



# Mivan/ Monolithic Construction



## Advantages of Mivan / Monolithic construction

- Quick Erection
- Quick installation
- No plastering required
- Services are preinstalled
- Easy reinforcement
- Consistent process
- Putty can be applied directly



## Challenges for Mivan Construction

- Water seeps through the tie-rod holes.
- Construction joints open up.
- Pinholes and honey combing.
- Window openings are not in right angle and hence water seeps into the flat.
- The floor and the wall joints cracks and water seeps through this.
- The walls are not in a straight line.
- External RCC joints are seen and shows up after painting.
- Undulation on the walls
- Internal plastering with gypsum de-bonds due to heat.
- Tiles' adhesion to the surface is not good.
- The terrace waterproofing at the mother slab and the parapet.

### **1. Why do cracks happen in Monolithic Construction at the construction joints?**

Cracks happen because the RCC is poured by giving a gap between floors. Homogeneity can not be maintained when it is poured in interval.

### **2. What are the main reasons for these cracks?**

The primary reason is the lateral movement and the above explanation

### **3. Are these cracks harmful?**

Yes, the water seeps through the joints which will cause seepage.

### **4. How do we address these cracks?**

These cracks must be filled with appropriate elastomeric material and impregnate the surface. Further, the joint should be reinforced with nylon mesh and elastomeric material by creating a band of minimum six inches.

### **5. How will you cover pinholes and honeycombing?**

The pinholes and honeycombing are in eight directions and we must ensure that all the voids are filled completely with a putty in the first coat itself. The material available for this is **Magic Xp**.

### **6. Why is a check for cracks needed in terrace RCC slabs?**

Slabs despite compacting some manual error remains which causes a void. This gives an opportunity to expand and contract which causes cracks.

### **7. What's the solution of cracks in terrace RCC slabs?**

Use **LPPT** to fill the larger voids which basically will impregnate into the voids and creates an excellent bonding between the two portions of the slab's crack.

### **8. What is undulation? How to cover the undulations on RCC/Formwork?**

The level difference on the vertical surfaces is known as undulation. This can be covered by loading **Magic Xp- Elastomeric Paintable Plaster** and levelled with an aluminum tube (similar to punning). **Magic Xp** adhere to the non-water absorbent substrate of RCC very well.

**9. What do you suggest for external RCC joints seen after the formwork is removed?**

Apply **Magic Xp- Elastomeric Paintable Plaster** and level it with aluminum tube to eliminate the joints.

**10. How thick can Magic Xp be applied?**

It should be applied as much as required with a maximum thickness of 25 mm and a minimum thickness of 500 microns.

**11. How can you ensure that the corners of a room are in a straight line?**

Apply **Magic Xp- Elastomeric Paintable Plaster** on all the eight corners up to one foot at every right angle. Then take that as the base and cover the entire wall with **Magic Xp** and level it with an aluminum tube.

This will ensure that the corners are visibly straight. We will not be able to rectify if the room is skewed.

**12. What should be done if the room size is skewed?**

In such a case, gypsum is the best option for the time being.

We can create an optical illusion by fixing the tiles in a diamond pattern.

**13. Why should gypsum powder not be used in monolithic construction?**

These walls are compacted and has steel as reinforcement. The walls get heated up and the gypsum de-bonds from the surface as gypsum does not have an inherent characteristic of adhesion.

**14. What should be used in place of gypsum powder?**

We should use **Magic Xp- Elastomeric Paintable Putty** which has an excellent adhesion properties and does not de-bond at a temperature upto 50 degree Celsius.

**15. How do we address terrace waterproofing?**

These can be addressed by using **LPPO and LPPT** in combination by reinforcing with nylon mesh.

External horizontal construction joints must be sealed at all levels.

**16. How do we ensure that the gaps in the window can be sealed?**

Fix the windows and seal the joints with **Magic Xp-Elastomeric Paintable Putty**.

Alternatively, straighten the window size by applying Magic Xp with an aluminum tube and then order for the window's appropriate size.

**17. How do we paste tiles on non water absorbent surface like RCC/Formwork?**

When the surface is not levelled, use **Magic Xp- Elastomeric Paintable Putty** to level the surface. You must use **Tilo-Polymerized Tile Adhesive** on a levelled RCC Surface .

**18. What should be done for using AAC blocks as partitions?**

Use **AAC Bond- Super Polymerized Bond** for block pasting and **Magic Xp-Elastomeric Paintable Putty** for plastering. This will ensure a good adhesion to the RCC walls and a crack free surface.

**19. What should be done for the protection of mild steel/rebars and M.S. Railings/Doors/Structures in monolithic construction?**

Use **Rusto- Rust Inhibitive Primer** on the steel rebars and then pour concrete.

**20. Will application of Rusto will have any adverse effect on the adhesion of RCC and steel rebars?**

No, it will not have any adverse effect. The thickness of the film will be less than 50 microns.



## Application Procedure Of Magic Xp–Elastomeric Paintable Plaster on Mivan Structure

1. Apply Magic Xp on all the tie rod holes.
2. Apply Magic Xp on the construction joints upto a minimum width of six inches.
  - Affix nylon mesh when the surface is wet and swipe the excess material out.
  - Apply Magic Xp with the fur roller and move it in all eight directions to ensure all the voids (pinholes and honey combing) completely.
  - Swipe the excess material with a blade/trowel.
  - Ensure that there are no bubble marks.
  - Spread Magic Xp across the surface as a second coat and eliminate all the RCC joints by using an aluminum tube.
  - Move the aluminum tube in one direction and the excess material should be stored back in the bucket.
3. Apply Magic Xp on the jambs of the windows and ensure that we get a straight line.
  - Straighten the walls on all the eight corners on one feet of either side by doing punning with Magic Xp.
  - Accordingly level the entire walls with aluminum tube by using Magic Xp for punning the walls.
  - Magic Xp can be coated to a minimum thickness of 250 microns and to a maximum thickness of 2500 microns.
4. Magic Xp has an inherent characteristics of adhesion and will not debond from the surface up to a higher temperature of 50 degrees celsius.

## Rate analysis on Mivan Construction

**Providing and Application of Magic Xp as putty and paint in the interiors.**

Particulars	Material Cost	Coverage	Cost/sq.ft.
Magic Xp in Two Coats as Putty	Rs. 2,500/- (20 Kg)	250 sq.ft.	Rs. 10.00
Spade in two coats	Rs. 5,000/- (20 Ltr)	1250 sq.ft.	Rs. 4.00
Labour			Rs. 6.00
<b>Total Cost</b>			<b>Rs. 20.00</b>

**Providing and Application of Magic Xp as punning in the interiors.**

Particulars	Material Cost	Coverage	Cost/sq.ft.
Magic Xp (3 mm thickness)	Rs. 2,500/- (20 Kg)	60 sq.ft.	Rs. 40.00
Spade in two coats	Rs. 5,000/- (20 Ltr)	1250 sq.ft.	Rs. 4.00
Labour			Rs. 15.00
<b>Total Cost</b>			<b>Rs. 59.00</b>

**Providing and Application of Magic Xp as putty and paint in the exteriors.**

Particulars	Material Cost	Coverage	Cost/sq.ft.
Magic Xp in Two Coats as Putty	Rs. 2,500/- (20 Kg)	250 sq.ft.	Rs. 10.00
Weather Touch in two coats	Rs. 7,500/- (20 Ltr)	1400 sq.ft.	Rs. 5.50
Labour			Rs. 7.50
<b>Total Cost</b>			<b>Rs. 23.00</b>

**The above rates are exclusive of GST.**

“First Time Right”

**Magic Xp** in combination with  
**AAC Bond | Spade | Weather Touch**  
addresses all these challenges  
effectively and efficiently.



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