masonry above so the load is carried evenly.

Duplex coating Hot-dip galvanising with paint or powder coating on top, for colour and long-life protection.

DXF A CAD file format used to send flat shapes, such as plates, to a CNC cutting machine.

Embodied carbon The greenhouse gas emissions from making a material or product, usually reported in kgCO₂e.

End plate A plate welded to the end of a beam so it can be bolted to a column or another beam.

EPD Environmental Product Declaration: a verified document giving the environmental impacts of a product, including its carbon footprint.

Execution class (EXC) The level of fabrication control required by BS EN 1090-2, from EXC1 to EXC4. Most buildings are EXC2.

Factory Production Control (FPC) The certified quality system a fabricator must run to UKCA mark structural steel under BS EN 1090-1.

Fillet weld A triangular weld joining two surfaces at an angle, the most common weld in steelwork.

Fin plate A plate welded to a column or beam, to which another beam's web is bolted.

Flange The top or bottom horizontal part of an I-shaped beam or column.

GA drawing General arrangement drawing: shows the overall layout of the steel and the member sizes.

Galvanising Dipping fabricated steel in molten zinc to protect it from corrosion, to BS EN ISO 1461.

Goalpost frame Two posts and a beam welded or bolted into a frame, often used for wide openings in extensions.

Going The horizontal depth of a stair step, measured from nosing to nosing.

Guarding Barriers that stop people falling from stairs, landings, balconies and edges.

Headroom The clear height above a stair, normally at least 2000 mm.

Holding-down bolts Bolts cast into a foundation to fix a column baseplate.

Hot-rolled section A steel section shaped while red hot in a rolling mill, such as UB, UC and PFC sections.

Impact grade (J0, J2, K2) The toughness rating in a steel grade such as S355J2, from an impact test at a set temperature.

Imposed load The load a floor carries in use from people, furniture, stock and equipment, in kN/m².

Intumescent coating A paint that swells when heated to insulate steel and give it a period of fire resistance.

Juliet balcony A guarding rail across a full-height door or window, with no platform to stand on.

Kerf The width of material removed by a saw blade or cutting torch.

Lifting plan A written plan for a lift, covering the load, equipment, people and controls, prepared by a competent person.

Lintel A short beam spanning over a door or window opening.

Mezzanine An intermediate floor built inside a building, usually a steel frame with decking.

MIG welding Metal inert gas welding: a wire-fed arc welding process widely used in steel fabrication.

Mill certificate A certificate from the steel mill (often type 3.1 to BS EN 10204) giving the grade, chemistry and test results of the steel supplied.

NC file Numerical control file that tells a CNC machine how to cut, drill or mark a piece of steel.

NDT Non-destructive testing: checking welds with methods such as visual, magnetic particle or ultrasonic testing.

Needle A short beam passed through a wall to carry it on props while the wall below is removed.

Newel post The main post at the top, bottom or turn of a stair that supports the handrail.

Nosing The front edge of a stair tread.

Padstone A strong block, often concrete, that spreads the load from a beam end into the wall below.

Party Wall Act The Party Wall etc. Act 1996, which requires notice to neighbours before certain work on shared walls.

PFC Parallel flange channel: a C-shaped steel section.

Pitch The angle of a stair. Private stairs in houses must be no steeper than 42 degrees.

Plasma cutting Cutting steel with a high-temperature plasma arc, usually on a CNC table for accurate shapes.

Point load A load concentrated at one point, such as a post or another beam bearing onto a beam.

Portal frame A rigid steel frame of columns and rafters, the usual structure for warehouses and industrial units.

Powder coating A dry powder finish applied electrostatically and cured in an oven to form a hard coating.

Preloaded bolts High-strength bolts tightened to a set tension so the joint resists slip; also called HSFG bolts.

Primer The first protective paint coat applied to steel, usually in the workshop.

Purlin A secondary roof member spanning between rafters to support the roof sheeting.

Rafter A sloping roof beam in a portal frame or roof structure.

RAL colour A standard colour reference system widely used for powder coating and paint.

RAMS Risk Assessment and Method Statement: the documents setting out how work will be done safely.

RHS Rectangular hollow section: rectangular steel tube.

Rise The vertical height of a single stair step.

RSA Rolled steel angle: an L-shaped steel section.

RSJ Rolled steel joist. Commonly used for any steel beam; strictly an older taper-flange section.

S275 / S355 Common structural steel grades, with minimum yield strengths of 275 and 355 N/mm².

Section factor The ratio of a section's heated perimeter to its area (H_p/A), used to work out fire protection thickness.

Shims Thin steel plates used to level and pack beams and baseplates to the right height.

Shop drawing A fabrication drawing showing every dimension, hole and weld needed to make one piece.

SHS Square hollow section: square steel tube.

Splice A bolted joint that connects two lengths of beam, used where a long beam cannot be carried in one piece.

Stiffener A plate welded into a beam or column to strengthen it locally, for example under a point load.

Stringer The sloping side member of a staircase that supports the treads.

Takeoff Measuring quantities from drawings to price a job.

Tekla Tekla Structures: 3D modelling software widely used for steel detailing.

Temporary works Structures used to support or protect the permanent works during construction, such as props and needles.

Throat thickness The effective thickness of a fillet weld, about 0.7 times the leg length for an equal-leg fillet.

UB Universal beam: an I-shaped steel section deeper than it is wide, used mainly for beams.

UC Universal column: an H-shaped steel section about as wide as it is deep, used mainly for columns.

UDL Uniformly distributed load: a load spread evenly along a beam or across a floor.

UKCA marking The UK conformity mark applied to construction products, including structural steel made under BS EN 1090-1.

Volume solids The percentage of a paint that remains as dry film after it has cured.

Weathering steel A steel alloy that forms a stable rust layer protecting it from further corrosion, used unpainted in some structures.

Web The vertical part of an I-shaped beam that joins the two flanges.

Yield strength The stress at which steel starts to deform permanently, for example 355 N/mm^2 for S355.

Searchable online at prosteelsolution.com/glossary/