






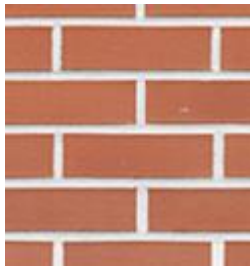
## Curing – methods and costing on brick binder and plaster – comparison between conventional mortar and mortar with RenderCon

### Methods of Curing – comparison on performance

Property	Conventional Mortar	Mortar with RenderCon
 <b>Start Time</b>	<p>Cured only on the next day. This is because it is perceived that mortar has to set and then curing has to start. However, by the time curing starts, mortar must have lost a lot of moisture and become dry.</p>	<p>Self-Curing kicks-in immediately when necessary to help cure the mortar. This limits plastic shrinkage.</p>
 <b>Cycles /day</b>	<p>Many do it 2 times a day and a few up to 3 times in a day. However, mortar dries out very quickly. Alternate wetting and drying increases shrinkage of the plaster and the background.</p>	<p>Self-curing helps in maintaining the required moisture at all times during the strength gain. This limits short term drying shrinkage.</p>
 <b>No of days</b>	<p>Usually curing is done up to 7 days. Some limit it to even less, while some may do it up to 14 days. However, if the moisture loss has happened in the early stages, extending period of curing also cannot help.</p>	<p>Self-curing prevents moisture loss at all ages of the mortar and will not allow drying up before the required strength is achieved. This limits long term drying shrinkage.</p>

**Cost of Conventional Curing for a given area.**

Description	Unit	Various Scenarios*			
Cost of water (include power, labour based on approximation)	INR/liter	0.07	0.10	0.14	0.18
Discharge of pump (assuming 1.1 HP)	Liters/Sec	2	2	2	2
Time required to cure 100 Sq.m of area once (to cure thoroughly ceiling, walls & rooms, external plaster etc on weighted average)	Minutes	9.5	9.5	9.5	9.5
	in Seconds	570	570	570	570
No of Times curing is done (7 days x 2 times or 5 days x 3 times)	Nos	14	14	14	14
Qty of water for 100 Sq.m of Area	Liters	15960	15960	15960	15960
Cost of water for 100 Sq.m of Area	INR	1117	1596	2234	2873
Cost of Water for 1 Sq.m of Area	INR	11	16	22	29
Cost of Water for 1 Sft of Area	INR	1.04	1.48	2.08	2.67



**Brick Binder**

	Plinth Area	Wall Area	Internal	External
Factor		2.7	80%	20%
Sft	1250	3375	2700	675
Sq.m	116	314	251	63
<b>Total Area to be cured conventionally in Sq.m</b>			<b>314</b>	
Wall thickness, inch			4	9
Wall thickness, mm			102	229
Volume of Bricks, cum			25	14
Brick Binder Volume, cum			2.5	1.4
Cement Qty in Bags per cum for 1:6 brick Binder			4.11	4.11
Cement Qty in Bags for this volume			10.49	5.90
Cost of RenderCon 'Super' per sachet Dosage is 1 sachet per 1 cement bag			199	199
Cost of RenderCon 'Super' for this volume			2087	1174
<b>Cost of RenderCon 'Super' for this Flat</b>			<b>3260</b>	

Area for Curing, sq.m	<b>314</b>			
Cost of Conventional Water Curing/ sq.m (from 1 <sup>st</sup> table)	11	16	22	29
Cost of Conventional Curing	3508	5011	7016	9021
<b>Savings with RenderCon 'Super' on curing INR/ flat</b>	<b>248</b>	<b>1751</b>	<b>3756</b>	<b>5760</b>

For all constructions, the curing cost shall be at least INR 16/sq.m or 1.48/sft. In villages, where power / labour costs are low, the curing cost can be lower than 16/sq.m.



Plastering

	Plinth Area	Plaster Area	Internal	External
Factor		3.7	80%	20%
Sft	1250	4625	3700	925
Sq.m	116	<b>430</b>	344	86
<b>Total area to be cured conventionally, sq.m</b>			<b>430</b>	
Plaster Thickness, mm			<b>15</b>	<b>20</b>
Volume of Plaster			5.16	1.72
Mix Ratio			1:6	1:5
Cement in bags per cum of Mortar			4.11	4.80
Cement in bags for this volume			21.19	8.25
Cost of RenderCon 'Super' per sachet Dosage is 1 sachet per 1 cement bag			199	199
Cost of RenderCon 'Super' for this volume			4217	1642
<b>Cost of RenderCon 'Super' for this Flat</b>			<b>5859</b>	

Area for Curing, sq.m	<b>430</b>			
Cost of Conventional Water Curing/ sq.m	11	16	22	29
Cost of Conventional Curing	4800	6858	9601	12344
<b>Savings with RenderCon 'Super' on curing, INR / flat</b>	<b>-1059</b>	<b>999</b>	<b>3742</b>	<b>6485</b>

As explained previously, the curing cost shall be at least INR 16/sq.m or 1.48/sft except for in villages where single individual house is built.

### Conclusion

Overall, the costs for conventional curing could usually be higher than using RenderCon products for self curing.