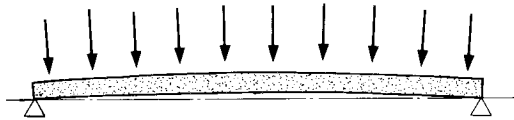


- prestressed concrete is an architectural and structural material possessing great strength. Prestressing is a basic principle of design. When applied to concrete, it provides for the elimination of undesirable stresses in a load-carrying structure by creating artificial stresses directly opposed to those which the structural member will be subjected to when the load is imposed. This design objective is accomplished by combining two quality materials: high-strength concrete, and high-tensile strength steel. By prestressing, significant savings are possible through reductions in the quantities of concrete and steel required to support a given load when compared with conventional reinforced concrete or structural steel — and through the greater efficiency in the use of materials.

Prestressed or pretensioned before it leaves the plant, a slight arch or chamber is noticeable. Energy is stored in the unit by the action of the highly tensioned steel which places a high compression in the lower portion of the member. An upward force is thereby created which in effect relieves the beam of having to carry its own weight.



The upward force along the length of the beam counteracts the service loads applied to the member.



Prestressed concrete double tees allow for longer spans with shallower depths and thinner sections, resulting in fewer beams and columns which gives more useable floor space.

Plant manufacture of prestressed members and site work proceed simultaneously to shorten job schedules. Weather does not delay plant production of double tees.

Durability and fire resistance means low insurance costs and greater personal safety. Those who investigate life-cycle costing will appreciate prestressed concrete double tees' high fire resistance characteristic.

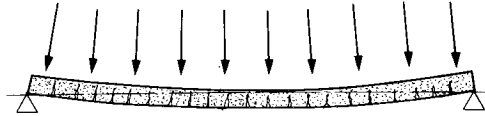
All double tees are produced in a pre-certified plant under rigid inspection from the manufacturer's own quality control and a Nationally recognized Canadian Standards Association under

- in mass production of prestressed products in a plant, high tensile steel tendons are stretched between abutments inside a form which has been shaped for the desired structural member. Concrete is then placed into the form, vibrated and compacted, then cured. As the concrete reaches a specified strength, the tensioned tendons are released. This action prestresses the concrete, putting it under a compression and creating a built-in resistance to tensile stresses produced by service loads. Pretensioned concrete components are manufactured in the plant under controlled conditions, resulting in high quality finish, prefabricated structural members ready for delivery to the jobsite.

Even without a load, the ordinary concrete beam must carry its own considerable weight — this leaves only a portion of its strength available to resist added loads.



Under service loads, the bottom of the beam will develop hairline cracks.



CSA A 251 Qualification Code for Manufacture of Architectural and Structural Precast Concrete.

Prestressed concrete double tees can improve the thermal storage potential of a building. It effectively conserves energy required for heating and cooling.

Prestressed concrete double tees do not require painting and are free from corrosion. The durability of concrete extends the building life.

A variety of aesthetically pleasing shapes and bold new designs are possible, limited only to your imagination. Refined prestressed designs result in lighter weight structures. For this reason, prestressed double tees are ideal for floors and roofs requiring longer spans and carrying heavy loads. They can be rubbed to provide a smooth hard non-porous finish suitable for exposed ceilings where a clean, non-corrosive maintenance-free surface is required.

