Dimensions and specifications of cast-in-place beams for distribution boxes



Overview

Concrete Beam Concrete box beams are made by casting concrete into a mold that has the desired shape. Concrete Box Beams are available in a range of sizes.

Key Takeaways

Typical cast-in-place concrete box beams for distribution boxes have widths of 36–48 inches, depths of 17–42 inches, and lengths ranging from 12 to 30 meters, depending on span and structural requirements.

Typical Beam Dimensions

Width: Standard widths are generally 36 inches (0. 91 m) and 48 inches (1. 22 m) for box beams used in bridges or distribution structures.

Depth: Depths typically range from 17 inches (0. 43 m) to 42 inches (1. 07 m), with deeper sections used for longer spans or higher load requirements.

Length/

Span: Standard lengths for cast-in-place beams vary from 40 to 100 feet (12. 2–30. 5 m), though actual span depends on structural design, girder spacing, and load conditions.



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Design Considerations

Reinforcement: Vertical and horizontal reinforcement is required to resist bursting, spalling, and shear stresses, especially at beam ends. Shear keys may be incorporated for composite action with cast-in-place slabs. Prestressing: Post-tensioning or prestressing tendons are often used in cast-in-place box beams to improve strength and control deflection.

Integration with Slabs: Beams are typically designed to support a cast-in-place concrete deck, with composite action achieved through shear connectors or keys. Minimum Depth for Deflection Control: For preliminary design, minimum depths are often taken as 0. 03L for simply supported spans and 0.

025L for continuous spans, where L is the span length.

Special Notes

Custom Sizes: While standard dimensions cover most applications, non-standard widths, depths, or multi-cell configurations can be designed for specific site conditions or higher load requirements. Material Standards: Concrete strength, cover, and reinforcement must comply with AASHTO or local design codes to ensure durability and serviceability. In summary, cast-in-place box beams for distribution boxes are typically 36–48 inches wide, 17–42 inches deep, and 12–30 meters long, with reinforcement and prestressing tailored to span, load, and integration with the deck slab.

These dimensions provide a practical baseline for preliminary design, while final sizing should be verified against structural codes and site-specific requirements.

Article Content

Concrete Beam

Concrete box beams are made by casting concrete into a mold that has the desired shape. Concrete Box Beams are available in a range of sizes with widths of 36”, 48” (91, 122 cm) and

751.21 Prestressed Concrete Slab and Box Beams

ONTROLLING LIVE LOAD DISTRIBUTION FACTORS ARE: 30''-0 SPAN MOMENT = 0.39 LANES / BEAM SHEAR = 0.70 LANES / BEAM 40''-0 SPAN MOMENT = 0.37 LANES / BEAM SHEAR = 0.69

Prestressed Concrete Box Beam Details (Type B40)

Standard design sheet for prestressed concrete box beams (Type B40) with details on sections, plans, reinforcement, and drainage.

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Precast Concrete Beam Specifications | PDF | Precast Concrete

This technical manual provides information on various types of prestressed concrete beams produced by Shay Murtagh Precast. It includes specifications, typical applications, advantages, and span tables

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The Manual reviews features of the construction of cast-in-place concrete box girder bridges, material characteristics that impact design, fundamentals of prestressed concrete, and losses in prestressing

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PCI BRIDGE DESIGN MANUAL_____ _____APPENDIX

CATALOG | Electric Manholes, Pull Boxes, Transformer Pads

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ACI 315-99 Details and Detailing of Concrete Reinforcement ...

Placing drawings and bar lists must show all bar dimen-sions as out-to-out with bar lengths as the sum of all detailed dimensions, including hooks A and G (Table 1 in Part C).

Precast Concrete Beams Manual | PDF | Prestressed Concrete

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Requirements And Specifications For Installation Of Distribution Boxes

In flammable and explosive environments, explosion-proof distribution boxes should be selected and explosion-proof treatment should be carried out. The installation of explosion-proof

American Wide Flange Steel Beams (W-Beams)

Dimensions, weight, section properties, and essential data of American wide flange steel beams (W-beams) according to the ASTM A6 standard.

TECHNICAL SPECIFICATION FOR LT DISTRIBUTION BOX

General Technical Particulars for LT Distribution Boxes : - The L.T. Distribution Boxes should be of the dimensions as per the drawing & details in the table furnished.

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ENGINEERING STANDARDS FOR PRECAST/PRESTRESSED CONCRETE DOUBLE BOX BEAM ...

11. STRAND PATTERN FOR DOUBLE BOX BEAM CONSISTS OF 0.6" DIA. SEVEN-WIRE HIGH-STRENGTH LOW-RELAXATION STRANDS AT 2" MINIMUM SPACING. FABRICATORS MAY BE

Distribution Box

Metal Distribution Box Features Continuously welded seams Foam-in-place seamless gasket 120-degree opening heavy-duty industrial hinges IP66 protection rating against dust and water according

Distribution box catalogue | PDF

This document provides specifications for various distribution boxes including dimensions, mounting sizes, and number of ways. It includes specifications for TOP-TS, TOP-TF, TOP-LS, TOP-PS, TOP

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Specification DDS-4 UG Revision 12, December 2022 ONCOR ELECTRIC DELIVERY COMPANY SPECIFICATIONS FOR ELECTRICAL UNDERGROUND DISTRIBUTION SYSTEMS FROM

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Prestressed Concrete Box Beams A staple in the Prestressed Concrete beam market, the box beam continues to demonstrate its flexibility by providing design options using boxes in an adjacent

Electrical Control Panels & Distribution Boxes: Sizes,

Electrical control panels and distribution boxes are the backbone of modern electrical systems. From powering homes and industrial facilities to

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