

Addendum #3 December 2011

[Update your specification by changing the items identified]

Specification

Commentary

PART 1 - GENERAL

1.1 Scope

These specifications were developed to provide specific performance criteria for materials for unbonded single strand tendons, and detailed recommendations for the fabrication and installation of unbonded single strand tendons. Specifications are presented for tendons in non-aggressive environments and for tendons in aggressive environments. Where appropriate, a commentary follows most major sections of the document.

The more restrictive materials, fabrication, and construction requirements for tendons used in aggressive environments are essential to the long-term durability of tendons used in such circumstances.

Tendons used in all applications governed by ACI 318 shall be encapsulated in conformance with the requirements of 2.2.6.

CI.1 Scope

The intent of this document is to provide detailed specifications for all common uses of unbonded post-tensioning tendons..

The intent of this requirement is to maximize the durability of post-tensioning tendons used in all applications governed by ACI 318, regardless of environmental classification. Encapsulated tendons provide additional protection of the prestressing steel regardless of location of the structure or exposure to moisture intrusion from any source.

There are certain special structures or applications that either because of their service requirements or structural behavior might impose additional requirements on the post-tensioning system that exceed the minimum requirements of this standard

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specification. In such cases a special specification should be developed.

Structures exposed to aggressive environments include all structures subjected to direct or indirect applications of deicing chemicals, seawater, brackish water, or spray from these sources; structures in the immediate vicinity of seacoasts exposed to salt-laden air; and structures where anchorage areas are in direct contact with soil. Stressing pockets that are not maintained in a normally dry condition after construction should also be considered exposed to an aggressive environment. Nearly all enclosed buildings (office buildings, apartment buildings, warehouses, manufacturing facilities) are considered to be nonaggressive environments. The Engineer should decide if the structure, or a part of the structure, is exposed to an aggressive environment. Consideration should be given to such areas as the location of stressing end and intermediate anchors, construction joints, planters, balconies and swimming pools.

The durability of prestressed structures in aggressive environments requires the use of consistently higher quality concrete and superior construction than required in non-aggressive environments.

This specification is not intended to apply to nonstructural applications, such as topping slabs, waterproofing slabs on fill, and post-tensioning used only for control

PTI M10.2-00 Specification for Unbonded Single Strand Tendons, 2nd Edition

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of cracking or deflection. For nonflexural or membrane type structures primarily under tensile forces, the provisions, where appropriate, are intended to apply.

This specification should be considered a minimum standard and, due to experience or project considerations, may be made more restrictive by the Engineer.