

**ClarkDietrich Wall Creator**

Wall Type: 09.22.16 - NonStructural Metal Stud Framing

Build for Height | Build for STC Rating | Build for UL / Fire Rating

Web Depth: 3-5/8" | Stud Spacing: 24" o.c. | Deflection: L / 240 | Lateral Load: 5 psf

Wallboard Material Type: 5/8" Type X Gypsum Wallboard

Layers of Wallboard: Int. Side: (2) Layer - Ext. Side: (2) Layer

Limiting Height Chart Design: Composite Design (Based on 1 layer each side)

Wall Info

Family: System Family: Basic Wall

Wall Type Name: Interior - 6-1/8" Partition (U419 2hr - STC 54) ClarkDietrich 3-5/8" ProSTUD 25 @ 24" o.c. w/Batt

Description: Interior - 4-7/8" (U419 1hr - STC 48) ClarkDietrich 3-5/8" ProSTUD 25 @ 24" o.c. w/ 2&2 Layers 5/8" Type X w/Batt

Type Comments: Interior - 6-1/8" Partition (U419 2hr - STC 54)

Type Mark:

Limiting Heights

Select Wall Height Below to Build Wall System

Web	Stud Member	Spacing	Lateral Load	L /120	L/240	L /360
3-5/8"	ProSTUD 25	12" o.c.	5 psf	21'-0"	16'-8"	14'-7"
3-5/8"	ProSTUD 25	16" o.c.	5 psf	19'-1"	15'-2"	13'-3"
3-5/8"	ProSTUD 25	24" o.c.	5 psf	15'-11" f	13'-3"	11'-7"
3-5/8"	ProSTUD 20	12" o.c.	5 psf	23'-9"	18'-11"	16'-6"
3-5/8"	ProSTUD 20	16" o.c.	5 psf	21'-7"	17'-2"	15'-0"
3-5/8"	ProSTUD 20	24" o.c.	5 psf	18'-11" f	15'-0"	13'-1"

f. Flexural stress controls s. Shear/End reaction controls \*: Higher heights can be achieved by using end bearing stiffeners

UL / Fire Rating for Selected System: UL U419 2 Hour

STC Rating for Selected System: w/ batt insulation 54 STC

Add UL Info to Wall Type Properties  Add STC Info to Wall Type Properties

**Build Wall Type**

ClarkDietrich WallCreator showing build for height.

## A wall of detail

Benefits of using component-specific, wall framing BIM add-on tools.

By Mike Murzyn

**Building information modeling (BIM)** is increasingly becoming a valuable tool for design and construction teams across various building processes and platforms. These information-based 3D models help manage complex plans from multiple trades, as well as identify and avoid potential clashes or inconsistencies before they happen. But, what makes BIM valuable is its ability to integrate information from various stages of the building lifecycle and easily communicate this data to the appropriate members of the design team. From BIM software that optimizes the building envelope with information on each building component's dead load and structural load inputs for wind, seismic, and other requirements; to BIM software that enables sustainable design by addressing energy efficiency and green product specification, BIM processes are being adopted by AEC firms across the country.

While the use of BIM is increasing, the idea of using component-specific BIM programs, such as those for interior steel wall framing, is only beginning to gain traction among building professionals. The level of detailed information available through BIM add-ons is helpful to structural engineers looking to develop data-rich 3D images of interior spaces or component load-bearing wall framing. It helps in the creation of infinite views, perspectives, schedule data and facility and operational management for the life of the building. In addition to detail on code requirements and strength, a well-constructed wall framing BIM object or wall type can identify the location of holes in the walls, thus providing accurate wall shapes and opening dimensions. Many times these components can be inaccurate due to an insufficient level of information, but it can be these small



details that result in complex, more expensive changes further into the construction cycle.

During the construction process, a common change order is for the removal or relocation of partitions. Partition removal and relocation occurs due to design changes by the owner or architect, or to accommodate unanticipated intrusions by other trades, such as mechanical, electrical or plumbing. Unfortunately, every time these changes take place, it increases the costs and time spent on the project. However, through the use of BIM and component-specific add-ons, building professionals can identify these clashes “virtually” and design the necessary changes before the contractor puts labor on the job. This extra level of detail opens a line of communication between members of the design team and increases the likelihood of open and productive conversations where changes can take place in real time. Wall framing BIM add-ons can include a wide range of information relevant to installation, code requirements, LEED guidelines and future maintenance.

The integration of a wall framing add-on greatly benefits structural engineers and architects looking to increase their participation with the design team and produce interior drawings more efficiently and accurately. The ability to look at a BIM object or wall type and quickly understand a wall’s construction, fire and sound requirements, limiting heights and design, helps the engineering team to answer questions more effectively about structural integrity and other associated building elements. BIM also offers benefits after the structure is complete. Providing as much detail as possible to facility management and building owners can help reduce costs for the lifetime of the building and make maintenance and updates more cost-effective over time. This not only helps the facility management, but reflects positively on the parties responsible for the building’s design and construction.

A few leading interior framing manufacturers offer AutoDesk Revit BIM add-ons. These additions allow users to seamlessly integrate a significant amount of wall data into new or existing BIM models, therefore creating a more comprehensive BIM model. The programs can also eliminate the need for temporary wall libraries that require users to change each individual wall element to accommodate updates. When considering different wall framing BIM add-ons, it is important to ensure the program includes all the information the design team would need, such as:

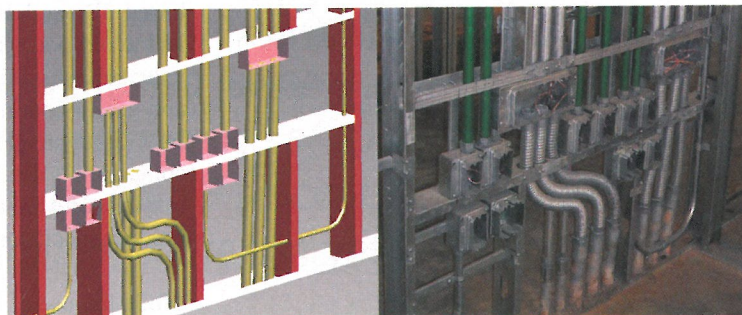
- Detailed wall assembly data with product information
- Type and number of layers of wall sheathing
- Overall wall width with the ability to add resilient channel and/or wall insulation
- Leadership in Energy and Environmental Designs (LEED) details
- Product submittal sheet links
- Fire test data, including UL test number
- Sound test data, STC sound performance rating

- Limiting height tables based on stud spacing, deflection and interior lateral load

In many cases, when a wall type is created, it displays the actual materials and assembly needed for correct installation. Then, each time the profile is changed, all the corresponding parts will update as well. This amount of programming and detail allows the design team to see exactly how the wall needs to be constructed, what the limitations may be and how it fits into the overall building’s construction. However, it is important to remember that not all manufacturer’s BIM software add-ons are the same, and users need to be aware that some systems may be more robust than others.

To increase efficiencies and reduce confusion, it is important that BIM models and drawings provided to the design team are as complete and detailed as possible, which encourages active and smooth coordination between all involved parties. As BIM continues to gain traction for projects of all sizes, there are three best practices for any person or team to consider: 1) discuss how to organize the BIM model; 2) decide upon the level of detail to include; and finally, 3) share the design intent with other professionals who play a role in the design and construction and may interact with the BIM model. By incorporating a wall framing add-on into the larger BIM object or wall type, design teams are ensuring there is an elevated level of detail and awareness regarding the installation of the interiors, resulting in fewer changes and less confusion.

If all associated parties to a project can gain a general understanding of what is expected within the BIM object, confusion and clashes can be alleviated. Detailed BIM models help improve a team’s communication by adding a higher level of accuracy that previously may have been difficult to convey instantly. It helps create an understanding about how each manufacturer’s building system components will work together.



In this example, the conduit and wall framing have been planned to work together. Because the bank of electrical outlets was known in the design phase, each trade was able to understand how all the elements should fit in the field. Not only does this look clean, but the coordinated effort allowed it to pass inspection and prevent delays in the field. *Image courtesy of ClarkDietrich Engineering Services LLC*

**Mike Murzyn** is technical product and marketing manager for ClarkDietrich Building Systems and was a key developer in ClarkDietrich’s BIM Wall Creator ([www.clarkdietrich.com/BIM](http://www.clarkdietrich.com/BIM)). Wall Creator system is tailored specifically for interior wall creation and steel framing, and develops information-rich wall types, with specific details on UL, STC and limiting heights.