

Live Interactive Web Seminar

Pay a single site registration fee* and an unlimited number of people in your organization can attend at that site.



Foundations for Metal Building Systems

Sponsored by ASCE Continuing Education and The Structural Engineering Institute (SEI)

TUESDAY, June 17, 2008
12 Noon – 1:30 pm Eastern Time

PURPOSE AND BACKGROUND

Metal building systems (also called pre-engineered buildings) are designed and manufactured by their suppliers. According to some estimates, these extremely popular structures account for about two-thirds of all low-rise nonresidential buildings in the United States. A lot of research and engineering goes into developing design methodologies for metal buildings, but little guidance exists on the topic of designing their foundations.

Some special challenges involved in designing foundations for metal building systems stem from the fact that their primary framing typically exerts significant horizontal reactions on the foundations. In addition, these extremely lightweight structures tend to experience net uplift on their supports. Accordingly, foundations for metal building systems are generally designed to resist a combination of lateral and vertical loads. When the columns are fixed at the bottom, rather than pinned, additional complications arise.

Not all the foundation designers are familiar with these complexities, and some foundation designs for these structures have been either overly complicated or barely adequate (or not adequate at all). This seminar fills the knowledge void by exploring the most common design solutions for pre-engineered building foundations. Among them are tie rods, which can "extinguish" the opposing lateral reactions, hairpins, which try to incorporate the slab on grade into the lateral force transfer, and many other systems, such as slabs with edge haunches and moment-resisting foundations. The presentation includes several design examples for various design systems.

SEMINAR BENEFITS

- Explore the common types of foundations for metal building systems
- Learn the design methodology for various types of foundations
- Discover the vulnerabilities of some common foundation systems
- Discuss the effects of column base fixity on foundations
- Earn 1.5 Professional Development Hours (1.5 PDHs)

SUMMARY OUTLINE

- Introduction to metal building systems
- Foundations for MBS: What makes them different?
- Methods of estimating column reactions
- Tie rods (with a design example)
- Hairpins (with a design example)
- Moment-resisting foundations
- Slab with haunch (with a comprehensive design example)
- Trench footings, mats
- Piers and grade beams
- Foundations for Quonset Hut-type buildings

INTENDED AUDIENCE

Structural and civil engineers seeking to learn about design of foundations for metal building systems will benefit from this seminar.

Benefits of Live Web Seminars:

- > ***Convenient... no travel is required***
- > ***Cost-Effective... pay a single site registration fee***
- > ***Get real time answers to your questions***
- > ***Receive course materials by e-mail prior to the seminar***
- > ***View instructor's Power Point slides while he/she is presenting***
- > ***Ideal for brown-bag lunch training***

SEI was created in 1996 to serve the unique needs of the structural engineering community more effectively while also being their voice on broader issues that shape the entire civil engineering community. The mission of the Structural Engineering Institute (SEI) is to advance and serve the structural engineering profession. It has 20,000 members and strives to advance its members' careers, stimulates technological advancement, and improves professional practice.



Information/Registration:

SEMINAR INSTRUCTOR

Alexander Newman, P.E., F.ASCE, is a managing engineer in the Natick, Massachusetts, office of Exponent Failure Analysis Associates, a consulting firm investigating failures of an engineering or scientific nature. At Exponent, Mr. Newman is responsible for building collapse and failure investigations around the country. During three decades of professional practice, he has been involved with design and renovation of numerous construction projects ranging from high-end residential buildings to complex multi-story heavy industrial facilities. His diverse engineering and managerial experience includes positions of principal structural engineer with a large architectural and engineering firm, manager of a steel fabrication shop, and engineer with light-gage metal and precast-concrete manufacturers.

Mr. Newman has authored many publications that appeared in the leading engineering magazines, including a number of award-winning articles. His authoritative reference book *Structural Renovation of Buildings: Methods, Details, and Design Examples*, was published by McGraw-Hill Book Company in 2001. He is author of another definitive book from McGraw-Hill, *Metal Building Systems: Design and Specifications*, now in its 2nd edition and translated into Chinese. He has led a great many of ASCE-sponsored educational seminars around the country for design professionals, building officials, owners, and contractors. Mr. Newman has conducted training programs for the employees of U.S. State Department, U.S. Air Force, NASA, Iraqi reconstruction team, and many educational and professional groups. Mr. Newman is an adjunct professor at Northeastern University.

BENEFITS OF LIVE TELEPHONE/WEB SEMINARS

These online courses use teleconferencing and the Genesys Meeting Center software to make the courses actual live, interactive learning experiences. You will be able to ask the instructor questions and get live real time answers. The instructor will be able to conduct polls to gauge your interest in certain areas and ask you questions as well. You will receive course materials by e-mail prior to the seminar and will be able to view the instructor's Power Point slides during the seminar. These types of online courses have a much higher impact than simply reading material on the web. Live telephone/web seminars offer exceptional convenience and are very cost-effective. No travel is required and the site registration fee allows an unlimited number of participants to attend at each site. In addition, each course participant will earn one Professional Development Hour (PDH) per seminar hour.

SYSTEM REQUIREMENTS FOR PARTICIPANTS

As a participant using the Meeting Center, your computer must meet the following requirements:

Audio: Using a touch-tone telephone.

Web: Microsoft Internet Explorer 6.0, Mozilla Firefox 1.5 for Windows/Mac/Linux, or Safari 2.0 for Macintosh*. Internet connection of minimum 128K.

Pop-up Blockers: All Pop-up blockers must be disabled.

Java: Microsoft Internet Explorer 5.5 with Java script and session cookies enabled.

**Limited support for Windows XP SP1 and Vista. Safari on Windows is not supported*

REGISTER ONLINE NOW! SPACE IS LIMITED!

To register go to: <http://www.asce.org/webinar/list>. For more information call 1-800-548-2723. Please note: Registration for each seminar will be closed three business days prior to the seminar. No cancellations will be accepted if they are received within three business days of a seminar. Late registrations may be accepted if space is available and will be assessed a \$25.00 late registration fee. Your registration will be confirmed by e-mail.

Two business days before the seminar, you will receive a confirmation e-mail with a link to download the course materials, a sign in sheet to verify attendance, and detailed information on how to join the meeting; including the phone number you'll need to dial, and meeting number. Please contact the registrar, at webinars@asce.org, no later than 12 noon Eastern Time the day prior to the seminar if you do not receive the confirmation e-mail or for additional information.

CEU'S/PDH'S

ASCE is an IACET-authorized CEU provider and complies with the IACET criteria for awarding CEUs. In addition, ASCE follows NCEES guidelines on continuing professional competency. Since continuing education requirements for P.E. license renewal vary from state to state, ASCE strongly recommends that individuals regularly check with their state registration board(s) on their specific continuing education requirements that affect P.E. licensure and the ability to renew licensure. For details on your state's requirements, please go to: http://www.ncees.org/licensure/licensing_boards/.

REGISTRATION FEES*

FOUNDATIONS FOR METAL BUILDING SYSTEMS

TUESDAY, June 17, 2008 / 12 noon – 1:30 pm Eastern Time

\$299 Member \$349 Non-Member

**Fees per seminar site. Pay one site registration fee and an unlimited number of people in your organization can attend the seminar at that site. The single site registration fee for ASCE's live, web seminars is intended to be an easy, affordable way to provide training for multiple employees in your organization. Your single site registration fee provides you with a site license for one computer log in to the seminar and one toll free phone call to access the audio portion of the seminar. The site license provided to you by the single site registration fee does not permit you to have multiple logins or phone calls from your site or to transmit this information to another site. Therefore, if you plan to have a large group attend the seminar at your site, all participants should assemble in a conference room to hear (via speaker phone) and view (via one computer and a computer projection system) the seminar. If you have several sites, you must register each site individually and pay a separate site registration fee.*