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 : 2250-1981,**

3. **Title :code of practice for preparation and use of masonry mortars**

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**
	yes	**2.1** Mortar	**<u>Addition</u>** It shall be considered, To fill and seal irregular gaps and sometimes to add decorative colours to patterns to masonry walls, To bind together the bricks or stone masonry, To give a soft even bed between different layers of brick or stone masonry for equal distribution of pressure over the bed.
		2.2 Lime mortar	**<u>Addition</u>** **Lime acts as binder and sand as fine aggregate. Lime shall be used as fat lime or hydraulic lime. Lime mortar has less strength compared to cement mortar. It shall be used for pointing and restoration purpose.**

Understanding the different types of mortar :Properties,uses and more –The blog of Ultratech **Understanding the different types of mortar :Properties,uses and more –The blog of Ultratech**		**2.3.1** **Gauged mortar** **2.3.2** **Aerated Cement mortar** **2.3.3** **Mud mortar**	**New Addition** **cement and lime shall act as binder in the mortar. The cement added to lime mortar provides high strength and durability, sand shall** act as fine aggregate in the mortar. Cement shall give the mixture strength, lime shall give flexibility and elasticity, while sand act as a binder agent. **New Addition** Working with Cement mortars could be tricky because of low plasticity, there shall be a significant improvement in workability after adding air- entering agent. It entrain microscopic air bubbles in cement compositions. **New Addition** Mud amalgamated with cow dung or rice husk as the fine aggregate shall be used as mud mortar.
Understanding the different types of mortar :Properties, uses and more –The blog of Ultratech		**2.3.4** **Surki Mortar**	**New Addition** In mortar,Lime shall act as binding material and surkhi as aggregate. Surkhi is finely powered burnt clay
		2.5 **consistency**	**Addition** **It is the property of holding together the ingredients without leading to segregation of mortar ,it ranges from stiff to fluid. Consistency depends on the composition of mortar and type of masonry work.**

		2.6 **Hardening**	**Add**ition Hardening is defined as the strength gain by mortar, hardening of mortar takes place after the setting of mortar.
		2.7 **Setting** **2.8** **Water retentivity**	**Addition** There are two stages of setting –initial, wherein the Mortar loses its plasticity, final setting, wherein the mortar completely loses its plasticity. **Addition** The ability of cement -based materials to retain water plays a crucial role in their workability , setting time, strength development and resistance to cracking.
		2.9 Workability	Addition It is the ability of the mortar to spread into all the cracks and crevices of the masonry unit.
		3 **Necessary information** **5.1.1** **Durability**	**Addition** **In case white sand has mica inside it same shall be avoided for mortar.** **Addition** **e)Two prime requisites for durability are a dimensionally stable unit and a mortar that forms a permanent and complete bond, thereby making the structure water tight.**

		5.1.2 **Deterioration of mortar** **5.1.3.4** **Effect of volume change**	**<u>Addition</u>** Problematic mortar joints shall lead to cracking, crumbling and weakened structural integrity over time. The bond between brick and mortar shall be lost. <u>Addition</u> Due to volume change of mortar ,the resulting crack in the masonry can increase the potential for more ingress, which shall lead to further corrosion. Anchors, ties and joint reinforcement are only partially embedded in mortar and are partially exposed in an air space or cavity, this may be susceptible to corrosion.
		5.1.4 Resistance to sculpture attack	<u>Addition</u> d) Considering the porosity of coral sand in mortar, sculpture resistance shall be improved. In particular after one year of exposure the use of coral sand in mortar largely reduces the expansion of mortar due to sulphate attack
		5.3 **Strength development**	<u>Addtion</u> Plasticizers are chemicals that shall be added to mortar to give a little more flexibility before setting which is useful for noticing uneven patches and holes. It also makes mortar set stronger while making it more resistant to frost. HPMC(Hydroxypropyl methylceulose) product has been shown to be effective in improving mortar adhesion, improving workability and water retention. It also

			reduces the of the mortar drying out too quickly, resulting in better bonding.
		8.3.3 Preparation of Gauged mortar, surki mortar and aerated cement mortar.	**<u>New addition</u>** These mortars shall be prepared in similar line as mentioned in 8.2 and 8.3.2.

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