Training material 1

Rehabilitation work

IMPORTANT MANAGEMENT POINTS OF SITE WORK

Important Management Points of Site Work

- Quality of 625 different situation Houses shall be managed in 6 months
- Contractor's Engineer and Surveillance Engineer have to control many work Items
- Items controlled by Engineers and Workers shall be minimized
- All Engineer and workers have to know those Important Management Points
- Following sheets indicate important Management Points

Work order

- All Jobs shall be considered when / which part it can be progressed simultaneously
- All Jobs at site shall be kept its order
- All Engineers and Workers have to know its order
- Column repair ➡ Hollow brick work
- Hollow brick work ➡ Column concrete
- Hollow brick work ➡ Lintel / Roof Beam
- Column / Beam Resin work ➡ Unify Work
- Unify work ➡ Diagonal brace work

Reinforcement work

- Check number / size of Reinforcement bar using Check-list
- Check the joint length of Reinforcement bar
- Check position and length of Dowel

Reinforcement work

Site Check List

Site Check List of Diagonal Brace (House Code No.　　-　　)

Engineer's Name	Eng. Check Date	Result

Contractor shall check all work and fill up under check windows.

Engineer has to select several work and execute the spot check.

Place: Left

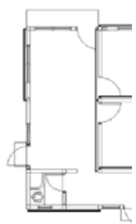
Code	Contractor
LOCA	
CHAN	
NAHR	
PLAT	
BRCE	
PAIN	

Place: Front

Code	Contractor
LOCA	
CHAN	
NAHR	
PLAT	
BRCE	
PAIN	

Place: Right

Code	Contract
LOCA	
CHAN	
NAHR	
PLAT	
BRCE	
PAIN	



Place: B Room SB-3

Code	Contractor
LOCA	
CHAN	
NAHR	
PLAT	
BRCE	
PAIN	

Place: B Room SB-4

Code	Contractor
LOCA	
CHAN	
NAHR	
PLAT	
BRCE	
PAIN	

Place: C Room SC-3

Code	Contractor
LOCA	
CHAN	
NAHR	
PLAT	
BRCE	
PAIN	

Place: C Room SC-4

Code	Contractor
LOCA	
CHAN	
NAHR	
PLAT	
BRCE	
PAIN	

Place: Back

Code	Contracto
LOCA	
CHAN	
NAHR	
PLAT	
BRCE	
PAIN	

Abbreviation of Check Item

LOCA	Location of Brace
CHAN	Fixation of Chemical Anchor (Fixed firmly? Use Double Nuts?)
NSHR	Non-shrinkage mortar filled without the space by Percussion Inspection?
PLAT	Fixation of Brace (Fixed firmly? Use Double Nuts?)
BRCE	Tighten Brace accurately?
PAIT	All parts of Brace painted appropriately?

Site Check List of Roof beam Steel work (House Code

Engineer's Name	Eng. Check Date	Result

B4/A1-A2		Check
Main	4-D13	
Strap	R8@100	
Dowel		

A1/B3-B4		Check
Main	4-D13	
Strap	R8@100	
Dowel		

B3/A1-A2		Check
Main	4-D13	
Strap	R8@100	
Dowel		

A2/B2-B3		Check
Main	4-D13	
Strap	R8@100	
Dowel		

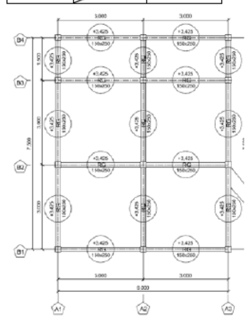
A1/B2-B3		Check
Main	4-D13	
Strap	R8@100	
Dowel		

B2/A1-A2		Check
Main	4-D13	
Strap	R8@100	
Dowel		

A1/B1-B2		Check
Main	4-D13	
Strap	R8@100	
Dowel		

Note 1: Contractor shall check all work and fill up under check windows.
Note 2: Engineer has to select several works and execute the spot check.

B4/A2-A3		Check
Main	4-D13	
Strap	R8@100	
Dowel		



B1/A1-A2		Check
Main	4-D13	
Strap	R8@100	
Dowel		

B1/A2-A3		Check
Main	4-D13	
Strap	R8@100	
Dowel		

Abbreviation of Check Item

Main	Main steel bar of Roof Beam / Size / Number / Position
Strap	Strap steel bar / Interval / Size / Hook
Dowel	Dowel hook / Shape / Length

Site Check List of Beam & Column Joint (House Code No.　　-　　)

Engineer's Name	Eng. Check Date	Result

- ◆The check according to this check list shall be done before casting concrete.
- ◆Contractor shall check all work and fill up under check windows.
- ◆Engineer has to select several works and execute the spot check.
- ◆Fill the intersection code of the access in 'Place' column, and mark the position of the work on following access map for example 'A1B2'.

Place:

Code	Contractor
BLOK	
CRIN	
BRIN	
WELD	
ADHS	

Place:

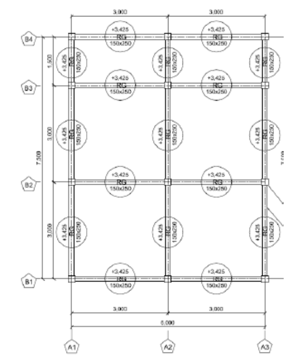
Code	Contractor
BLOK	
CRIN	
BRIN	
WELD	
ADHS	

Place:

Code	Contractor
BLOK	
CRIN	
BRIN	
WELD	
ADHS	

Place:

Code	Contractor
BLOK	
CRIN	
BRIN	
WELD	
ADHS	



Place:

Code	Contractor
BLOK	
CRIN	
BRIN	
WELD	
ADHS	

Abbreviation of Check Item

BLOK	All hollow block work shall be completed before casting concrete.
CRIN	Column bar 4xD16 @100φ8 shall be cut at the top of column, if it's long.
BRIN	Joint Bar of Beam 2xD13 @100φ8
WELD	Joint Bar shall be welded with Column and Beam bar.
ADHS	Construction joint surface shall be painted by Joint adhesive.

Concrete Mixing Work

- Sand, gravel and water should make regulated measuring boxes / cup corresponding to one cement bag, and keep a regulated mixture ratio
- Basic mixing ratio 1:2:4 can be used (One cement 50kg bag 1.25cf : Sand 2.5cf : Gravel 5.0cf) for Structure concrete
- Concrete strength shall be confirmed by Test
- Concrete mixing ratio 1:3:6 is usually used for Leveling concrete
- Amount of water is 60%(30L) or less water- cement ratio

Concrete Material Measurement Cup

Concrete casting Work

- Clean surface of concrete at construction joint
- Water and Dampen Hollow block enough before casting concrete to prevent Dry-out
- Spading / tamping / vibrating concrete while casting concrete

Hollow Block work

- The block, the floor, the pillar, and the beam shall be dampened.

  (Prevent Dry out of mortar)
- Anchor (Mechanical or Chemical Anchor

  at Beam, Column & Floor)
- Reinforcement Bar (Horizon @600, Vertical @800)
- Fill Mortar to surroundings of the Reinforcement Bar
- Do not forget Lintel Beam

Unify work of Block Wall (1)

- Is the groundwork processing on Hollow block and Concrete surface appropriate? (projection and crack)
- Do not you see the color of the lower layer?
- Has the cloth been put on the edge of Concrete of Beam or Column?
- Joint of the cloth is the center of column.
- Is the resin used up in the provided time?

Roof Water leak repair Work(1)

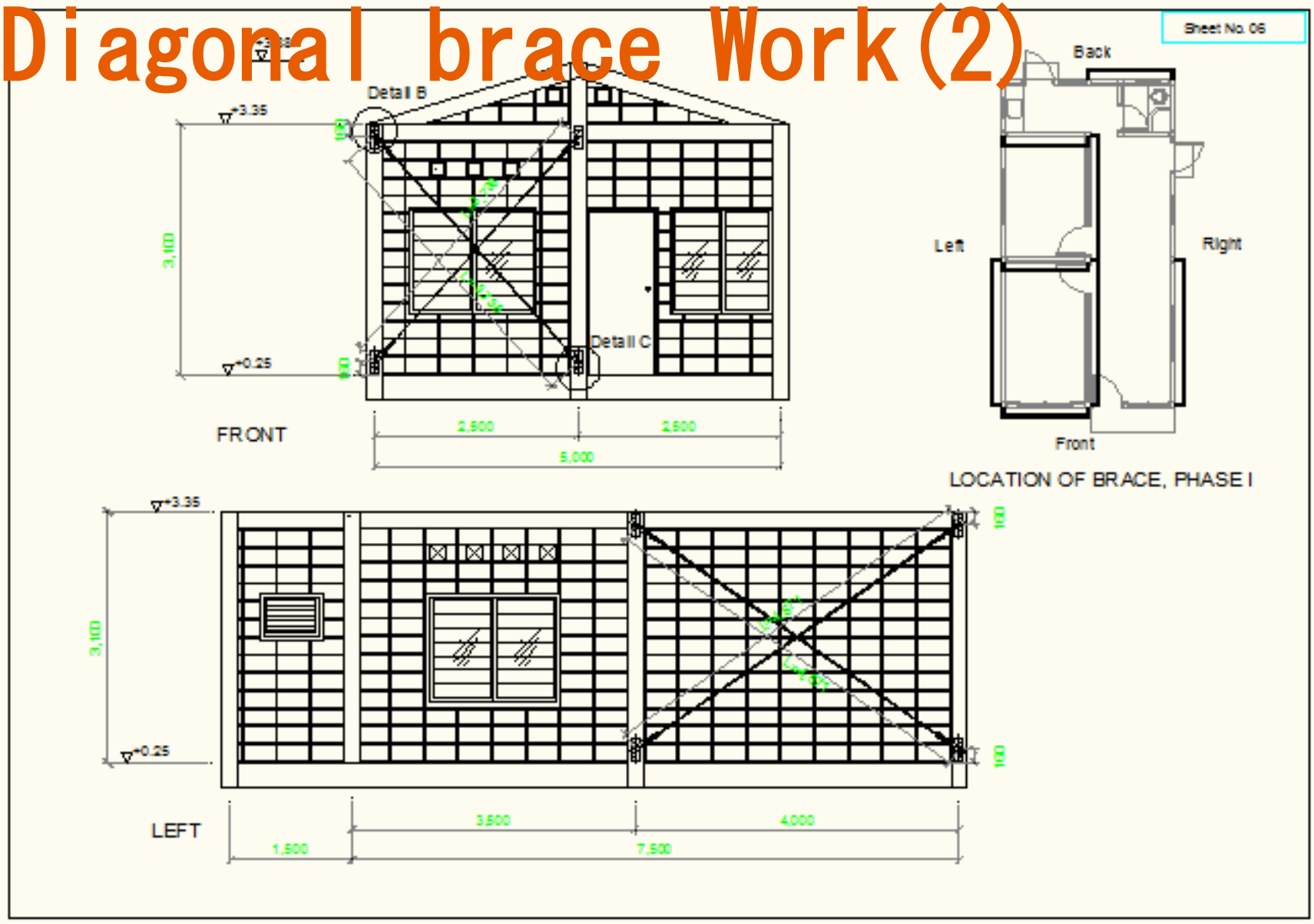
- Was the ladder where it went up to the roof prepared before starting job?
- Was Plywood board paved on the roof in the work area?
- Were the opening of lap joint and the hole coursing leak confirmed?
- Did you seal the hole of the eyelet?

Roof Water leak repair Work(2)

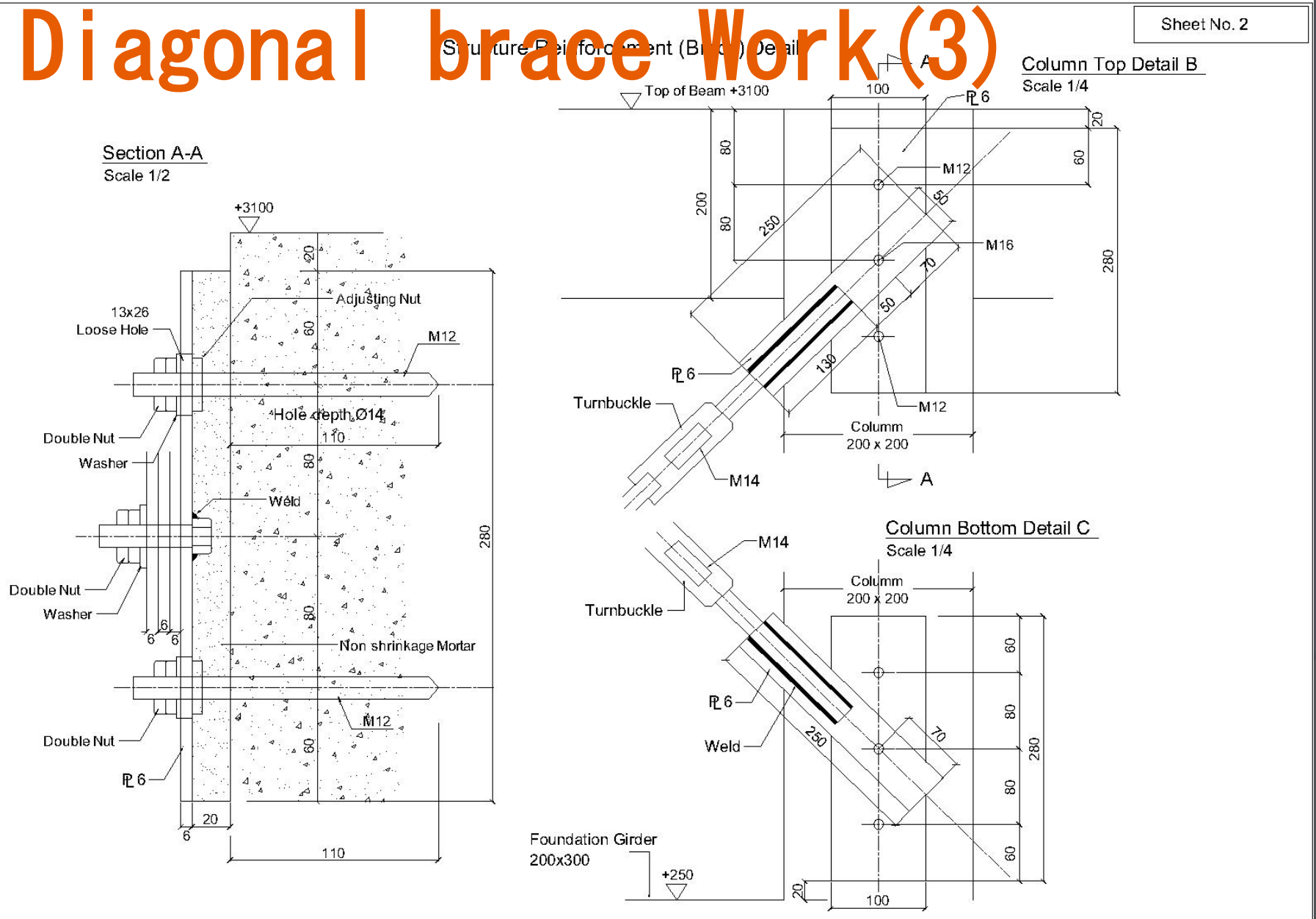
Diagonal brace Work(1)

- Position and depth of anchor
- Setting time of base mortar
- Painting of brace before setting
- Tension of brace

Diagonal brace Work(2)



Diagonal brace Work(3)



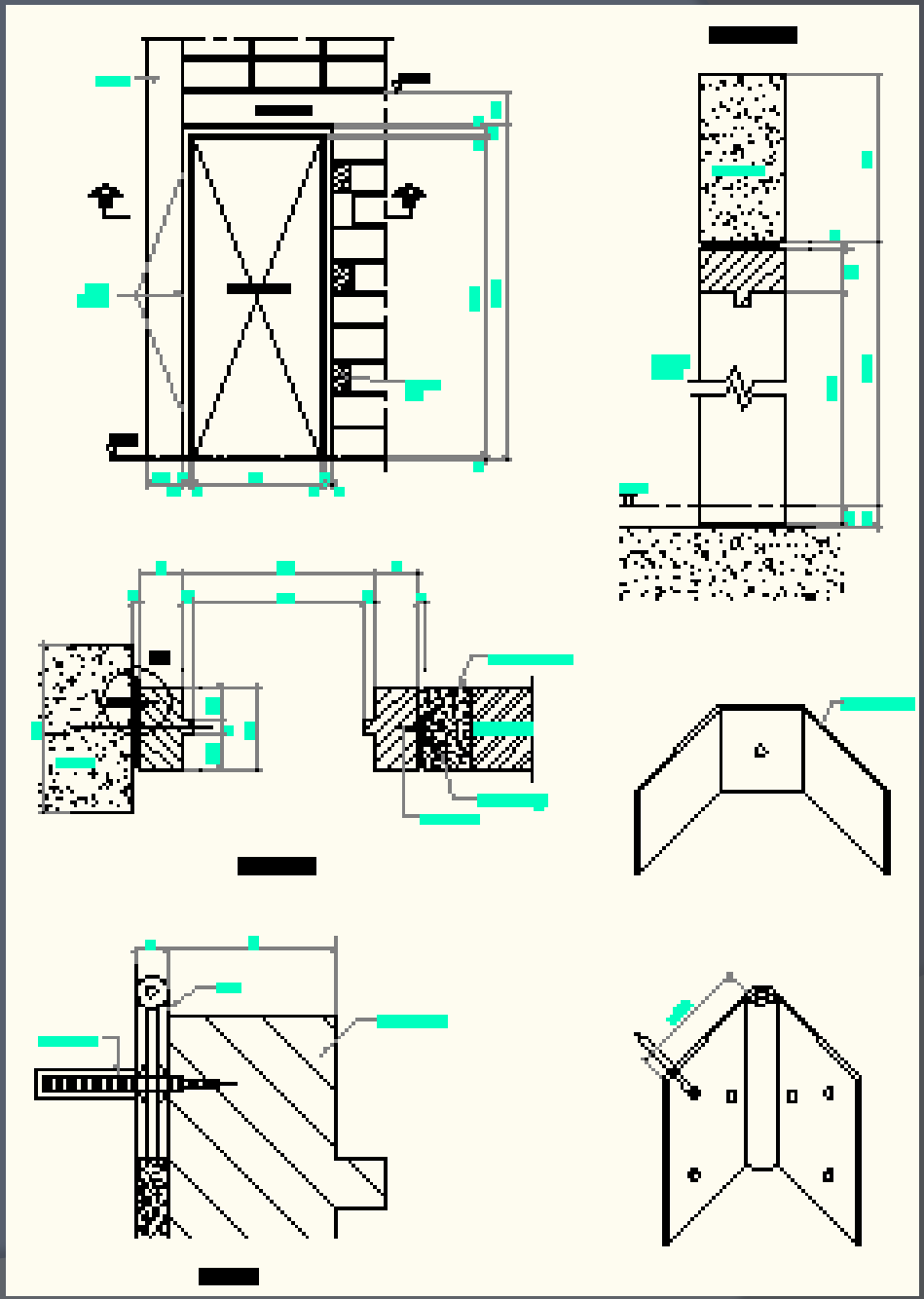
Mechanical & Chemical Anchor Work

- Check whether the suitable size drill is used for the anchor size
- The drilled hole shall be cleaned after drilling
- The depth of drilled hole shall be the appropriate for the anchor

Plastic door frame Work(1)

- Is the anchor of the door frame installed by a regulated method?
- When the frame is installed, is the door set and installed?
- After the frame is installed, is the space buried with mortar?

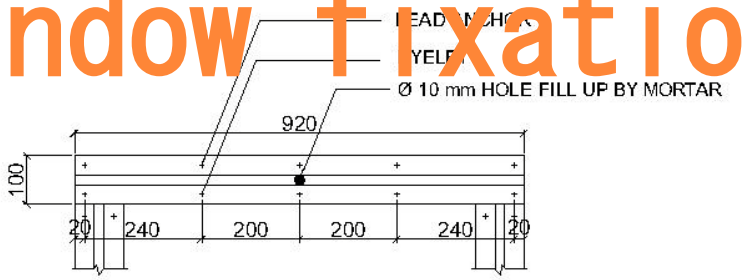
Plastic door frame Work(2)



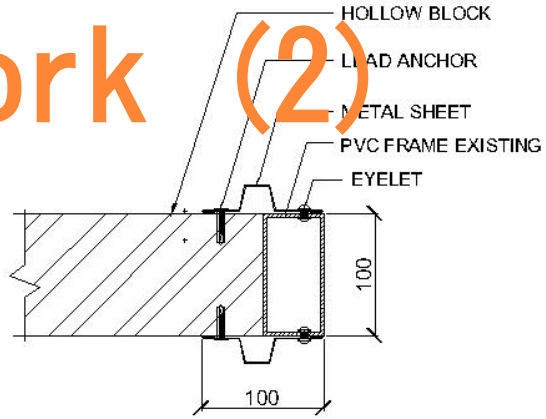
Window fixation Work (1)

- Had the reinforcement of the frame been taken before mortar injected it?

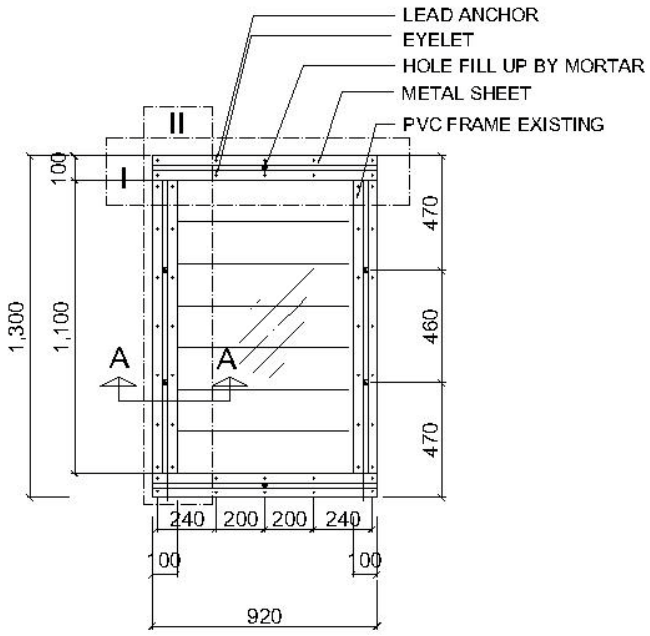
Window fixation Work (2)



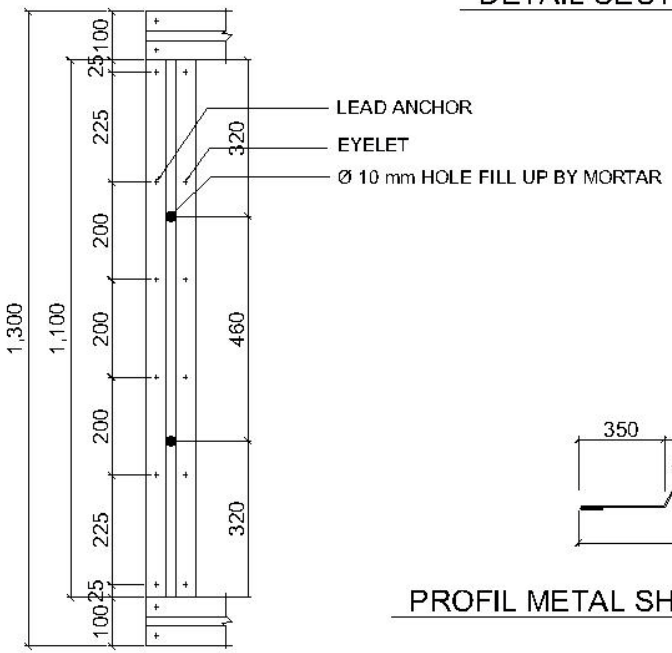
DETAIL - I
SCALE 1 : 25



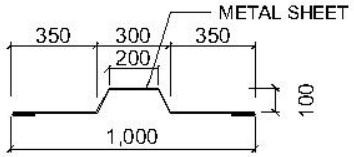
DETAIL SECTION A - A
SCALE 1 : 10



FIXATION OF WINDOW TYPE-2
SCALE 1 : 50



DETAIL - II
SCALE 1 : 25



PROFIL METAL SHEET FIXATION WINDOW
SCALE 1 : 5

Injection Resin Work

- Was the crack in the injected part closed with the resin before injection?
- Is a size of a drill appropriate for the injection pump?
- Is the injection order correct?

Repair Peeled Concrete

- Was the repair made clean?
- Is the mixture ratio of the resin mortar correct?