# CHAPTER 7 POST TENSIONED CONCRETE GIRDERS

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What is a post-tensioned girder? What Is Post-Tensioning in Bridges? Post-tensioning for bridges is a prestressing technique for reinforcing concrete during bridge construction and rehabilitation. Post-tensioning makes the bridge structure ready to handle service loads by enhancing its structural safety and durability.

What is the difference between post tension and pre tension concrete? The concrete is prestressed with tendons before it is placing in position. Prestressing is done after the concrete attains sufficient strength. Pre-tensioning is preferred when the structural element is small and easy to transport. Post-tensioning is preferred when the structural element is heavy.

What is the process of post-tensioning concrete? Most precast, prestressed concrete is actually pre-tensioned-the steel is pulled before the concrete is poured. Post-tensioned concrete means that the concrete is poured and then the tension is applied-but it is still stressed before the loads are applied so it is still prestressed.

What is the minimum grade of concrete used in post-tensioned concrete? For Post tensioning minimum grade of concrete used is M-30. 2. For Pre-tensioning minimum grade of concrete used is M-40.

How do you know if concrete is post-tensioned? If your house has post-tension slabs, there will probably be something stamped on a concrete floor somewhere warning you not to cut or core the slab. This warning is often in the garage. If you don't see anything, there might be something on the wall near the door between the garage and the house.

What are the two types of post-tensioning? There are two main types of post-tensioning: bonded (grouted) and unbonded. slabs-on-ground. A monostrand tendon consists of a seven-wire strand that is coated with a corrosion-inhibiting grease and encased in an extruded plastic protective sheathing.

**Does post tension concrete crack?** One of the biggest problems with a post tension slab is cracks. The cables laying in the concrete are generally not tightened until at least 7-10 days after the concrete is poured. Since the cables are not stretched or elongated, they cannot provide any crack control in those first few days.

**Is post tension concrete better than reinforced concrete?** A post-tensioned slab is less likely to crack and break compared to a conventionally reinforced concrete slab. But the choice between them should depend on the specific requirements of the project.

What are the benefits of post tensioned concrete? In short, post-tensioned concrete improves material efficiency, minimizes waste, and allows for more open interiors. It can help solve multiple challenges—from cost concerns to aesthetics and performance.

#### What are the disadvantages of post-tensioning?

**How many PSI is a post tension slab?** A residential post-tensioned concrete slab will typically be 8 inches thick and use 3000 psi concrete. Once the concrete has gained strength to 2000 psi, typically within the 3 to 10 days recommended by PTI, the tendons are stressed.

Can you drill into a post-tensioned slab? These cables are typically stressed to greater than 30,000 lbs tension. If you accidentally drill through or cut a tensioned cable, it can likely rip out of the concrete with a sudden whip-like motion. Consequences could include slab destruction, equipment damage, serious injury, or even death.

How long does PT slab stressing take? There is no call-out on thestructural drawings for supplemental mild steel shrinkage and temperature reinforcement. We understand the construction documents require the PT stressing be completed within 96 hoursof placement.

When was post tensioned concrete used? History of the Post-Tension Method A French man, Eugene Freyssinet, often receives credit for being the first to use post-tension concrete in 1933 for a marine terminal. It wasn't until 1950 that the construction of the Walnut Lane Bridge in Philadelphia relied on post-tensioning.

Why use post tensioned slab on grade? Post-tensioning imparts an internal compressive force into the concrete. This increases resistance to deflections and cracking caused by expansive soil problems such as lift, shrinkage, or swelling due to temperature or moisture changes.

What happens when a post tension slab fails? One of the primary risks of post tension cable failure is the potential for structural collapse. In the event of a post tension cable failure, the weight of the structure can cause the concrete to crack and the building to collapse.

What is the minimum grade of concrete for post tension? Generally minimum M30 grade concrete is used for post-tensioned & M40 grade concrete is used for pretensioned members.

What are the stages of post-tensioning concrete? a Casting of concrete with duct placed. b Tensioning the tendons in the duct. c Anchoring the tendons at the stretching ends (www.

Which is better pre tensioning or post-tensioning? There is greater certainty about the prestressing force. In post-tensioned members certainty of the force depends on the two end anchorages. Disadvantages in this system are that the end abutments should be very strong and are provided only in precast factories.

#### What are the procedures for post-tensioning?

What is the difference between post-tensioned and slab? Load Distribution: A slab-on-grade foundation spreads the load of the structure evenly across the entire foundation area. In a post-tension foundation, the tendons are tensioned to exert a pulling force on the concrete, creating compression within the structure.

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What are post-tensioned beams? A post-tensioned beam is a type of concrete beam in which high-strength steel cables or tendons are tensioned after the concrete has been cast, providing additional compressive strength to the beam and allowing it to span longer distances without intermediate supports.

**Is post-tensioned slab safe?** When working on a slab containing post-tension support cables, you must be extremely careful. These cables are typically stressed to greater than 30,000 lbs tension. If you accidentally drill through or cut a tensioned cable, it can likely rip out of the concrete with a sudden whip-like motion.

Why is post-tensioning used in bridges? Post-tensioning is necessary to strengthen the structural safety and durability of structures. It also allows to optimise structural design.

What is crossing cultures? Crossing Cultures is an account of Barbara Jacksons's experiences working and living in three Aboriginal communities and the historical context of those places and times. Few Australians have spent time in Aboriginal communities or have Aboriginal people in their circles of family and friendship.

What is an example of cross-cultural approach? Some actions include learning about another country's language and manner of communicating; observing what you learn by maintaining rules of etiquette; listening carefully when others speak; showing respect for different behaviors and activities; taking part in those activities when invited to do so.

What is the cross-cultural technique? Effective cross cultural communication is about all parties feeling comfortable. In any conversation with a non-native English speaker, treat them with respect, do your best to communicate clearly and give them encouragement when they respond. This will help build their confidence and trust in you.

What are some examples of cross-cultural misunderstandings? Overall, there are many misunderstandings that can result from nonverbal communication, including how it is rude to show the soles of your feet in many Arab, Muslim, Hindu,

and Buddhist communities, and how difficult it can be to interpret the infamously ambiguous Indian 'head wobble.

Which is a major flaw of cross-cultural research? These flaws include misunderstanding cultural issues and the manner in which they bear on psychology; obscuring the relation between biology, culture, and psychology; inadequately defining and measuring cultural factors and psychological phenomena; erroneously analyzing data and drawing faulty conclusions about the ...

What is an example of cross-cultural learning? One example of cross-cultural training is cross-cultural training for expats. This type of training is designed to help employees who are moving to another country to adjust to their new culture and understand its cultural norms.

#### What are the 5 basic elements of cross-cultural communication?

#### How do you communicate cross culturally?

What is cross-cultural literacy? Cross-cultural literacy is considered as a complex phenomenon, including the knowledge and understanding of different language, respect for foreign customs and traditions.

What does it mean if something is cross-cultural? cross-cul-?tur-?al ?kr?s-?k?lch-r?l. -?k?l-ch?-: dealing with or offering comparison between two or more different cultures or cultural areas.

Why is cross-cultural important? Cross-cultural interactions help to develop some important interpersonal skills. Working with people from other cultures develops empathy, acceptance and tolerance. It empowers people to be more open-minded to others' ideas, talents and experiences.

What is the meaning of cross-cultural lines? The capacity to communicate with people from diverse cultures is referred to as intercultural communication. Interacting effectively across cultural lines requires perseverance and sensitivity to one another's differences. This encompasses language skills, customs, ways of thinking, social norms, and habits.

What is a cross-cultural relationship? Cross-cultural relationships refer to romantic or interpersonal relationships between individuals from different cultural backgrounds.

What are the 4 jurisprudence of Islam? Schools of Jurisprudence There are four primary Sunni schools: Hanafi, Shafi'i, Maliki, and Hanbali. Jafari is the predominant Shi'i school.

#### What are the 5 rulings in Islamic jurisprudence?

What are the four sources of Islamic jurisprudence? The primary sources of Islamic law are the Holy Book (The Quran), The Sunnah (the traditions or known practices of the Prophet Muhammad), Ijma' (Consensus), and Qiyas (Analogy).

What is the difference between sharia and Islamic jurisprudence? Islamic Law is not Shari'a for several reasons: Shari'a is a moral religious system, not a legal system. Whenever countries claim to apply Islamic Law, as in IFL, they can only apply the laws rulers select from different interpretations of Shari'a.

Which madhab is the strictest? The Hanbali school, with its particularly strict adherence to the Quran and hadith, has inspired conservative currents of direct scriptural interpretation by the Salafi and Ahlus Sunnah wal jam'ah.

What is the basic concept of Islamic jurisprudence? The basic principles of figh are protection of life, protection of wealth and property, preservation of honor, preservation of religion, promotion of good, and preservation of rights. These principles are derived from the Quran, Sunnah, and Hadith.

What are the pillars of Islamic jurisprudence? This subject addresses the study of Islamic law or jurisprudence (fiqh) relating to the five pillars of Islam - the declaration of faith (shahadah), the daily prescribed prayers (salat), fasting during the month of Ramadan (sawm), purifying alms (zakat), and the pilgrimage (hajj) - together with the textual evidence ...

What are the 5 legal maxims in Islam? There are five leading maxims, as reflected in the Majallah, such as, al-um?r bi maq??idih? (matters are determined according to intentions), al-yaq?n la yaz?l bi al- shakk (certainty is not overruled by doubt), al-

mashaqqah tajlib al-tays?r (hardship begets facility), al- ?arar yuz?l (harm must be eliminated) and al- ...

What are the four stages of Islamic jurisprudence? There are different approaches to the methodology used in figh to derive sharia from the Islamic sources. The main methodologies are: The four classical Sunni schools are, in chronological order: the Hanafi school, the Maliki school, the Shafi'i school and the Hanbali school.

Is sharia law Sunni or shia? Sharia has been variously translated from Arabic as "the way," "the correcting path," or literally "the path leading to the watering place." Sharia has Sunni and Shia variations as well as different schools of jurisprudence within those traditions, but all sharia is rooter in the Qur'an (or Koran, the primary sacred ...

What is prohibited under sharia law? It categorizes all man's acts into five distinct categories: obligatory, recommended, permitted, discouraged, and forbidden. The giving and receiving of interest (riba), extremely risky investments, gambling, prostitution, and alcohol consumption are prohibited.

#### What are the 5 pillars of Islam?

**Does Sharia law require hijab?** it is a personal choice, and in islam it is not compulsory by any authority! Hijab is a MUST, BUT, it is not the state who will punish for not wearing it, it is something that God will Judge, so it is not part of Shariaa.

What is Islamic jurisprudence called? fiqh, Muslim jurisprudence—i.e., the science of ascertaining the precise terms of the Shar??ah, or Islamic law. The collective sources of Muslim jurisprudence are known as u??! al-fiqh.

**Can Sharia law change?** This reflects Muslim scholars struggling for centuries over how best to understand and practice their faith. But these specialists do agree on the following: Sharia is not static. Its interpretations and applications have changed and continue to change over time.

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What are the 4 doctrines of Islam? From this fundamental belief are derived beliefs in (1) angels (particularly Gabriel, the Angel of Inspiration), (2) the revealed Book (the Qur??n and the sacred books of Judaism and Christianity), (3) a series of prophets (among whom figures of Jewish and Christian tradition are particularly eminent, although it is ...

What are the 4 madhabs of Islam? In Sunni Islam, there are four main madhhabs named after the founder of each school: the ?anaf?, M?lik?, Sh?fi??, and ?anbal? schools of law. A common misconception is that following a madhhab means following the opinion of the eponym of a legal school.

What are the 4 fundamentals of Islam? The five pillars – the declaration of faith (shahada), prayer (salah), alms-giving (zakat), fasting (sawm) and pilgrimage (hajj) – constitute the basic norms of Islamic practice. They are accepted by Muslims globally irrespective of ethnic, regional or sectarian differences.

Wolfson Group and Daniel Schatzman: A Q&A

#### Who is Daniel Schatzman?

Daniel Schatzman is the Co-Founder and CEO of the Wolfson Group, a leading full-service real estate development and investment firm based in New York City. With over two decades of experience in the industry, Schatzman has been instrumental in the acquisition, development, and management of a portfolio valued at over \$1 billion.

#### What is the Wolfson Group?

The Wolfson Group is a vertically integrated real estate firm that specializes in all aspects of the real estate development process, from site selection and acquisition to design, construction, and marketing and leasing. The firm is known for its innovative approach to development and commitment to creating high-quality, sustainable properties.

### What are some of the Wolfson Group's notable projects?

The Wolfson Group has developed a wide range of successful projects, including luxury condominiums, mixed-use developments, and affordable housing. Some of the firm's most notable projects include:

- 285 West 110th Street, a luxury condominium development in Harlem
- The Asbury, a mixed-use development in Asbury Park, New Jersey
- The Hayden, a multifamily development in the Bronx

## What is Schatzman's vision for the future of real estate development?

Schatzman believes that the future of real estate development lies in creating sustainable, mixed-use communities that promote a sense of place and community. He is particularly focused on the development of affordable housing and mixed-income projects that help create more diverse and inclusive neighborhoods.

### How can you learn more about the Wolfson Group and Daniel Schatzman?

For more information about the Wolfson Group and Daniel Schatzman, please visit the firm's website at www.wolfson-group.com. You can also follow the Wolfson Group on social media:

• Twitter: @WolfsonGroup

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