

Structural Analysis Report

Generated by Civil Engineering Web Tool

1. Project Information

Date: 2025-08-02 15:00

Design Code: ACI

Element Type: beam

2. Input Parameters

type: Normal

code: ACI

fc: 30

fy: 320

width: 30

depth: 50

length: 1

cover: 3

Rebar:

- count: 4

- diameter: 11

Loads:

- dead: 100

- live: 70

- wind: 0

- snow: 0

element: beam

3. Seismic Analysis

zone: 1

soil: soft

base_shear (kN): 120

status: safe

note: Simplified ACI seismic check based on ASCE 7

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Note: This is a preliminary seismic assessment based on zone, soil type, and system type. It is not a replacement for full dynamic analysis.

4. Structural Analysis

element: concrete_beam

type: Normal

f_c (MPa): 30 → Concrete Strength

A_s (mm²): 380.13 → Steel Area

M_n (kN·m): 50.58 → Nominal Moment Capacity

M_u (kN·m): 21.25 → Applied Moment

ϕ : 0.9 → Strength Reduction Factor

status: safe

Details:

effective_depth d (mm): 470

total_uniform_load w (kN/m): 170

length (m): 1

code: ACI

note: Analysis performed using ACI design parameters