Discussion Forum

A novel precast roofing scheme for affordable housing

To the Editor, ICJ

Dear Sir,

I wish to inform you that I studied the article titled ' A novel precast roofing scheme for affordable housing' published in your January 2010 issue and my heartfelt congratulation to the innovators and authors of ' Precast inverted channel roof'. When I was working in the Coimbatore Housing Unit of the Tamil Nadu Housing Board, similar precast RCC channel roofings were laid in the LIG Housing scheme at Tatabad, Coimbatore during the year 1977 and this method was adopted for single storey houses and for double storey flats. People are living happily there now in many houses. Over reamed pile foundations, load-bearing walls were constructed and over the walls, the precast channel units (RCC) were fixed. We faced problem of lifting only initially. This scheme was financed by the HUDCO, New Delhi. I am happy to note that after about 33 years this thought of 'precast roof system' has come again, and that SERC, Chennai have successfully worked on this idea. I request the authors to furnish the cost of precast inverted channel section. The usual spans are 3, 4, and 4.2 m. I request the authors to furnish the sizes and reinforcement rods details, also, so that we can popularise this idea among engineers who are working on low cost housing schemes. To be frank, we should request the financing agencies to compel the borrowers to adopt such cost saving methods so that affordable housing becomes a reality.

S. Lakshmanan
BE, MIE, FIV, MSEI, C.Engg (Ind), DA
Chartered Engineer, Govt. Registered Valuer
Ovium Apt, Block III, Flat 1, Perumal Malai Road
Narasothypatti, Salem 636004.

The authors' reply

Dear Sir,

The authors appreciate the reader's comments. The introduction to the article clearly highlights the innovativeness and advantages of the inverted channel roofing system as compared to conventional construction. The advantages of the system far outweigh those of conventional roofing. Cost computation would be realistic only if based on the actual application of the system at site and any comparison with conventional structures will be realistic only on a case-to-case basis. However, the cost of the proposed roofing will be lower in terms of labour, quantum of materials required, cost of compaction, finishing, etc., and in the overall time required for completion in comparison to conventional structures. This, of course, is apart from the reduction in the weight that the new technology gives to the structure, leading to reduction in the cost of foundation. Reduced dead weight of floors also would lead to reduced earthquake forces on the structure. Further, the cost would be significantly lower if the units are mass produced in a factory.

Dr. J. Annie Peter
Deputy Director - Concrete Composites
Structural Engineering Research Centre
CSIR Campus, Taramani
Chennai 600 113