

- Cost effective
- Installs quickly and easily after rebar placement - saving both time and labor
- Allows for thinner columns and lower-profile concrete slabs
- Prevents brittle punching shear failure
- Eliminates column capital and drop panels
- Optimizes flying forms
- Easily verified by on-site visual inspection
- Accommodates unexpected design or construction changes
- Lightweight, easy to move on site
- Ties over the top layer of reinforcement
- Fits into place around post-tension tendons
- Available in epoxy coated and galvanized
- ICC® Recognized: Report ER-5668
- City of Los Angeles Certified: Report RR25486
- Conforms to ACI® 318.05 and CSA®

Patent protected in  
US (patent 6,003,281)  
Europe (patent 823,954)  
and numerous other countries



LENTON® STEEL FORTRESS is a shear reinforcement system that provides a simple solution to the complex problem of brittle punching shear. LENTON STEEL FORTRESS consists of a continuous flat steel strip that is pre-bent during production into a custom-shaped profile to fit over the top of the flexural reinforcement bars in the concrete slab. The steel strips in the LENTON STEEL FORTRESS System meet or exceed ASTM® A505-87 requirements with a minimum yield strength of 72,500 psi (500 MPa) and a minimum elongation of 11%.

The LENTON STEEL FORTRESS System is supplied to the site individually boxed on a per column basis and is custom made to meet your specific application. It allows for fast and easy placement over the already installed uppermost layer of main reinforcing bars. Because the LENTON® system can encapsulate the upper layer without unduly affecting cover, it overcomes the inability to anchor over the uppermost tensile reinforcement layer that some other systems encounter. The capability of the LENTON STEEL FORTRESS System to anchor to the top tier reduces the possibility of the induced shear cracks bypassing the shear reinforcement, thus preventing brittle punching shear failure.

LENTON STEEL FORTRESS has many advantages over other traditional and proprietary punching shear reinforcement systems. It eliminates the need for stirrups and stud reinforcement systems, saves time and labor by going in after the rebar is placed and is exceptionally lightweight and cost effective. In addition, it develops its yield strength over a much smaller length, enabling it to be used in shallow or thinner slabs.



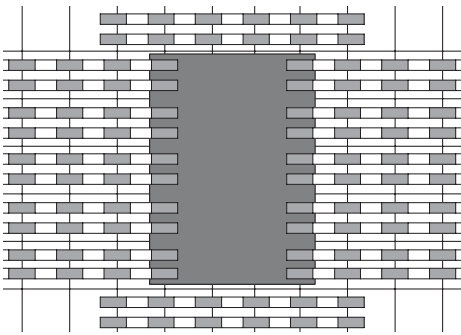
# LENTON® STEEL FORTRESS

## A Shear Reinforcement System

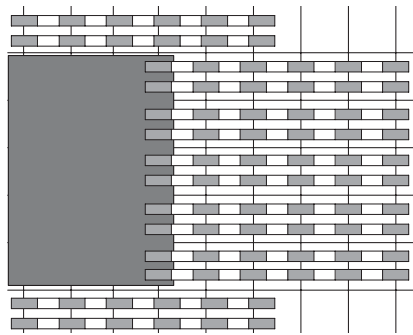
### Installation

The LENTON® STEEL FORTRESS System is tied to the uppermost layer of the main flexural reinforcement and spaced on a center-to-center basis. The horizontal length of the system provides ample space to accommodate the irregularity of rebar placement.

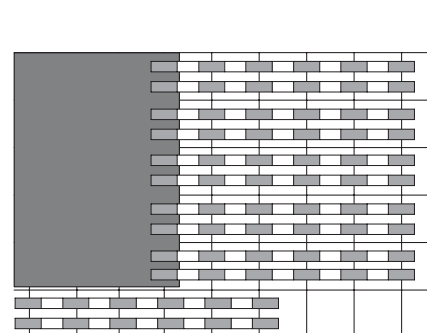
Placement drawings are provided to help ensure that each column head installation follows the design specification.



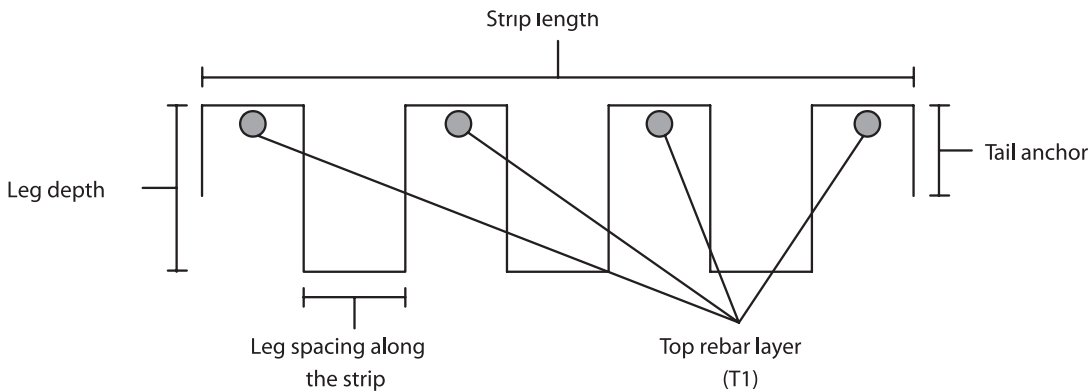
Typical Interior Column



Typical Edge Column

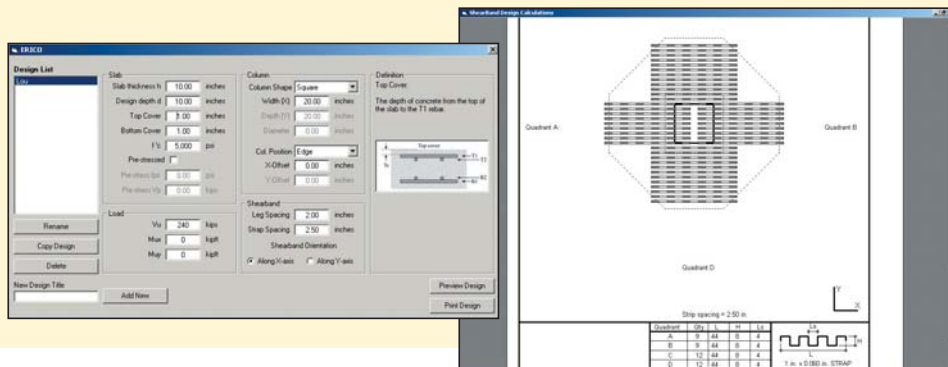


Typical Corner Column



### Design with Confidence: The LENTON STEEL FORTRESS Design Calculator

Input your load and dimension data and this design calculator software will determine the amount of shear reinforcement you need and the configuration in which to place it. Designs generated by the program are in accordance with ACI® 318.02. Post-tension tendons and slab openings are taken into consideration. The LENTON STEEL FORTRESS design program is available at [www.erico.com](http://www.erico.com).



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**WARNING**  
ERICO products shall be installed and used only as indicated in ERICO's product instruction sheets and training materials. Instruction sheets are available at [www.erico.com](http://www.erico.com) and from your ERICO customer service representative. Improper installation, misuse, misapplication or other failure to completely follow ERICO's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death.

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