



Geotechnical Systems

DSI Product Overview

DYWIDAG Bar Anchors

DYWIDAG Multistrand Anchors

System Description

DYWIDAG Temporary Strand Anchors

DYWIDAG Permanent Strand Anchors with DCP (double corrosion protection)

Anchor Design

Anchor Properties

Anchor Types and Corrosion Protection

Anchor Installation, Stressing and Monitoring Equipment

Post Grouting of Anchors

DYWIDAG Soil Nails

DYWIDAG Rock Bolts

DYWIDAG Driven Ductile Iron Pile

DYWI® Drill Hollow Bar System

GEWI® Piles

DYWIDAG Tie Rods

DYWIDAG Micropiles

Downloads

read more ...

 Brochure DYWIDAG Strand Anchor Systems, Filesize:1.9 MB

References

read more ...

 Irving Tissue Weston road, Canada

 Reno ReTRAC Project, USA

Convert Technical Units

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DYWIDAG Strand Anchor Systems

Anchor Design

Anchor Capacity

Although there is no theoretical limit to the capacity of a multistrand anchor, practical considerations such as drill hole size and the availability of material handling equipment limit the size of an anchor to 91-0.6" (15.2 mm) dia. strands in most cases. Larger anchors can be manufactured, but the practicality and economics of their use should be thoroughly evaluated before they are incorporated into a design.

Stress Levels

DYWIDAG Strand Anchor Systems may be stressed to the allowable limits of the American Concrete Institute Code No. ACI 318. The maximum jacking stress (test load) for anchors shall not exceed 0.80 fpu of the prestressing steel. The lock off load depends on the specific requirements of the project. Initial load transfer force at lock-off shall not exceed 0.70 fpu.

Wedges shall always be seated at a load that is greater than 0.50 fpu. The final (working) prestress level is dependent on:

- Application
- Installation procedure
- Stressing sequence
- Rigidity of the structural system
- Seating losses

Anchor Length

No theoretical length limit exists, however, considerations should be made to allow for practical drilling and material handling.

The unbonded length of an anchor is determined by the location of the failure plane and/or the location of competent ground capable of resisting the anchor force. A minimum unbonded length of 15 ft is recommended for strand anchors, so that load losses associated with seating of the wedges will not result in major decrease of prestress force.

The bond length of the anchor depends on:

- Capacity of the ground (ground conditions)
- Hole diameter
- Installation practices
- Drilling method
- Grouting method

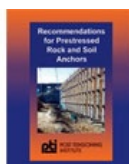
Post Grouting can significantly improve the holding capacities of anchors in soil and reduce the bond length.

Literature

Publications below are useful guides for selecting and designing temporary and permanent ground anchor systems.

Recommendations for Prestressed Rock and Soil Anchors, published by the PTI (Post-Tensioning Institute), www.post-tensioning.org

Geotechnical Engineering Circular No. 4 - Ground Anchors and Anchored Systems, published by the Federal Highway Administration (FHWA), www.fhwa.dot.gov



Subject to modification.