



Prestress Strand Restraining Devices

The following is taken from the Prestressed Concrete Institute Manual for Quality Control for Plants and Production of Precast/Prestressed Concrete Products, and relates to certain safety requirements. Precast/prestressers are urged to refer to the manual for a thorough understanding of all aspects of quality control during the prestressing process.

Section 2 — Safety

4.2.1 — General Considerations

The large tensioning forces which are necessary in all prestressing operations inevitably result in such construction being very hazardous. The Prestressed Concrete Institute has an in-depth PCI Safety and Loss Prevention Manual program. It outlines general safety practices as it relates to the prestressing industry and existing Federal regulations. Each prestressing plant and each employee in the plant shall be required to comply with the PCI safety and Loss Prevention Manual.

The purpose of this section is to outline some of the more important safety measures particularly applicable to prestressing plants. The potential hazards discussed in this section are generally understood by producers and workmen alike; however, it is human nature that people who are constantly exposed to potentially dangerous situations tend over a period of time to lose their conscious fear unless they are constantly reminded of the danger. It shall be the responsibility of the supervisory personnel to insure safety is never subordinated to personal apathy or production expediency. Any employee who will not abide by prescribed safety rules shall not be permitted to work in a prestressing plant.

The most important consideration, which should be kept in mind by all levels of personnel in prestressed concrete plants, is tendons under tension as high as 190,000 psi (1,300 MPa) represent energy which, upon sudden release, can have serious results. This is a condition peculiar to the manufacture of prestressed concrete and must be constantly recognized and planned for if a good safety record is to be established.

This section is intended to outline safety practices for prestressed concrete plants in a broad manner and cannot be considered to include every conceivable hazard that may be present in a prestressed concrete plant; however, the recognition of hazards, the establishment of good safety practices and the requirement that all personnel abide by safety rules will result in a more efficient and safer operation in any plant.