F. Common Defects in Buildings - Structural

- 32. Recently, some concrete chips have fallen from the ceiling in my kitchen. There are rusty steel bars and the area in question measures about 300 x 400mm. There are also similar patches found in the toilet and staircase. How can we repair them?
- 3.2.1 (b) 4.1.1 (a)
- 4.1.1 (a 4.3.4
- A. A diagonal crack across walls or structural elements usually has structural implications particularly when such phenomenon repeats in flats above and below your unit. The crack is likely to be caused by some form of structural movements of your building. You should notify the Owners' Corporation and the property manager of such cracks. The Owners' Corporation or the property manager should approach owners of other flats to identify the extent of the problem. A Registered Structural Engineer (RSE) should be appointed to carry out an investigation, for revealing the cause of such cracks and propose the remedial works.
- 33. Recently, some concrete chips have fallen from the ceiling in my kitchen. There are rusty steel bars and the area in question measures about 300 x 400mm. There are also similar patches found in the toilet and staircase. How can we repair them?
- 3.2.1 (b)
- 3.2.1 (e)
- 4.1.1 (a)
- 4.3.4
- A. Answer changed to be "This defect is commonly known as concrete spalling and can be due to a variety of causes e.g. water leakage from the floor above, high humidity conditions of the kitchen, bathrooms, etc. causing the steel bars to rust and debond the concrete cover. You are advised to engage a building professional to investigate for the cause(s) and suggest repair methods to the affected area.

If the concrete spalling is due to water leakage from the floor above, the owner of the said unit should be informed of such situation and asked to carry out the necessary repair works to prevent recurrence of the same defect after your repair.

G. Common Defects in Buildings - Leakage

- 34. My window sill often leaks at times of heavy rainfall and typhoon. We have repaired the plaster and paint under the window several times, but the leakage still persists. What should I do?
- 3.2.1 (b)
- 3.2.1 (e)
- 3.2.1 (f)
- Merely repairing the plaster and paint underneath the window sill may not be sufficient for the purpose. There could be a number of possible causes e.g. cracks on external wall, honeycomb concrete, defective sealant at window, etc. You should seek the advice from a building professional or at least an experienced window contractor to identify the exact cause(s) of the leakage and engage a competent contractor to carry out the repair works. Upon completion of the repair, you should also ask the contractor to carry out a water test to ensure that no further leakage will occur.

- 35. I live on the top floor. Recently, the telephone company has installed a machine room and some antennae on the roof. Then water starts seeping through my ceiling. What can I do?
- 3.2.1 (b)
- 3.2.1 (e)
- 4.1.3 (a)
- 4.6.3
- A. There might be a possibility that when the telephone company installed the machine room and antennae on the roof, they have damaged the waterproofing layer resulting in water seepage to your flat. You should notify the property manager and the OC of this problem. They should request the telephone company to carry out an investigation to ascertain whether the seepage is caused by their works. If positive, the telephone company will have to arrange for the necessary repairs.

However, if there is no direct proof of such responsibility, the OC should take up the responsibility to repair if the roof is commonly owned by the co-owners of the building.

- 36. I received a complaint from the tenant downstairs that the floor of my toilet is leaking. What can I do? What is the most effective repair method?
- 3.2.1 (b)
- 3.2.1 (e)
- 4.1.3 (b)
- 4.1.3 (e)
- A. Identifying the source of water leakage is not an easy task. You are therefore advised to engage a building professional to carry out a detailed investigation, including the inspection of the flat below. The leakage could either come from the defective water supply or drainage pipes or due to defective waterproofing layer of your toilet. It could also come from other external sources and it is only because your toilet is directly above, you have naturally become the prime suspect. Once the source(s) of leakage is identified, the appropriate repair method can be worked out accordingly.
- 37. I know that the unit above has carried out some alterations to their kitchen and toilet. Since then my ceiling has been leaking and the plaster kept falling off. How can I ask the flat above to stop the leakage?
- 3.2.1 (e)
- 3.3.2 (e)
- 4.1.3 (b)
- 4.1.3 (e)
- 5.2.6
- You should report the case to the Food and Environmental Hygiene Department (FEHD) for their officers to carry out an inspection of the floor above to verify that the leakage is, in fact, originated from the flat above. If it is found that the leakage comes from the drains in the flat above, the FEHD will issue a nuisance notice to the owner of the flat above to request for the necessary repair works in order to stop the leakage and abate nuisance. The problem will be referred to the Water Supplies Department if the leakage is from water supply pipes. You can also request the owner of the floor above to carry out repair works to your flat due to damage caused by the said leakage.

Н. **Common Defects in Buildings - Finishes**

- 38. I have noticed that there are many hair-line cracks on the bedroom walls, and some paint peeled off. The cracks do not have a specific pattern and spread over a large area. What is the cause? Is there any danger?
- These hair-line cracks are usually shrinkage cracks developed within the plaster 3.2.1 (b) layer of the walls. They will affect the appearance of the wall finish but do not normally cause structural hazards.

Another possible reason for this defect is that the plaster layer has detached from the brick or concrete wall. Under such circumstances, if you tap the wall surfaces, you will hear a hollow sound. Any "hollow" areas of plasterwork should be removed with the wall surface re-plastered with suitable key and re-painted to avoid collapse of finishes.

- I found the door frame of the toilet and the skirting board next to it darkened and some fine dust of wood often fell on the floor. Tapping them gave a hollow sound. What could be the problem? How to repair them?
- 3.2.1 (e) The symptoms look like that the darkened door frame and the skirting board are suffering from termite attacks. The termites are attracted to soft or damp wood. You should appoint a pest control company (contact no. of these companies can be found in the Yellow Pages) to carry out an investigation and subsequent treatment works. All infected timber should be removed.

If the dampness in the timber is due to water leakage, you might also need to engage a building professional to locate the source of leakage and to carry out the necessary repair works.

I. **Common Defects in Buildings - Slopes and Retaining Walls**

- 40. There has been lots of vegetation growing out from the small holes of the slope. Since then there has also been no more water coming out from the holes. Is there any danger and do we need to do something?
- It is likely that the weep holes of the slope are being blocked by the vegetation growth. This may cause a build up of water pressure behind the slope, which might eventually lead to its failure. Property management staff or maintenance workers should clear away all the vegetation and blocking materials from the weep holes. However, if the clearing out works came to no effect, i.e., the weep holes are still not draining water out from the slope, you should appoint a geotechnical engineer to carry out an investigation on the slope as soon as possible.

3.2.1 (d) 4.1.4

41. Repair works are being carried out on the slope of our adjacent lot. Recently, we have received a Repair Order from the Buildings Department (BD) saying that our slope at the back requires investigation and repair. Would it be possible that the slope works at the adjacent lot have caused the trouble? How should we pursue the matter to identify the responsible culprit?

4.1.4 4.2.2 (d) A. You should appoint an Authorized Person (AP) to coordinate the repair works as requested by the BD. The AP will also need the assistance of a Registered Structural Engineer (RSE) or a Registered Geotechnical Engineer (RGE). The AP/RSE/RGE will jointly carry out an investigation of the slope and recommend repair methods. Their findings should be able to clarify whether the repair worksat the adjacent slope has affected yours.

If positive, you should contact the owner of the adjacent slope requesting them to cause the carrying out the necessary rectification works under the supervision of preferably your AP/RSE/RGE. If the owner of the adjacent slope does not respond to your request, you should carry out the works and recover your losses via legal action.

Otherwise, you should carry out the necessary repair works under the supervision of your AP/RSE/RGE at your own expenses.

There are cracks on the surface of the slope at the back of my building. How can I know whether it is safe? Who is responsible for the repair of such slope?

3.2.1 (d) 5.2.2

A. Public can check the maintenance responsibility (MR) of a slope by making enquiries to the Geotechnical Engineering Office of Civil Engineering and Development Department and the Lands Department. Such information is also available in their websites being http://hkss.cedd.gov.hk/hkss/eng/slopeinfo/siswelcome.asp and www.slope.landsd.gov.hk/smris respectively.

If cracks occur on the slope surfaces, you should notify the OC and property manager immediately and check the MR of the slope to confirm the party responsible for the slope repair works.

If the MR falls on the owners of your building, then the OC or property manager should arrange to appoint a geotechnical engineer to investigate the cause and propose the corresponding remedial works.

If the MR falls on others e.g. the owners of the adjoining lot, the OC or property manager should try to request the owners of the adjoining lot to carry out the necessary investigation and repair works. If it comes to no avail, you should report to the GEO or BD for their follow up action. Should circumstance warrant, an investigation and repair order under Section 27A of the Buildings Ordinance may be issued by the BD requiring the responsible owners to carry out the necessary works.

Question 42 (continues)

As a temporary measure, your OC or property manager should promptly appoint a registered specialist contractor in the site formation works category to seal up the cracks with cement mortar to prevent the ingress of surface water into the slope.

Appendix 7

- Water is draining out from the weep holes of the retaining wall adjoining to my building. What should I do? What are the causes and who is responsible?
- A. Water draining out from the weepholes of retaining walls in rainy days are indications that such weepholes are functioning properly to discharge the rainwater collected from the slope. In such cases, no follow-up is required.

Other reasons are bursting of water supply pipes (if the discharge is continuous, clear and without smell), drainage pipes (if the discharge is muddy and smelly) or stormwater drains (if the discharge occurs mainly on rainy days and is usually very clear but found unusually excessive and gushing out) etc behind the retaining wall.

Naturally, the owners of the defective drains and pipes should be responsible for stopping the abnormal discharge. You should notify the property manager or the OC immediately of such who will in turn notify the owners concerned. From a safety point of view, any buried water-carrying services which are found to be damaged or leaking should be repaired without delay. If the concerned owners fail to co-operate, you should notify the Buildings Department for their follow up action. Should circumstance warrant, an investigation and repair order under Section 27C of the Buildings Ordinance may be issued by the BD requiring the responsible owners to carry out the necessary works.

J. Common Defects in Buildings - Building Services

44. Recently, the flushing water supply frequently stops. What could be the possible causes? How should we deal with the defects?

3.2.1 (c) 4.1.2 (d)

A. The stoppage of the flushing water supply was likely to be caused by the failure of the water pump which pumps the water up to the storage tank at roof level. This might be due to improper maintenance or that the pump set has come to the end of its service life. The pump set should either be completely overhauled or replaced.

Breakage of the supply pipes could be an easily detectable cause as large quantity of water will flow out from the defective point. Blockage of pipes could be another possible reason especially in cases where sea-water has been used for flushing.

45. Our fresh water supply is often rusty and dirty. The upper floors do not have sufficient pressure to operate the gas water heaters. What is the problem and what can we do to rectify?

3.2.1 (c) 4.1.2 (d) 5.2.9 A. Rust and dirt in the fresh water supply might be due to rusty pipes or dirty supply tank. The rusty pipes should be replaced and the supply tank properly cleaned.

If there is insufficient pressure to operate the gas water heaters in the upper floors, either blockage of the supply pipes or valves or insufficient head pressure from the roof tank could be the causes. The whole system should be checked and, blocked pipes should be cleared or replaced. Should there still be insufficient pressure, you will have to seek advice from a building professional on how to increase the water pressure, possibly by means of installing a pressurizing pump to the supply system serving the upper floors. Please note that any alteration to the water supply system would require endorsement from the Water Supplies Department.

46. How do we know that the fire service installations (FSI) in our building are effective and meet current standards?

3.2.1 (c) 4.1.2 (b) A. Basic fire service installations in a building generally include hose reels, fire extinguishers, fire alarm systems or automatic sprinkler systems (not for domestic portion). To ensure that these installations work efficiently at all times, a Registered Fire Service Installation Contractor (RFSIC) should be employed by the OC to maintain, inspect and certify the installation at least once every year. When the FSI is found not working properly or damaged, immediate repair should be carried out.

In the case of old buildings, it is likely that the installation are not up to current standards. There are new legislations requiring old buildings to comply with current fire safety standards. The OC of your building should consult a building professional or RFSIC to see if improvement works to your building are required.

If properly maintained, FSI should be able to provide the necessary protection to the occupiers. Should better standards be targeted, you can request the Management Committee of your OC to review the situation with the appointed RFSIC to discuss possible improvement works. It would also be advisable to consult a building professional if major improvement works are anticipated.