

Definitions

AISC – American Institute of Steel Construction

AISC Manual – AISC Steel Construction Manual

All other falsework – Represents all falsework except those components that can be classified as heavy-duty steel shoring or steel pipe column falsework with a vertical load capacity greater than 30 kips per leg or column. (*Standard Specifications*, Section 48-2.02B(2), *Falsework – Materials – Design Criteria – Loads*)

Assumed horizontal load – The sum of the actual horizontal loads due to equipment, construction sequence or other causes, and a wind loading. Not to be less than 2% of the total dead load. (*Standard Specifications*, Section 48-2.02B(2), *Falsework – Materials – Design Criteria – Loads*)

Bottom cap – Horizontal member in falsework bent distributing post loads to corbels or pads, typically through wedges and sand jacks.

Bridge camber - Ultimate superstructure deflection curve. (Section 4-2.04, *Camber*)

Cal-OSHA – California Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA)

Camber – An adjustment to the profile of a load-supporting beam or stringer so the completed structure will have the lines and grades shown on the plans. (Section 4-2.04, *Camber*)

Cap – See “Bottom cap” and “Top cap”.

Collapse – Term used when the bracing cannot provide sufficient rigidity to prevent unacceptable distortion of the system when subjected to horizontal forces. (Section 6-1, *Introduction*)

Collapsing force – A horizontal force that works to introduce unacceptable distortion to the system. (Section 6-1, *Introduction*)

Come-along – A commonly used term for a lug-all lever or ratchet hoist. (Section 9-3.12D, *Cable Bracing*)

Corbel – Short beam used to distribute the post load across the top of the pad(s). (Section 8-2.01, *Introduction*)

CT – California Department of Transportation (Caltrans)

DES – Caltrans Division of Engineering Services

Design load – Vertical dead and live loads and an assumed horizontal load. (*Standard Specifications*, Section 48-2.02B(2), *Falsework – Materials – Design Criteria – Loads*)

Drag Coefficient (Q) – Used for calculating wind pressure values for “all other falsework”. (*Standard Specifications*, Section 48-2.02B(2), *Falsework – Materials – Design Criteria – Loads* and Section 3-3.03C, *Wind Loads on All Other Falsework*)

Falsework – Temporary construction used to support the permanent structure until it becomes self-supporting. (Section 1-1, *Definition of Falsework*)

Falsework bracing system – Those elements designed to resist the “assumed horizontal load” and prevent overturning or collapse. (Section 3-3, *Horizontal Load*, and 6-1, *Introduction*)

Finishing machine – Machine used to finish the concrete during a deck pour. Typically Bidwell. (Section 4-2.02, *Actual Deflection*)

Formwork – (Forms) Used to retain plastic concrete in its desired shape until it has hardened. Designed to resist the fluid pressure of plastic concrete, plus the additional equivalent fluid pressure generated by vibration. May be removed as soon as the concrete hardens, because they do not carry the dead load of the concrete.

FS – Factor of safety

Heavy duty steel shoring – System capable of carrying up to 100 kips per tower leg. Typically, WACO or PAFCO (Section 7-4, *Metal Shoring Systems*)

HQ – Headquarters in Sacramento, California

ICC – International Code Council

ICC-ES – International Code Council Evaluation Service

Joist – Horizontal members that distributes loads from plywood forms on to the stringers.

Limiting length - The length over which a specific falsework pad will actually distribute the post load uniformly at the post location under consideration. (Section 8-2.04D, *Pad Analysis at Exterior Post*)

Load carrying member – Members that control the structural design of falsework.

METS – Materials Engineering and Testing Services within DES

Minimum total design load – 100 psf (*Standard Specifications*, Section 48-2.02B(2), *Falsework – Materials – Design Criteria – Loads*, and Section 3-2.03, *Minimum Total Design Load*)

NDS – 2018 National Design Specification for Wood Construction by the American Wood Council.

Other falsework – See “All other falsework”

Overturning – Term used when the system or element fails by overturning, because the bracing provides sufficient rigidity to the system or element to act as a single rigid unit. (Section 6-1, *Introduction*)

Pad – Timber or concrete members used to distribute the corbel loads or post loads to the soil. (Sections 8-2, *Timber Pads*, and 8-3, *Concrete Pads*)

Pile Bent – Falsework bent where the piles in the foundation extend above the ground and take on the function of the posts. (Section 8-6.01, *Introduction*)

Pony bent – Falsework bent usually erected on, and supported by, a platform constructed on top of primary load carrying members (Section 6-7, *Pony Bent Systems*)

Pork-chop – A common term for wire rope grips due to their shape (Section 9-3.12D, *Cable Bracing*)

Post – Timber or steel member whose primary purpose is to carry axial load from the top cap to the bottom cap, corbel, or pad. In some cases, it may carry combined axial and flexure stress.

Proprietary shoring systems – Systems in which metal components are assembled into modular units that may be stacked to form a series of towers which comprise the vertical load carrying members of the system. (Section 1-7, *System Types*)

Removal – Falsework removal includes lowering the falsework, blowing sand from sand jacks, turning screws on screw jacks, and removing wedges. (*Standard Specifications*, Section 48-2.03D, *Falsework – Construction – Removal*)

Residual camber - Camber remaining in the bridge after it is completed. (Section 4-2.04, *Camber*)

Reviewer – The structure representative or civil engineer registered in the State of California reviewing the falsework shop drawing submittal.

S4S – Surfaced on four sides.

SC – Structure Construction is a subdivision of DES.

Sleeper – Filler strip placed on stringers to prevent joists from bearing on the edge of the stringer flange during deflection and to prevent stringer cantilevered tail upward deflection to hit soffit forms (Sections 4-2.03, *Negative Deflection*, and 4-2.04, *Camber Strips*)

Soffit – The underside or bottom slab of concrete box girder.

Special Locations – Falsework constructed over or adjacent to roadways or railroads open to traffic. (*Standard Specifications*, Section 48-2.02B(4), *Falsework – Design Considerations – Special Locations*)

Stability – Resistance to overturning or collapse of the falsework system as a whole (global) or that portion (local) of the falsework system under consideration. (Section 6-1, *Introduction*)

Stringer - Horizontal member spanning between the falsework bents distributing joist loads to the top caps. Also called beam.

Theoretical effective length - Maximum length over which a falsework pad is capable of distributing the post load uniformly, all other factors being equal. (Section 8-2.02A, *Effective Bearing Length for Uniform Post Spacing (SYM Formula)*)

Top cap – Horizontal member in falsework bent distributing stringer loads to posts.