

# ISSE

## INDIAN SOCIETY OF STRUCTURAL ENGINEERS



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**PRESIDENT :** Shantilal Jain, **SECRETARY :** Hemant Vadalkar **TREASURER :** M. M. Nandgaonkar,

Ref: ISSE/ comments on draft IS1893 part1 and part2/ 431  
Date: 22 Jun 2023

To,  
Bureau of Indian Standard  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG, NEW DELHI 110002  
Email : ced39@bis.gov.in

Subject: ISSE comments on Draft IS1893 Part1 and Part 2

Ref: **DOC. NO:** CED 39(22343) WC  
**TITLE:** CRITERIA FOR EARTHQUAKE RESISTANT DESIGN OF STRUCTURES  
PART 1 GENERAL PROVISIONS [Seventh Revision of IS 1893 (Part 1)]  
(ICS 91.120.25)

*Kind Attn: Chairman Sectional committee CED 39*

Sir,

Indian Society of Structural Engineers (ISSE) is a premier association of Professional Structural Engineers with its Head Quarters at Mumbai looking after the development of the profession to the benefits of Indian society with the focus on construction industry in particular. We assist Government, Self Government, Municipal Corporations and other Corporate bodies in framing their policies for sound and stable structures in their built assets.

We publish a technical journal for free circulation amongst members and complementary to heads of industries. We have more than 2500+ structural engineers as our members.

We would like to express our views on behalf of our practicing structural engineer members. We are attaching our comments in the desired format.

Our general observations are as follows –

1. **Need to educate Architects, planners and approving authorities:** After going through the revised draft, it has been noticed that regular configuration with distribution mass, stiffness and symmetry both in plan and elevation are desirable for good structures. Placement of lateral force resisting members in a symmetrical pattern along the periphery, continuity of wall / column from ground to top etc for achieving good structural behaviour during seismic events are also emphasised.  
We would like to inform you that we do not have any control over the building configuration. We have to work on the plan prepared by Architects based on the plot size, client's requirements and as per local municipal bye-laws. Authorities want only structural stability certificate from the structural designer stating that our design is complying with relevant IS codes. We therefore request you to kindly insist on plan approving authorities that they should not approve the plans which do not comply with four attributes mentioned in proposed code for earthquake resistant structures.
2. Ideal symmetrical building as described in the code is not the reality. Even if we wish to follow the code, it is not possible to comply many code clauses. We feel that the code should be as simple as possible and the practicing engineers should be able to implement it. Otherwise, the compliance rate will be very low. Code writers can suggest alternatives (like limiting deflections or increasing force by 2.5 times etc) if certain conditions are not complied with.
3. In case of IS16700, for code exceeding building, review by expert panel is recommended. In reality, there are very few expert panels, may be in one or two metro cities otherwise it is not existing. Even the expert panel may not be able to provide solutions to complex issues and still building are being constructed without expert panels. So let us think about the possible solutions and alternatives rather than referring to some panel.
4. We humbly request you come out with code commentary (which will be useful to understand the intent of code) and with illustrative examples of simple and complex actual building with step by step calculations as per code guideline. This will be very useful for practicing engineers who wish to implement the code.
5. We strongly feel that practicing structural engineers / associations should be taken into confidence before finalizing the draft considering practical difficulties faced in design and execution by the professionals. This will improve code compliance level in our country.

We hope you will consider our suggestions.

Thanking you,

Yours faithfully,  
President ISSE

Secretary

Shantilal Jain

Hemant S Vadalkar

**Comments from Indian Society of Structural Engineers on Draft code IS1893 Part 1**

SI No. (1)	Clause / Subclause / Para No. (2)	Comments / Suggestion (3)	Modified Wordings of the Clause (4)	Reasons / justifications for the Proposed Change (4)
1	General	All changes should be justified and session should be carried out by code committee to educate the code intent and method to follow the analysis and design. A commentary and handbook is desirable.		
2	5.2	.....rocks or soil, which do not settle, liquefy.....	Remove line "which do not settle"	
3	5.9.b	Please include Temperature load if needs to be considered along with EQ		
4	Table 4 -ii , iv	Influence depth of 2B seems to be unreasonable format and large pile group		
5	6.2.4.b	he - defination is not mentioned		
6	7.1.2.2	Please clarify where it is applicable		
7	7.2.1.a.5	Clause not mentioned		
8	7.5.1	Combinations differs in 7.5.1.e & 7.5.3		

9	7.5.1 - e)	Did not find "Ω" in IS 1893 (part 2)		
10	5.2.2.1	Elastic maximum horizontal PSA depending on the natural period T of the building of horizontal translational mode [as per 6.2.4.4 or 6.3.1 of IS 1893 (Part 1)], corresponding to the return period TRP and the category of building specified in Table 1 of IS 1893 (Part 1) for strength design,"	"Horizontal" to be replaced with "Vertical"	Typing mistake to be corrected.
	6.2.4.2	Please check possible typing mistake	AANV, 5 %( TH) to be replaced by AANH, 5 %( TH).	
11	7.8.3 page 50	Please explain each term below each equation for clarity and ready reference. Similarly, explain x and y axis underneath each figure.		More commentary and references required for the expressions provided f

12	7.8.2.1b page 54	<p><b>This clause is not explicit.</b></p> <ol style="list-style-type: none"><li><b>1. What is intended by field tests?</b></li><li><b>2. Is it Seismic profile? This will mean that other than residential buildings, all buildings (hotels, malls, schools, offices, hospitals, etc.) will require seismic profiling. If that is the requirement, then it is suggested to make it mandatory for zone 4 and zone 5.</b></li></ol>		<p><b>Please indicate type of field tests required.</b></p>
13	7.8.2 page 54	<p><b>Please check the clause number for typing mistake. It should be 7.8.5 in serial order after 7.8.4</b></p>		