

# Sustainable Inventions for Building Future



Implementing  
Advanced Technologies  
in Construction Industry

Superior Quality

Speedy Execution

Cost-effective

Long Spans

Better Results



# Precast Prestressed Technology

The rapid growth and development of urban centers call for shorter timelines of construction at a competitive cost by implementing proven technologies while ensuring high standards and uniformity in quality. These are the needs of the hour which can be effectively met by Precast Prestressed Technology.

Precast and Prestressed concrete technology involves the Industrial process of casting structural & architectural concrete elements, effectively using pretensioned tendons in a stationary profile mold and long casting bed, under controlled environment and quality standards, cured, transported to the construction site and erected into place.

Prestressing is a combination of concrete and high strength prestressing strands. Prestressed tendons are used to provide a clamping load which produces a compressive stress that offsets the tensile stress that the concrete compression member would otherwise experience due to a bending load. Due to internal structural mechanics resulting from prestressing, prestressed concrete greatly enhances the structural resilience and load bearing capacity of precast elements.

This technology enables production of longer span floor-slabs viz., T Slabs, Hollow Core Slabs, Solid Slabs, etc., and beams at required depths, which is a limitation in traditional reinforced concrete methods. This technology is widely applied in Buildings, Metro Rail Projects, Tunnels, Bridges/Flyovers and Underpass construction.

Precast Prestressed Concrete has emerged as a revolutionary technology and methodology in India recently, while it is well developed and has been under implementation for decades in Europe, GCC, and USA.



Office Tower, 10-storey building, tallest precast building, Hyderabad, India.



Multli Level Parking, 7-storey, Bhubaneswar, India

# Advantages of Precast Technology

## Quality

Precast technology, by virtue of the industrial process involvement of casting under controlled circumstances, adheres to the highest standards of quality control.

## Speed and Strength

Precast concrete construction does jobs sooner. Depending on size and site conditions, flooring for a number of units can be laid in a single day. Use of higher grade concrete and steel than conventional makes it structurally superior.

## Long life and Low maintenance

Research has proven that precast elements can ensure more than a 100 year life cycle which reduces the life cycle cost of projects. Precast technology assures uniform quality and eliminates leakage and cracks thereby reducing maintenance costs.

## Cost Effective

Early possession, slabs and beams with longer spans at lower depths, lower structure weight, efficient use of resources with minimal wastage and shorter timelines, all contribute to an economic solution.

## Weather and Fire resistant

Precast concrete is an all-weather construction material, equally effective in regions with freezing or scorching temperatures. It is also non-combustible and does not melt, eliminating the need for additional fire proofing works.

## Energy efficiency

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

## Clean and Safe site

No shuttering, scaffolding, material procurement and inventory needed on-site. Clutter free and safer site.

## Long spans

Prestressing allows for casting elements longer than those achievable by conventional systems. A typical 300 mm Hollow core Slab can span up to 16 m and T slabs up to 22m without intermediate columns and beams.

## Versatility of Design

Precast provides a structural platform which will give the architects and structural engineers greater freedom in designing virtually any layout.

## Acoustic Performance

High thermal mass of Precast combined with sound insulation reduces noise and provides an effective sound barrier between roads and urban noises



# About PRECA

PRECA Solutions India Private Ltd, Hyderabad, is one of the pioneers to introduce Precast Prestressed Concrete Construction technology to India. PRECA is an International Joint Venture between Indian, Israeli and African techno-commercial partners.

PRECA is engaged in the business of providing turnkey civil engineering solutions across all segments of construction including Commercial, Hospitals, Industrial, Institutional, Residential, Multiplex theatres, Multilevel Parking and Infrastructure. PRECA has its State-of-the Art European technology equipped precast factories at Hyderabad & Bhubaneswar and over last 5 years has successfully delivered over 65 challenging projects serving reputed clients such as Infosys, NETAPP, Cadbury, IIT-Hyd, GMR, Apollo and such reputed organizations.

PRECA has the unique capabilities for civil engineering projects by offering Quality, Innovative & Economic solutions at faster timelines in comparison to traditional construction methods.

## Vision & Mission

**Vision:** We are committed to delivering turnkey civil engineering solutions using state-of-the-art technology.

**Mission:** Adopting innovative, sustainable and scalable solutions in the construction sector for the benefit of customers through conformance of global standards.

## Quality & Safety

PRECA follows rigorous quality control standards & procedures, also aiming at continual improvement and innovation. We implement quality management system at various levels of product life cycle.

PRECA provides a healthy and safe environment to the workforce and also to ensure compliance to applicable statutory legislations, regulations and contractual requirements.

## Our Team

PRECA has a team of 400 plus employees at various levels of expertise across a variety of profiles.

PRECA has a technical team with global experience of having engineered, designed, manufactured and executed large scale civil engineering projects in countries of Israel and Gulf regions.

## Promoters



**Satish Gottipati**



**Dr. Tunji Olowolafe**



**Uri Kertes**

# Our Delivery Model

## Turnkey Civil Engineering Solutions from Design to Delivery

### Our Strengths

Our team of experts are our strength.

Our unique strength is of Inhouse Engineering & Design team. The team compose of expats & foreign returned Indians with high degree of qualification and vast experience in precast technology.

Our team of experts at every level, without any distinction of origin or culture , are our most valuable assets.

### Evaluate

Evaluate preliminary design for the most efficient solution to suit the client needs



### Engineering and Design

Value engineering to arrive at effective structural designs



### PMC

Dedicated professional team for monitoring & controlling of the project from start to end



### Manufacture

Under rigorous quality standards as per schedules



### Erection

Carry out complete erection of building



### Services & Finishes

Undertake building services & finishes work . Deliver the complete building to use



# PRECA – Overview



**Multi Level Parking**  
Infosys Bhubaneswar

Turnkey Engineering  
Solutions for Civil  
Structures from Design to  
Delivery



**DE Shaw Office**  
Phoenix Group

State-of-the-Art Precast  
Manufacturing facilities  
equipped with European  
Technology



**H07 Building**  
Phoenix Group

PRECAST facilities in  
Hyderabad  
& Bhubaneswar,  
Upcoming in Vijayawada



**Mahaprasthanam**  
CSR Project

In-house  
Engineering & Design  
Team - PRECAST  
Expertise



**Office Building**  
Venkatesh & Others

Specialized in  
Precast Prestressed Long  
Span Construction



**Architectural Fins**  
IIT Hyderabad

ISO 9001:2015  
certified Precast  
Company

Pioneers in introducing  
Precast Prestressed  
Technology to Indian  
Construction Industry



International Joint  
Venture – Indian,  
Israeli and African  
Partners



Professional and  
Experienced team with  
strength more than  
600 in number



Delivered complex and  
challenging projects  
across all segments  
of construction



Preferred Precast  
Solutions provider for  
various Central & State  
Govt Organisations



ICI Membership  
IGBC Material  
Manufacturer



# PRECA through human life cycle



Social Infrastructure

Parking

Industrial

Commercial

Delivered 65 complex and challenging projects across all verticals of construction





Hospitals

ed over  
plex and  
g projects  
verticals of  
uction.

Residential

Educational

Sports



# PRECA's Architectural and Structural Elements



Columns



Beams



Hollow Core Slabs



T Slabs



Curved Elements



Solid Slabs



Staircases



Core Walls



Retaining Walls



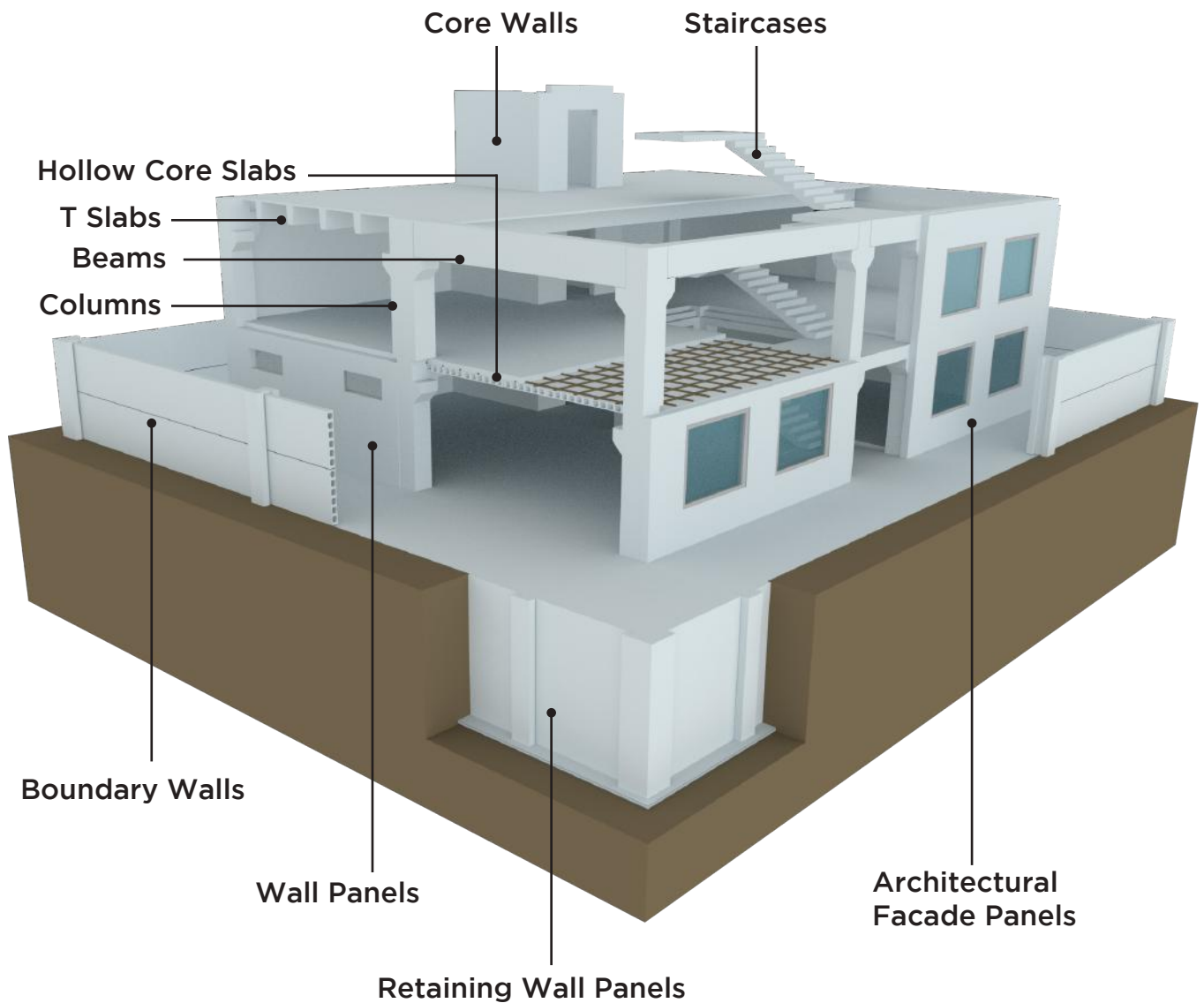
Architectural Elements



Boundary Walls



Trenches

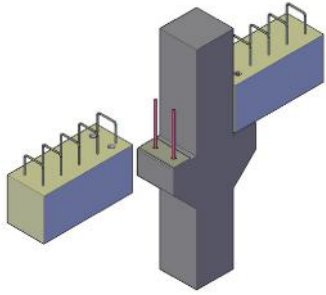


### Design Standards & Codes

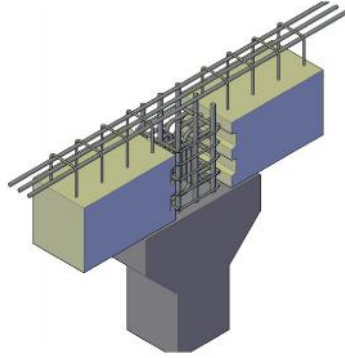
The structural analysis and design of PRECAs building structures will adopt the requirements specified in the National Building Code, local regulations and relevant Indian Standard codes (latest revisions) listed herein

- IS: 875 – 1987 Part I: Code of practice for Unit Weights of Materials
- IS: 875 – 1987 Part II: Code of practice for Live Loads
- IS: 875 – 1987 Part III: Code of practice for Wind Loads
- IS: 875 – 1987 Part V: Code of practice – Special Loads & Load combinations
- IS: 456 – 2000: Code of practice for Plain and Reinforced Concrete
- IS: 1893 – 2016: Criteria for Earthquake Resistant Design of Structures
- SP 16: Design Aid for Reinforced Concrete to IS: 456
- ACI: 318: Building Code Requirements for Structural Concrete (ACI 318M-08)
- 7th Edition: PCI Design Handbook

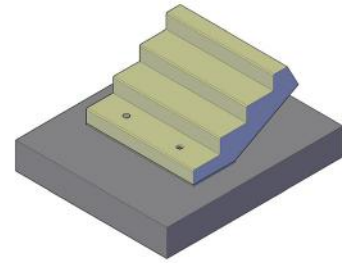
# Precast Connection Details



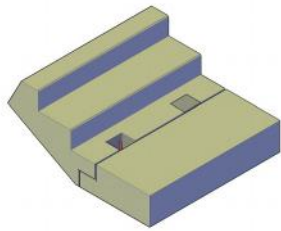
Column to Beam



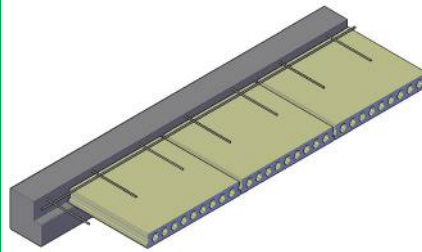
Column to Beam



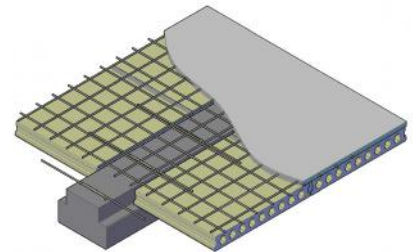
Grade slab to precast stair



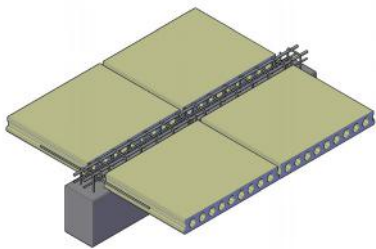
Stair flight to Landing slab



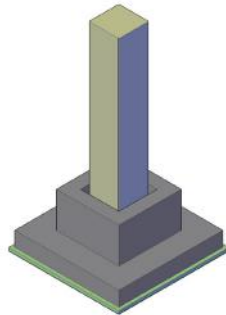
Beam to Hollow Core Slab



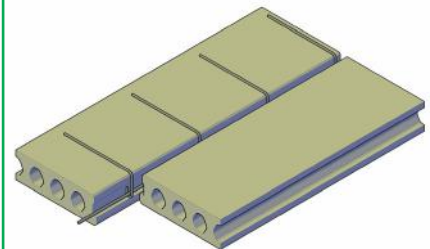
Beam to Hollow Core Slab



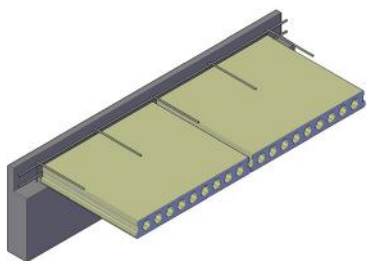
Beam to Hollow Core Slab



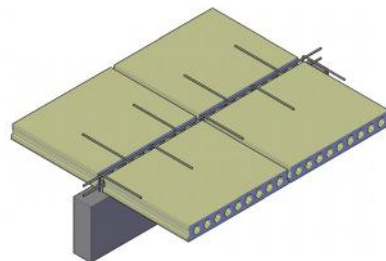
Pocket footing to Column



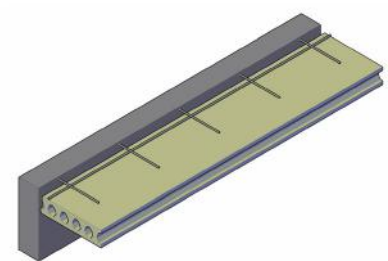
HCS to HCS slab for Diaphragm



Wall panel to Hollow Core Slab



Wall panel to Hollow Core Slab



Wall panel to Hollow Core Slab

# Production Facilities

PRECA has state-of-the-art Prestressed Precast factories at Hyderabad and Bhubaneswar.

PRECA's facilities are run by the best in class technology from Europe. Our main technology partnership is with Prensoland (Spain), Bianchi (Italy) and Moldtech (Spain), which are Internationally reputed manufactures of precast equipment and automated moulds.

PRECA's third facility is upcoming in Vijayawada, near the new capital region of Andhra Pradesh will be automated and will further boost our capability and mark us as one of the leaders of the industry.



67m long T Mould



45m long Beam Mould



Preca's automated facility in Hyderabad sprawls over 16 Acres of land and has 1,20,000 sq.ft of built up area. It includes our in-house fabrication unit, mechanized bar bending system and stockyard with 100% power backup. The facility in Bhubaneswar has expanded our reach. PRECA's cumulative building production capacity amounts to over 12,000 sq.ft per day

165m long line HCS Production

Hyderabad

Bhubaneswar

Vijayawada(Upcoming)

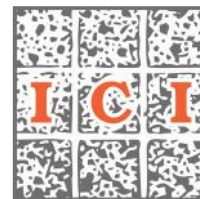
# Awards & Recognition

We at Preca, strive to ensure that our products are impeccable and service is top-notch. Our work has been well recognized since our earliest stages of inception and we strive everyday to perform beyond the standards of the industry. We derive immense encouragement from the recognition of our efforts towards making Precast Technology a more prevalent form of construction in our country.



- Best Professionally Managed Company from Construction Sector, Achievement Award for Best Construction Projects (Social and Health Infrastructure) and Achievement Award for Best Pre-Engineered Building at the prestigious 9<sup>th</sup> Vishwakarma Awards, 2017 organised by Construction Industry Development Council (CIDC)
- ICI - UltraTech Award for Well Built Residential Building 2015 in Hyderabad District
- Best in Class Manufacturing - Green Manufacturing Award in National Quality Excellence Awards 2013 from World CSR Day and Stars of the Industry, USA
- IGBC Material Manufacturer, ICI, CII and PSI Membership

We regularly participate in Annual Conferences, Technology Summits, Trade shows, Workshops and Seminars with various organisations; invite and interact with them at our facilities & projects and strive to spread awareness about the superior form of construction that is precast.



Indian Concrete Institute  
New Delhi Centre



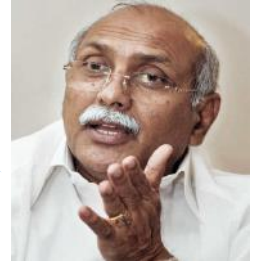
PRE ENGINEERED  
STRUCTURES SOCIETY OF INDIA

## Our Clients

Within a short span of our presence in the sector, we are proud to have a good roster of satisfied clients from reputed organizations working across various sectors of the construction industry. We've delivered every project with utmost dedication and care which has led most of our clients to give us the opportunity to serve them multiple times. This just goes to prove the efficiency and reliability of our organization.

**"It is remarkable to have erected a 24,000 sq. ft. structure in a mere 3 weeks' time which goes to show the immense advantage that precast technology offers through rapid and easy installation. The overall quality of the structure is unparalleled and has surely set an example in the industry of real estate construction. The effort has paid off in the form of winning the ICI - UltraTech Award for "Well Built Residential Building" for which we congratulate you. It was a pleasure to work with you on such an accomplishment."**

— B. Seenayya, BSCPL



**"We have gone with PRECA's Prestressed Hollow core slabs and beams system as precast concrete structure can be left unpainted without damage from elements. They have done excellent work for our Wagon Loading Shed and their hard work and dedication has really helped us to finish the job on time."**

— Vasudeva Reddy, VP (Works), Sagar Cements

**"PRECA has completed the work within the Scheduled time and the quality of work is good."**

— Brig. K. Chakravarti, Chief Projects Officer, Apollo Hospitals



**"The ability to design and execute large span beams and slabs with minimum possible depths and clean soffits, at a rapid pace of construction executed with highest level of quality, all within affordable cost. The whole of project is made with remarkable ease with minimum pollution, disturbance to the surrounding and minimum requirement of resources like water, power and technical staff at the site.."**

— Syed Bashrath Ali, TCA Consultants Pvt Ltd.

- Ramky Group
- NATCO Pharma
- KMV Projects
- Phoenix Group
- LV Prasad Hospital
- L & W Construction
- L & T Construction
- Cadbury India
- Infosys Ltd
- Sai Life Sciences Ltd
- Nizam Club
- Aurobindo Realty
- ICICI Bank
- Raheja Developers
- Srikrishna Pharma
- Turbo Aviation Group
- IIT Hyderabad
- HMDA
- Govt. of AP
- CPWD
- ECIL
- APCRDA
- TSGENCO
- TSTRANSCO



# PRECA ™

PRE-STRESSED CONCRETE SOLUTIONS  
An ISO 9001 : 2015 COMPANY

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 [/precaindia](https://twitter.com/precaindia)

 [/precasolutions](https://www.wordpress.com/precasolutions)

#### Corporate office:

Preca Solutions India Pvt. Ltd.  
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Venkatasai Gateway,  
Green Land colony,  
Gachibowli  
Hyderabad - 500 032  
Phone: +91 40 23000663/65/69  
Mob: +91 73308 88140

#### Factories:

##### Hyderabad

Sy No: 167, 169 & 222,  
Fathepur Village, Shankarpally Mandal,  
Ranga Reddy Dist. - 501 203

##### Bhubaneswar

Plot No.PB-1 & NP-1, Info Valley SEZ,  
Gaudakashipur & Arisal  
Bhubaneswar, Khurda - 752 054