

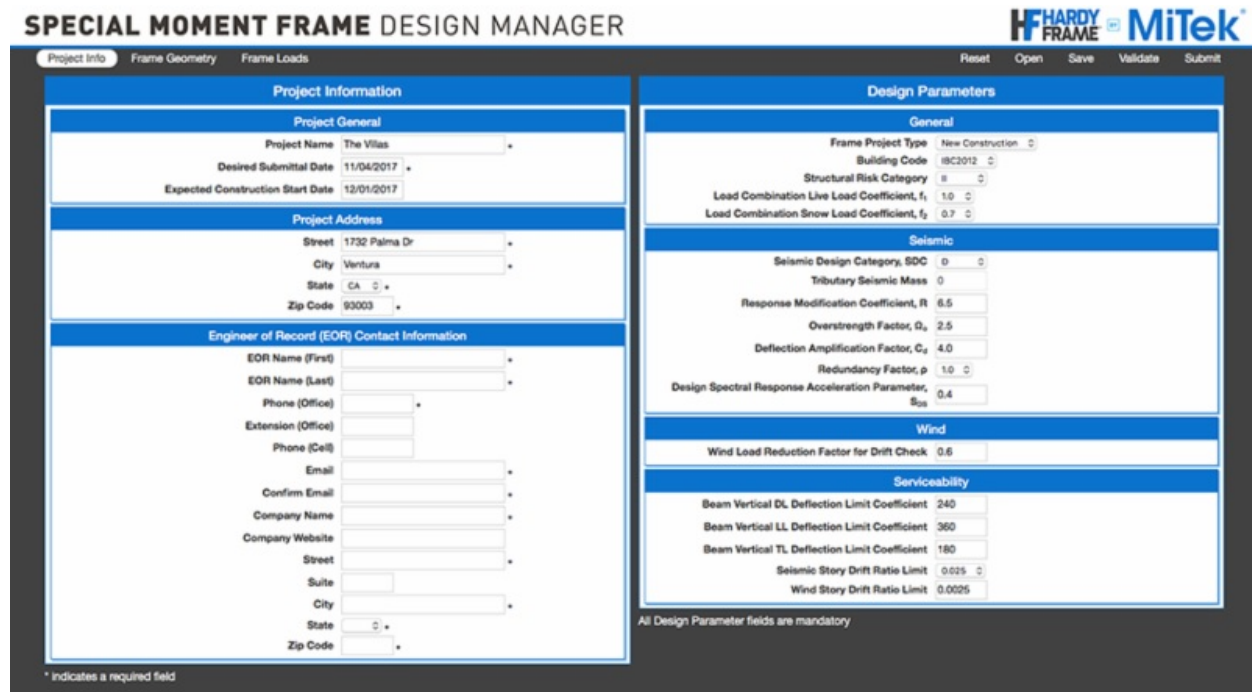
Special Moment Frame Design Manager Web Application

The new MiTek Hardy Frame Special Moment Frame Design Manager is a **highly interactive web application that enables engineers to easily input job specific design information, then submit to our engineering department through an Internet-based program.** Once the input is complete it can be sent to Hardy Frame® with a single click of the "Submit" button. Phone calls, emails and tedious manual input forms are eliminated to improve accuracy.

The Design Manager consists of three sections

- Project Information & Design Parameters
- Frame Dimensions, Connections and Wood Nailer provisions
- Design Load applications

PROJECT INFORMATION & DESIGN PARAMETERS



SPECIAL MOMENT FRAME DESIGN MANAGER

Project Info | Frame Geometry | Frame Loads

Reset | Open | Save | Validate | Submit

Project Information

Project General

Project Name: The Villas

Desired Submittal Date: 11/04/2017

Expected Construction Start Date: 12/01/2017

Project Address

Street: 1732 Palma Dr

City: Ventura

State: CA

Zip Code: 93003

Engineer of Record (EOR) Contact Information

EOR Name (First):

EOR Name (Last):

Phone (Office):

Extension (Office):

Phone (Cell):

Email:

Confirm Email:

Company Name:

Company Website:

Street:

Suite:

City:

State:

Zip Code:

* indicates a required field

Design Parameters

General

Frame Project Type: New Construction

Building Code: IBC2012

Structural Risk Category: B

Load Combination Live Load Coefficient, f_1 : 1.0

Load Combination Snow Load Coefficient, f_2 : 0.7

Seismic

Seismic Design Category, SDC: D

Tributary Seismic Mass: 0

Response Modification Coefficient, R : 6.5

Overstrength Factor, O_s : 2.5

Deflection Amplification Factor, C_d : 4.0

Redundancy Factor, ρ : 1.0

Design Spectral Response Acceleration Parameter, S_{DS} : 0.4

Wind

Wind Load Reduction Factor for Drift Check: 0.6

Serviceability

Beam Vertical DL Deflection Limit Coefficient: 240

Beam Vertical LL Deflection Limit Coefficient: 360

Beam Vertical TL Deflection Limit Coefficient: 180

Seismic Story Drift Ratio Limit: 0.025

Wind Story Drift Ratio Limit: 0.0025

All Design Parameter fields are mandatory

The user inputs general contact information, project location and IBC 2012 or 2015 design data including Seismic, Wind and Serviceability parameters. One- and two-story frames up to three bays are supported.

FRAME DIMENSIONS, CONNECTIONS AND WOOD NAILER PROVISIONS

SPECIAL MOMENT FRAME DESIGN MANAGER HARDY FRAME MiTek

Project Info **Frame Geometry** Frame Loads Reset Open Save Validate Submit

Frame Dimensions and Constraints

of Frames: 1

of Stories: 1-Story

of Bays: 1-Bay

Bay 1 Width: 10' 0"

Maximum Allowable Frame Thickness: 8"

Story 1

Joist Configuration: Hanging

Minimum Allowable Opening Elevation: 8' 0"

Top of Beam Assembly Elevation: 10' 0"

Left Cantilever Length from Column CL: 0"

Right Cantilever Length from Column CL: 0"

Beam Parameters

Top Connection: 2x Nailer

Bottom Nailers: 2x Nailer

Column Parameters

Maximum Exterior Column Depth: 1' 0"

Nailers on Exterior Flanges of Frame: 2x Nailers

Nailers on Interior Flanges of Frame: 2x Nailers

Nailers on Column Webs: No Nailers

Boundary Conditions

Boundary Condition / Foundation Type: Pinned / Rectangular Footing w/Slab

Slab Depth: 8"

Footing Depth: 2' 6"

The diagram illustrates a Hardy Frame Special Moment Frame. Key dimensions and elevations are labeled:

- Total Frame Ht = 10' 0"** (Overall height)
- Frame Ht = 10' 0"** (Clear height)
- Allowable Clearance Ht = 8' 0"** (Clear height from footing to top of beam assembly)
- Top of Beam Assembly Elev. = 10' 0"**
- Min. Allowable Opening Elev. = 8' 0"**
- Top of Concrete Elev. = 0' 0"**
- Top of Footing Elev. = -8"**
- Bottom of Footing Elev. = -3' 2"**
- Win(wood-wood) = 8' 9"** (Width of wood-wood connection)
- Wcl-cl = 10' 0"** (Width of column-to-column connection)
- Wout = 11' 3"** (Overall width)

As the user enters dimensions the frame is instantly drawn to scale. The input is checked for consistency and accuracy, preventing costly specification errors and delays. Clearance heights and widths are displayed, including reductions for wood nailers and SidePlate connections.

Anchorage connections to the foundation and shear transfers into the Frame are chosen

Wood nailer options including top of beam, bottom of beam, column flanges and/or column webs are input

DESIGN LOAD APPLICATIONS

SPECIAL MOMENT FRAME DESIGN MANAGER HARDY FRAME MiTek

Project Info Frame Geometry **Frame Loads** Reset Open Save Validate Submit

Drawing Options

Display Loads by Load Pattern:

Joint Loads Add Joint Load

Joint ID	Load Pattern	Fx (kips)	Fy (kips)	My (kip-ft)
P1-1	Seismic	10500	8000	0
P2-1	Seismic	10500	8000	0

Frame Uniform Loads Add Uniform Load

Beam ID	Load Pattern	Distance A	Distance B	Load (kip/ft)
B1-1	Dead	0"	10' 0"	0.1
B1-1	Live	0"	10' 0"	0.1

Frame Point Loads Add Point Load

Beam ID	Load Pattern	Distance A	Fx (kips)	My (kip-ft)
B1-1	Dead	0' 0"	15	0

- "Distance A" and "Distance B" are measured from column centerline.
- Magnitudes of applied wind and seismic load patterns should be calculated at ASD level WITHOUT the overstrength factor.
- Hold Down load patterns are seismic forces intended to be multiplied by the system overstrength factor R_D .
- Magnitudes of an applied Hold Down load pattern should be calculated at ASD level WITHOUT the overstrength factor R_D .
- The overstrength factor will be applied in the appropriate load combinations during analysis.

10' 0"

Design load input is also interactive and graphical. Point, Joint and Uniform loading is supported by an intuitive interface. Eight Load Patterns including Dead, Live, Seismic and Wind are supported. Vertical, lateral and moment load types are accommodated.

The new **Special Moment Frame Design Manager** application is a new generation of MiTek web-based technology. It is intuitive and impressive on many levels including the interactive graphics, accuracy and ease of submittal. This is a great sales tool that is up and running for you to refer engineers for immediate use at the link:

<https://builderproducts.mii.com/specialmomentframe/>

For more information about Hardy Frame® Special Moment Frames go to <http://www.hardyframe.com>

Questions? We're here to help! Contact Customer Service (800) 754-3030
We'd love to hear from you.