REVIEW ANALYSIS OF INDIAN STANDARD

(To be submitted to the Sectional Committee)

1. **Sectional Committee No. & Title:**Building Construction Practices Sectional Committee CED 13

2. **IS No: IS 10440:1983**

3. **Title : Code of practice for construction of RB and RBC floors and roofs**

4. **Date of review:**

5. **Review Analysis**

i) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No.& Title)	**Whether the standard has since been revised**	**Major changes**	**Action proposed**
	no	**2.1.1** Reinforced brick(RB)	**<u>Addition</u>** **RB consists of Brick masonry and steel reinforcement embedded in mortar or grout.**
		2.1.2 Reinforced brick concrete(RBC)	**<u>Addition</u>** **Rbc is a type of concrete in which reinforcement bars and bricks shall be used together, creating a strong, cost effective and durable material. The Bricks act as the main component, while reinforcement bars shall provide tensile strength, allowing better use of brick masonry's compression strength.**
		3.2.	**<u>Change</u>** **Grade not be less than ~~M15~~ M20 and shall conform to IS:456.**

		4.1 Necessary information	(f) Provision for placing conduits, for light , fan and other electrical installations after laying of reinforcement and placement of bricks in RB and RBC floor and Roof. Note:- (existing (f) may be revised as above)
1)civil engineers' Handbook – P.K.khanna **2)Paper- Experimental investigation of reinforced brick slabs-Ahmad Siddiqi and Muahhamad Asraf.**		**Design consideration 6.1.5** **6.1.6** **6.1.7**	**<u>New Addition</u>** **The depth of RB slab shall be governed by the thickness of bricks available, however if odd thickness is appeared from design consideration, tiles shall be used on 10 cm thick bricks.** **<u>New Addition</u>** **Whenever two layers of Bricks shall be needed, vertical joint in the bricks shall be avoided .The bricks near to edge shall rest half on the bearing wall to avoid vertical joint.** **First class bricks shall be used.** **Cement mortar shall be used with proper water cement ratio to make the mortar workable.** **<u>New Addition</u>** **In RB and RBC concrete, brick shall not contain any salt or deleterious material.**

		6.1.8	**<u>New Addition</u>** **In RBC negative reinforcement and Distribution bars shall be provided for slabs.** **In RBC continuous edges shall be designed using double reinforcement.**
		6.1.9	**<u>New Add</u>**<u>ition</u> **In RBC, temperature bars shall be provided at top of roof slab.**
		6.1.10	**<u>New Add</u>**<u>ition</u> In Reinforced brickwork, shear reinforcement shall be provided as brickwork is weak against diagonal tension.
		6.1.11	**<u>New Addition</u>** RBC slab Shall be thicker due to bricks and concrete . Dead Load of slab shall be heavy due to bricks. Rb slab shall not be used as cantilever slab unless separate arrangement is made for support. Slab has less resistance to earthquake forces.
		Reinforcement **6.2.4** **7.4.1** **Laying bricks and reinforcements**	**<u>New Addition</u>** Overlapping shall be avoided as far as possible and when required , lap length shall be provided as per IS :456.All bars shall be straight and free from kinks. **<u>New Addition</u>** **A line of brick shall be laid first in each direction and it shall be ensured that cutting of bricks is avoided to the extent possible. If part brick required this shall be done at middle of**

			span. **<u>New Addition</u>** **The Maximum coarse aggregate shall be selected in such that concrete shall pass properly in Rb and RBC slab between the bricks.** **<u>New Addition</u>** As manual Roding is done for compaction of concrete in between bricks, the quality of concrete shall be maintained to safeguard the bond between steel and reinforcement. **<u>New Addition</u>** **This type of construction does not require any special treatment for fire protection.**
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ii) Status of standards referred in the IS

Referred standards (No. & Title)	IS No. of this standards since revised	Changes that are of affecting the standard under review	Action proposed

iii) Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc or of new or revision of existing Indian Standard)

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed

iv) Technical comments on the standard received, if any

Source	Clause of IS	Comment	Action proposed

v) Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

Source	Development	Relevant clause of	Action

		the IS under review that is likely to be impacted (Clause & IS No.)	**proposed**

vi) Issues arising out of changes in any related IS or due to formulation of new Indian Standard

Related IS and its Title (revised or new)	**Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision**	**Changes that may be necessary in the Standards under review**	**Action proposed**

vii) Any consequential changes to be considered in other IS

Related IS to get impacted	**Related IS Title**	**Requirements to be impacted**

6. Any other observation:

7. Recommendations:

To refer the following segment for the proposed for the proposed changes marked in red.