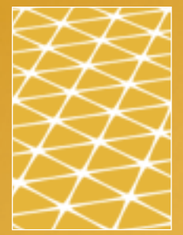
DIMENSION®
FOUNDATION IMPROVEMENT SYSTEM

FOUNDATION
IMPROVEMENT SYSTEM

SYSTEM OVERVIEW

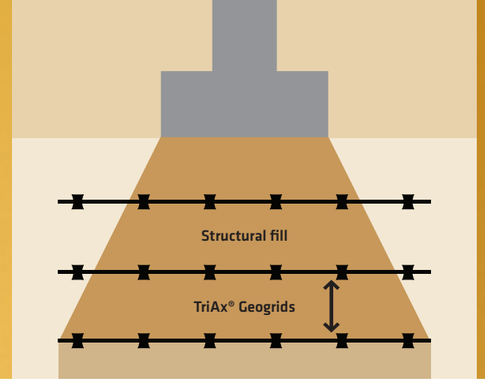
Tensar®

By distributing loads over a larger area, the Dimension® System creates a solid foundation for engineered structures.



TENSAR® GEOGRIDS

The **Dimension System** owes its strength and durability to **Tensar® TriAx® Geogrids**, Tensar's patented geosynthetic reinforcement grids. TriAx Geogrids stand the test of time, performing better than other geosynthetics due to their stiff, dimensionally stable, interlocking structure. For more information, visit **www.tensarcorp.com**.



Changing the View of Structural Foundations

The construction of reliable foundations over poor soils is often the most difficult challenge that designers and developers face.

The potential for differential settlement can threaten a project's success. Encountering poor and compressible soil conditions can substantially increase project costs and construction time.

When compared to conventional more expensive, more labor intensive, and sometimes environmentally unfriendly options, the Dimension® Foundation Improvement System provides an economic solution to a costly problem. In fact, the system has saved developers as much as $1 million on individual projects.

The Dimension System was created to construct reliable foundations at a lower cost than conventional foundation improvement methods. It is a composite mechanically stabilized earth (MSE) system of granular fill and Tensar® TriAx® Geogrids interlocking to create a stiff platform over weak, compressible soils.

An alternative solution to deep overexcavation, chemical stabilization, concrete slabs, grouting and deep foundations, the Dimension System:

- Increases the effective bearing capacity of soils beneath shallow spread footings
- Reduces total and differential settlement by forming a stiffened mat beneath concrete footings
- Improves the tolerance for unforeseen underlying soil conditions
- Provides a load transfer platform (LTP) system when used with deep foundation systems, such as piles or vibro-concrete columns (VCCs)
- Provides an efficient load transfer mechanism for intermediate foundation systems, such as Geopier Rammed Aggregate Piers™

***Snowshoe Effect** – Similar to the way a snowshoe spreads a man's weight over snow, the Dimension System distributes loads over soft or loose foundation soils providing additional support for shallow footings, retaining walls, embankments, etc.*

Dimension System's Components

Component	Function
Tensar TriAx Geogrids	Stiff geosynthetic reinforcement
Cohesionless Backfill	Combines with TriAx Geogrids to form a stiff composite material to aid load transfer
Engineering Services	Design utilizing Dimension Solution Software
Site Assistance	Reduces costs and expedites the installation process

Foundation Designs with Dimension® Solution Software

When used in shallow foundation applications, the Dimension® System incorporates geogrids and good-quality cohesionless backfill beneath spread footings. The composite soil and geogrid structure provides a more efficient means of transferring loads to the underlying soils. This results in an increased effective bearing capacity and a reduction in differential settlement.

Dimension Solution Software facilitates the calculation of bearing capacity and predicted settlement beneath shallow foundations. This software is empirically based, using extensive field and laboratory research conducted on Tensar® TriAx® Geogrids.

Dimension Solution Software helps reduce project costs and improve the performance of a wide range of shallow foundations. It is most effective when working with:

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

The software is also used to increase design productivity. However, providing clients with safe and reliable designs that reduce both installation time and construction costs is the greatest benefit. This technology has been used by owners and developers to save hundreds of thousands of dollars. These savings are typically realized in:

- Reduced overexcavation and replacement for shallow spread footings
- Reduced spread footing size
- Simplified, faster construction
- Allowing the use of "pre-engineered" shallow spread footings in many cases
- Converting the foundation type – from expensive mat, slab or deep foundations to shallow spread footings in some cases

Los Angeles Museum of the Holocaust – Los Angeles, CA
The Dimension System was used to create a foundation improvement solution for the facility. A Mechanically Stabilized Earth (MSE) mattress offered an affordable alternative to overexcavation and replacement while also minimizing differential settlement.

*The Dimension Software is compatible with Windows® 2000, XP, NT or higher and is available from Tensar International Corporation (Tensar). For more information call **800-TENSAR-1** or e-mail **info@tensarcorp.com.***

Optimizing Deep Foundation Designs

LOAD TRANSFER PLATFORMS (LTPs)

The Dimension® LTP System is a stiff, geogrid-reinforced mat foundation that is used to transfer loads to rigid columns in deep foundation systems. Successfully utilized with auger-cast piles, jet-grout columns and vibro-concrete columns, it provides an economical solution to design problems associated with placing non-settlement-sensitive structures that impose heavy loads over weak soils.

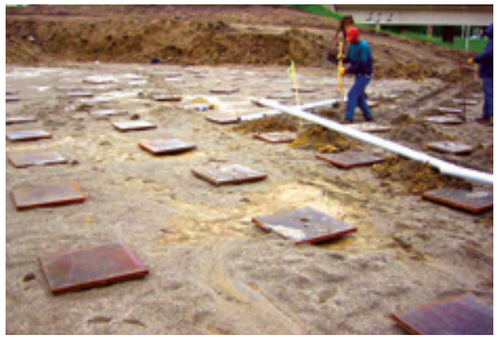
Because of the complexity of LTP designs, detailed and project specific design assistance is required. Please contact Tensar for engineering support when considering these types of applications.

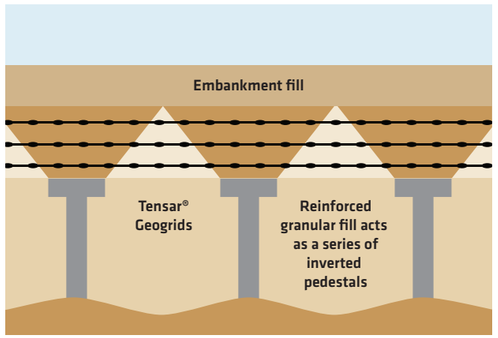
By incorporating Tensar® Geogrids, the Dimension LTP System:

- Reduces differential settlement and movements
- Uniformly distributes earth pressures
- Eliminates overexcavation and replacement
- Enables embankments to be built in less time

The Dimension LTP System has been proven to:

- Efficiently transfer loads to rigid column elements
- Resist lateral thrust at the sides of an embankment
- Form a stiff mat foundation that reduces the vertical stress directly applied to the weak soil between piles





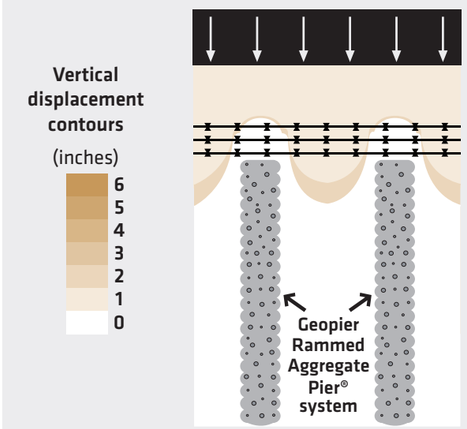
This photo and diagram are examples of an LTP System and soil arching.

INTERMEDIATE FOUNDATION® SYSTEMS

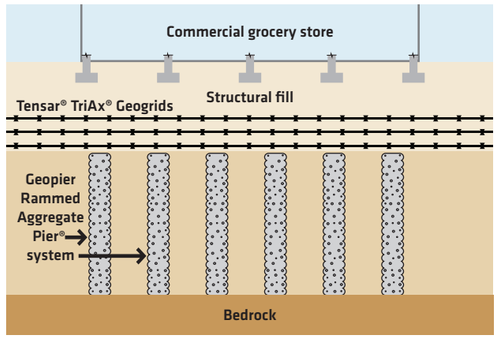
The Dimension® System can also be used to reduce differential settlement of new engineered fill supported by Rammed Aggregate Pier® systems from Geopier Foundation Company*.

In this application, TriAx® Geogrids are used to form a stiffened raft of engineered fill that helps to distribute loads from new fill onto the piers and reduce differential settlement between the compressible soil and widely spaced piers.

*Geopier Rammed Aggregate Pier systems are a proven soil reinforcement technology that provide an economical alternative to traditional foundation support methods. They often provide a faster and less expensive solution for supporting a variety of settlement sensitive structures. For more information, call Geopier Foundation Company at **800-371-7470** or visit **www.geopier.com**.



Output from numerical analysis illustrates the reduction of vertical displacement of the Dimension LTP System.



A commercial application using the Dimension System and a Rammed Aggregate Pier® system from Geopier.

Westway Terminal Storage Tank – Philadelphia, PA
Because the Dimension® System minimized total and differential settlement, a reduction in overall project cost was realized on this existing tank farm.

The Engineered Advantage™

Proven for nearly three decades of use, the Dimension® System has been specified by public transportation agencies, the U.S. Army Corps of Engineers, Fortune 500 firms and respected engineering consultants.

Our distribution team throughout the world is dedicated to providing you with the highest quality products, service and support. With a technically trained field sales staff and an in-house engineering department, Tensar keeps its systems at the forefront of today's design technology and market trends.

For more information on the Dimension Foundation Improvement System, please call **800-TENSAR-1**, visit **www.tensarcorp.com** or e-mail **info@tensarcorp.com**. We are happy to supply you with additional Dimension Foundation Improvement System product information, complete installation and design guidelines, system specifications, design details, conceptual designs, sealed construction drawings, preliminary cost estimates, summaries of completed projects, software and much more.

New Hampshire District Courthouse – Concord, NH
The Dimension System helped provide an economical shallow foundation solution, which reduced projected costs and posed no hazard to adjacent historical sites.

Wal-Mart – Chula Vista, CA
The Dimension System solution saved an estimated $1 million over the original design for this store.

Kohl's – Omaha, NE
Using the Dimension® System when building a new store saved Kohl's installation time and approximately $90,000 in construction costs.

Tensar®

Tensar International Corporation
2500 Northwinds Parkway, Suite 500
Alpharetta, Georgia 30009

800-TENSAR-1
tensarcorp.com

Distributed by:

DIM_BRO_10.12