



## Dimension® Solution Software

### Technology Reduces Cost and Improves Performance of Shallow Foundations

Dimension® Solution Software, developed by Tensar International Corporation (Tensar), applies an innovative proprietary technology to foundation improvement applications.

The software supports the Dimension Foundation Improvement System, an alternative to conventional foundation improvement methods which constructs reliable foundations at a lower cost. It is a composite Mechanically Stabilized Earth (MSE) System of soil and Tensar® Geogrids that interact to create a stiffened platform over weak compressible soils. Similar in concept to a concrete raft foundation, the Dimension System's geogrid-aggregate structure distributes loads more broadly and uniformly over underlying soils.

#### IMPROVING SHALLOW FOUNDATIONS

Dimension Solution Software facilitates the estimation of bearing capacity and anticipated settlement of MSE composite raft foundations. This software is empirically based using extensive field and laboratory research conducted on Tensar Geogrids. It is the culmination of a significant technology development effort by Tensar.

#### TYPICAL APPLICATIONS

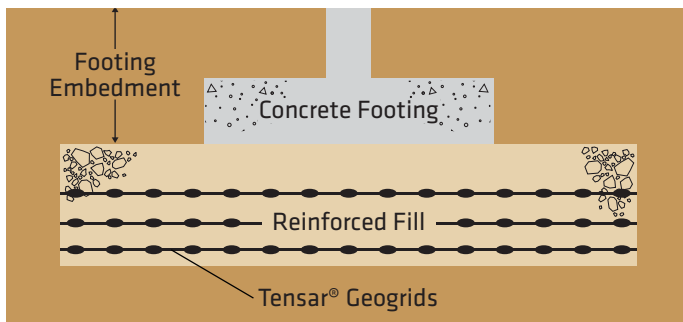
This technology can reduce the cost and improve the performance of shallow foundations. Dimension Solution Software is typically found to be most effective when working with the following:

- ▶ One- to three-story buildings
- ▶ Footings less than six feet in width (square, rectangular or strip)
- ▶ Maximum applied bearing pressure less than 4,000 psf
- ▶ Soils with uniform layers
- ▶ Problem soils which consist of soft clays or loose sands

#### ADVANTAGES IN DESIGN AND PERFORMANCE

When compared to unimproved foundations, Dimension System solutions can:

- ▶ Increase the effective bearing capacity by a factor of up to three
- ▶ Reduce the estimated settlement by up to 60%
- ▶ Improve the margin of safety for unforeseen soil conditions



The primary components of the Dimension System include compacted, cohesionless fill and Tensar Geogrids.



Dimension System used beneath shallow footings.

# Technology for Foundation Improvement

## COST SAVINGS

Dimension Solution® Software may be used to increase design productivity. However, providing clients with safe and reliable designs that reduce construction costs and time is the greater benefit. This technology has been used by project owners and developers to save hundreds of thousands of dollars in building foundation costs. Construction cost savings are typically realized by:

- ▶ Reducing overexcavation and replacement beneath footings
- ▶ Reducing spread footing size
- ▶ Simplifying and speeding construction
- ▶ In some cases, converting the foundation type, e.g., from expensive deep foundations to shallow spread footings

## OTHER FOUNDATION APPLICATIONS

If you are one of the many designers or contractors who has used Tensar Geogrids beneath your shallow foundations for generally improving constructability, compaction and reliability, note that this analytical approach is not intended to discourage such use. The software allows you to develop a detailed geosynthetic design, including the number of geogrid layers and the geogrid layout. The design incorporates specifically designed Tensar Geogrids that have material properties critical to performance in foundation applications.

For special projects, Tensar supplements the software by providing a full range of engineering services such as conceptual designs, cost estimates, specifications and sealed construction drawings. In this way, our Dimension System technology, expertise and experience can be used in designing unique applications not supported by the software, such as the Dimension Foundation Improvement System used as a load transfer platform in combination with deep foundation(s).

**Dimension Solution Software is compatible with Windows® XP, Vista and Windows 7.**  
**To download your copy of the software, please visit our website at [www.tensarcorp.com](http://www.tensarcorp.com).**

**For more information on the Dimension System or other Tensar Systems, please call 800-TENSAR-1, email [info@tensarcorp.com](mailto:info@tensarcorp.com) or visit [www.tensarcorp.com](http://www.tensarcorp.com).**

## THE DIMENSION SYSTEM CONSISTS OF THREE PRIMARY COMPONENTS:

- ▶ **Tensar Geogrids**  
Stiff geosynthetic reinforcement
- ▶ **Cohesionless Backfill**
- ▶ **Engineering Services**  
Design utilizing Dimension Solution Software or Tensar design services for special applications such as load transfer platforms or complicated conditions



**Tensar**®

Tensar International Corporation  
2500 Northwinds Parkway  
Suite 500  
Alpharetta, GA 30009  
[tensarcorp.com](http://tensarcorp.com)

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