

4. SPACE FRAMES

4.1 Introduction

4.1.1. General

Tensile structures are economical and efficient solution for large span structures. Although such structures are very common in all the developed countries, they are yet to make great strides in India.

The structural and material science engineers are already addressing themselves to the task of development of new construction material, and techniques and computer based tools for analysis and design to meet the challenge of providing long span structures.

Currently INDIA is poised for a major initiative in infrastructure.

Development of tensile structures should naturally play their rightful role in this initiative. In view of the tremendous opportunity for their use. There is need to increase the general level of the competence in the analysis and design of tensile structure in India.

Development of new techniques in space structures to reduce the deflection and the effective use of materials like steel are the great advantages in ensuring cost effectiveness.

In the space structures and the tensile structure systems steel is widely used for effective construction and to establish the use of steel in our country, we need a new technique like prestressing of steel and effective use of steel members by reducing the compression force.

4.1.2. Introduction to space frames

A space frames is structural system with three dimensional assembly of linear elements, so arranged that the loads are transferred in a three dimensional manner. These structures are commonly used for large span structures, which are more advantageous and economical for providing roofs for large span building.

