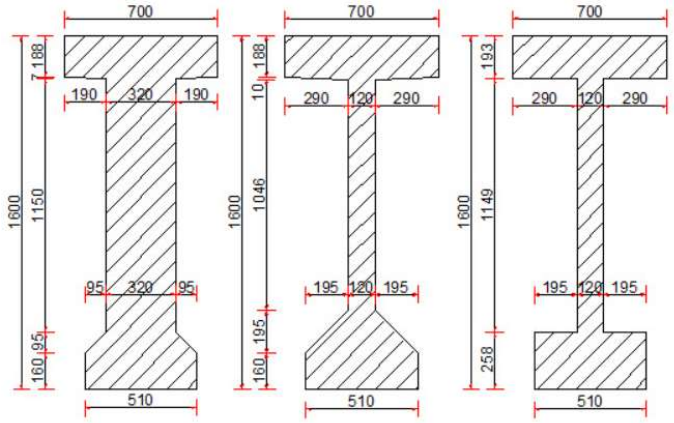
Precast Structures for Civil and Industrial Buildings

$$Z_b = \int_0^y b \cdot \sigma_x \cdot dy = \frac{b_p \cdot h}{2} \cdot \left(\frac{y}{h}\right)^2 \cdot \sigma_{ci} \cdot \left[1 + \frac{\sigma_{cs}}{\sigma_{ci}} \cdot \left(1 - \frac{2}{3}\frac{y}{h}\right)\right] - \frac{(b_p - b) \cdot (y^2 - h_p^2)}{2 \cdot h} \cdot \sigma_{ci} \cdot \left[1 + \frac{\sigma_{cs}}{\sigma_{ci}} \cdot \left(1 - \frac{2 \cdot h}{y + h_p}\right)\right]$$



The Lecture is structured as follows:

- The computation for dimensioning and reinforcement design of special precast reinforced concrete elements using advanced numerical simulations
- Streamlining the structural design by applying finite element modeling
- Specialised computation solutions that can be adopted in designing and execution for solving the problems that arise at the connection of precast reinforced concrete elements

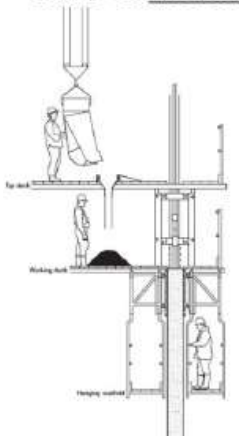
Advanced Technologies for Construction Works

The lecture is structured according to the following content:

•Special technologies for plain concrete works and reinforced concrete works: *The technology works of sprayed concrete* which is applied for new constructions or in case of repair and restoration.

•*Precast concrete structures*: The technology of fabricating precast concrete elements and prestressed concrete elements; Transport, storage, handling and assemblage; Execution of connections and joints.

•The technology of mounting and joining elements in case of *metallic structures*



•The technology of specialized performant formwork systems: *Climbing and sliding formworks*