

# **Grand Pagoda: world's largest span masonry dome**

**Mahesh Varma<sup>1</sup>, N.R. Varma<sup>2</sup>, R.S. Jangid<sup>3</sup> and V. G. Achwal<sup>4</sup>**

**Abstract:** The Grand Pagoda structure is stone monument having an octagonal base and hollow dome inside. The Pagoda externally rises uninterruptedly and smoothly into needle shape and forms a pillar-less hall (dome) within, having a diameter of 85 meter, largest ever span in stone masonry. The height of structure is 90 meter with three domes, as dome over dome construction. The pillar-less dome of such a magnitude is a civil engineering marvel with assemblage of thousands of stones, each weighing approximately 600 to 700 Kg. Construction of this mammoth structure presents many challenges to its builders, including analytical and constructional difficulties. The authors as design team for Grand Pagoda have presented paper covering design and construction aspect of the structure to open the new possibilities of constructing the landmark gigantic religious building in harmony with nature using stone and lime.

**Keywords:** Construction aspect, Dome, Global Pagoda, small Pagoda, Stone masonry