

The complex functional requirements lead to a complex internal force composition of the crossbeam. When subjected to torque, the two main beams of ...

Due to the uneven distribution of transverse moments along the longitudinal direction (Z), the equivalent second moment of area of the steel girder in the frame model may have difficulties in ...

Diaphragms or cross-frames for rolled-beam and plate-girder bridges shall satisfy the stability bracing stiffness and strength requirements specified in Article 6.7.4.2.2, as applicable.

This paper studies the optimal design of bridge towers with crossbeam by using analytical solutions obtained from the second-order matrix stiffness method and adopting a reliability ...

An analysis was made on a frame (rahmen) model consisting of main girders, a floor slab and crossbeams on two cases: Case-1 in which live loads were imposed on the extended portions of a ...

If a designer elects to obtain cross-frame force effects from a refined analysis for a straight and normal bridge, 2D methods are typically preferred due to their simplicity and ease-of-use.

Placing intermediate cross frames in continuous lines across the structure can create stiff transverse load paths, producing high cross frame forces. Placing intermediate cross frames in discontinuous ...

Cross Frames are used in LEAP Bridge Steel to more accurately describe the overall deck stiffness (in grillage analysis) and to determine flange lateral bending stresses that result from dead and live load ...

The influence of the framing arrangement on the bridge's three-dimensional behavior is assessed and guidelines are provided for developing effective framing arrangements for straight skewed and ...

It includes a sheet index, general notes, design assumptions, and criteria for girder, diaphragm, and cross-frame design, as well as lateral bracing and bolted field splices.

This study investigates the adequately rigid cross-beam for bridge tower based on elastic buckling and second-order analyses of a symmetric portal frame.

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