

Q. How safe are RenderCon products?

A. RenderCon products are completely non-hazardous, non-toxic and non-flammable. RenderCon products use Poly Carboxylic (PC) Ethers as base material and even the preservatives do not contain any formaldehyde. Its composition is carefully done from materials with very low VOC levels.

Q. Do RenderCon products have any chemicals that can affect corrosion of reinforcement, when plaster applied over concrete elements like slabs / beams / columns etc?

A. RenderCon products are made of best standards and are chloride-free. They do not initiate or propagate corrosion of reinforcement. No chemical used in RenderCon products have the tendency to travel into the background (brick/concrete etc) or foreground (Putty/paint etc).

Q. We have seen in the past with respect to concrete that conventional water curing is better than curing compounds. We have seen that conventional curing records better strength than curing compounds. So, we think conventional curing is better when compared to alternate curing methods. What do you say?

A. Curing compound shall be applied similar to paint after the concrete or mortar has set. However, usually by the time curing compound is applied and after application, there will be significant moisture loss from the concrete/mortar. This pulls the strength down.

RenderCon products are admixtures which are integrally mixed with the mortar. As they are self curing products, moisture loss from the mortar significantly reduced. In conventional curing, which is usually done after 12 hours, there will be significant moisture loss. So, with RenderCon products, the strength is better, porosity is lesser, drying shrinkage is lesser, bond strength is better and cracking tendency is lesser in comparison to conventional curing. Many of our customers have cast cubes to compare conventional curing (cubes submerged in water) and RenderCon products (cubes dried out in Sun, no shade is ensured). Compressive strength with RenderCon products are always higher.

Q. Can Crushed Sand (M Sand) be used? Does it change the durability of the mortar when used along with RenderCon admixtures?

A. It is better to use high-fine crushed sand than to use clayey / silty river sand, when RenderCon admixtures are used. River Sand may contain expansive clay that can affect cracking by expansion and contraction due to the presence / evaporation of water respectively. However, crushed sand will not contain any clay that affects the performance of mortar.

RenderCon admixtures are specially manufactured to suit crushed sand the best. All the durability parameters are best achieved in crushed sand with our products.

Q. Is mortar made up of RenderCon products durable? How better is it when compared to conventional mortar without admixture?

A. Yes, all our test results show that mortar with our admixtures is durable. The reasons are explained here below:

1. Low water-cement ratio: We use best water reducing polymers specially polymerized to work best in mortar. Due to this water cement ratio obtained with our products is always lower than water-cement ratio with any other admixture available in the market for mortar. It is obviously better than a mortar that contains no admixture. Low water-cement ratio drives better compressive strength. Compressive strength test comparisons are carried out against control mix to prove that mortar with RenderCon has much higher strength. Durability increases with strength.

2. Bond Strength: We have done pull-off tests at many places to prove that bond strength of plaster with our products is at least 2-8 times higher than that of the requirement as per the Indian Standard code. If the mortar has to disintegrate early and show poor durability, the bond strength will be low. Mortar with low bond strength crumbles up, which is accelerated when poor ambient conditions are prevalent. Higher bond strength increases durability.

3. Micro structure: The micro-structure of the mortar is improved with RenderCon products, as the needle formation of the cement-ettringite is improved. This results in denseness of the mortar and the basis to drive better compressive and bond strengths. As the micro structure is dense, the durability is improved.

4. Pore structure: The mortar will have least pores with RenderCon 'Super' admixture, which prevents dampness etc. in the mortar. RenderCon '5S' is a hydrophobic pore blocker, which results near-zero water absorption into mortar, thereby preventing cracks on external plaster of AAC blocks etc. Lower pores and near-zero absorptions controls entry of water and gases like chlorine, O₂, CO₂ entry into the background (slab/column/beams) and help preventing corrosion of reinforcement in the background. This improves the durability of the mortar against entry of water / harmful gases.

5. Efflorescence Control: Mortar made with RenderCon '5S' exhibits excellent control of efflorescence. Cracking due to efflorescence can be extreme these days due to the contaminated clay used in manufacture of bricks. RenderCon '5S' controls efflorescence and cracking thereby. This also promotes durability.

6. Evaporation Reduction: Our self-curing technology is based on water retention by evaporation reduction. Similar technology exists to control drying shrinkage in concrete, which is extensively used across the world. These chemicals do not affect any durability of mortar / concrete, instead they help preventing early water loss from the mortar and control long-term drying shrinkage. Lower initial evaporation is the best medicine to control drying shrinkage and therefore improving durability.

The concrete or mortar with higher strength, lower pores, efflorescence control, better micro-structure and least initial evaporation has always shown better durability characteristics than their counterparts.

Q. Is plaster made with RenderCon admixtures completely crack free?

A. Most commonly, mortar cracks due to high water cement ratio / poor curing methods. Besides these RenderCon also controls cracks due to efflorescence, AAC block usage and higher fines in crushed sand. Our products improve compressive strength, bond strength and impermeability. However, RenderCon products cannot control cracks due to structural deficiencies.

Without RenderCon products, strict supervision has to be exercised at all levels of material quality control, mixing, application and curing. However, with RenderCon, careful supervision shall be needed at the stage of mixing only. Crack free walls are assured, if the mixing is right as per the proportion. Do not use part-sachet, use a complete sachet even for part bags of cement. Ensure mixing is uniform and thoroughly mixed. All the background changes (ex: change from concrete to brick near beam-column junctions) must be properly addressed either by scrimming with mesh or alternate methods.

Q. Masons are unskilled, can they handle RenderCon admixtures?

A. All masons in India are unskilled; therefore we have made sachets of admixture equated to a cement bag. We also train masons thoroughly for the first few days and install cross-checks with supervisors to obtain desired results with the mortar. Once masons get used to our products, we have seen them delivering consistent results with minimal supervision during mixing.

Q. Single coat plaster or double coat plaster, which is better?

A. Double coat plaster is commonly specified when the thickness is over 25mm. The theoretical reasons are poor bond strength of mortar and higher drying shrinkage with thick coats. But with crushed sand, if done in multiple thin coats, the shrinkage increases due to high water cement ratio, importantly when thickness is less than 10mm in any coat.

Our products improve bond strength and fight drying shrinkage of the mortar. So, up to 40mm can be done in single coat with our products. Indian Standard IS 1661 states that single coat plasters had also produced better results.

Q. I am building / buying a dwelling. For a floor area of about 1100 sft, what will be consumption of sachets for plastering and tiling? Can I order such a small quantity myself or hand it over to the builder / contractor for use in my flat? How do I know the application procedure? I have ground water available in my site, can I still water cure my plaster / tiling after using RenderCon products?

A. The consumption will depend on area and thickness and mix ratio. However, on an average for 1100sft floor area, the plastering will need about 35 sachets, and for tiling about 25 sachets. You may order any number of sachets in multiples of 20.

You may download the Technical Datasheet of Super from RenderCon website and read thoroughly to understand the correct use of products. You may contact our call centre if you have any further doubts. Conventional water curing may still be used over the plaster made of RenderCon products. If AAC blocks are used, please read our Technical Bulletin on AAC.

Q. Our specification says that plastering shall be applied in 2 coats and cannot be altered due to various reasons, while your Datasheets pronounce that single coat is best. What is the best alternate to apply plaster in 2 coats?

A. To apply a thickness less than 10mm in any coat, water cement ratio increases and especially with crushed sand, craze cracking is inevitable. So, RenderCon recommends single coat up to 40mm and in case 2 coats are used, each coat shall be not less than 10mm. Applying the plaster in single coat is the first best option.

Best alternate when 2 coats are mandatory, is to split the overall thickness into half and apply it in 2 coats. This is better than applying a thin second coat on the first coat.

Q. Is there any alteration required in the application procedures when RenderCon products are used?

A. No changes required in the application procedures for any application including brick binding, plastering and tiling.

While you refer our datasheets, only guidelines are mentioned for the above applications and salient points to check which help in producing desired results.

Q. If there is trapped moisture beneath the plaster for any reason, how will it escape as RenderCon products are waterproof? In other words, does the plaster produced with RenderCon products allow breathing of substrate (background)?

A. Sometimes, moisture / water may have been trapped usually due to common flaws in construction. Usually, such water escapes through the plaster in case of conventional plaster.

Our products are waterproof / water repelling, but allow breathing of the substrate (background). Therefore, moisture escape is obvious.

Q. We are using Crushed Sand (M Sand) for plastering. We are experiencing difficulties like a) the plaster is slipping off after the work is completed. b) surface finish looks very rough. What can be the reason?

A. These are usual problems when M Sand is new to the site / masons.

a) If there are more grains (particles not passing 2.36mm) in the M Sand, then there can be more slippage. If the mortar is applied with more water instead of keeping it semi-dry, then also plaster slips-off.

b) Surface finish will depend only on the sand. Increase the fines in the sand by instructing to the crusher. 150 microns passing shall be relaxed upto 30% (especially essential when plastering grade sand is not available in the city). RenderCon allows 150 microns passing up to 40%.

Q. Our specification mentions use of integral waterproofing compound / plasticizer in the plaster. What do you suggest?

A. RenderCon 'Super' is integral waterproofing compound, besides being self-curing and crack resistant and shrinkage controller. RenderCon 'Super' shall be used in such a case.

However, as you must be aware by now that RenderCon 'Super' is much advanced in technology than other products available in the market.

Q. Which cement best suits your admixtures?

A. RenderCon admixtures are compatible with all the OPC/PPC cements available in the market. No performance change is encountered with change in cement.

We do not recommend PSC cement for use with plastering. Past data with PSC concrete shows that PSC cement develops strength up to 90 days. This strength development will be observed if the cubes are cured continuously without drying. PSC works better with conventional curing and strength development is directly proportional to curing with no allowance to drying. Usually mortar dries up easily and it is impractical to keep plastering moist at all times.

Q. Is there any specific brick that your chemical works or not works with?

A. RenderCon admixtures work with all backgrounds and bricks.

However, if AAC Blocks are used, please read AAC Technical Bulletin to learn the Dos and Don'ts with AAC blocks.

Q. What finish do you recommend for plastering?

A. Plastering finish will depend on the upcoming overlay on the plaster. If tiles like dadoing are to be laid over the plaster, a rough finish with lines stricken over is desired. For others, choice is either a sponge finish / steel float finish.

Depending on the masons' abilities to use the tools, a finish may be decided. If mason is skilled enough to work with steel float, steel float finish will bring in a very rich look. Some like a finish using sponge first and then steel float over it, this may also used.

Q. We are looking at switching to POP (Gypsum Plaster / Plaster of Paris) for the internal walls instead of plastering. What do you suggest?

A. Off late, POP is being considered as an economical alternate. However, there shall be lot of care exercised with construction practices to use POP. POP can be applied only on internal walls, which will be economical only if applied up to 12mm. For toilets and utility areas etc., where water is expected, cement plastering is mandatory.

There is a mixed feedback on use of POP, which is evident due degree of quality control on sites.