



INSTITUTE FOR LEAN CONSTRUCTION EXCELLENCE (ILCE)

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NEWSLETTER 15

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“ OPTIMIZATION VALUE IN DIFFERENT STREAMS ”

Structural Design

Are you aware that the Tata Nano Housing Project at Boisar Near Mumbai boasts of an astonishing 1.85 kg/sft of reinforcement as against the conventional 4–4.5 kg/sft resulting into a saving of around Rs.290/- per sft?

Are you aware that Structural Design by Dynamic analysis leads to a saving of 1 to 2 kg/sft i.e.Rs.100 per Sft in reinforcement steel ?

Are you aware that factors of ignorance (over and above the stipulated factors of safety) are adopted for every component under various conditions compounded together results in reinforcement design much beyond the optimum design requirements?

Are you aware that by designing the structure considering the “Dynamic loading ” for Seismic and Wind Loads not only saves steel and concrete, it also helps in designing the structure for better comfort of the inhabitants during a seismic or heavy wind activity?

Are you aware that for the design of building structures beyond 10 storeys, the design live load may be reduced by 50% . This leads to 5 to 7 % saving in steel.

Are you aware that ‘finite element’ analysis leads to realistic (and not an over-estimate of) stresses in slabs, shear walls and columns, which in turn, leads to saving in material consumption?

Are you aware that by performing the stress analysis per clause 11.3 of IS 456; 2000, the deshuttering of beam bottoms can be done in 3 days, without even leaving any props underneath?

NEW ENTRANTS TO LEAN CONSTRUCTION COMMUNITY

- IREO
Practise of Partnership
Project Grand Arch