

Date: 16.5.09

To:

Lawyer -----

ENGINEERING REPORT

Subject: Building defects in -----

Engineer's name: Ron Arad

License #: 89404

I was asked to give my professional opinion on the defects in the above property. I give this report instead of a testimony in court and I declare that I am well aware, to the law in respect to false testimony in court.

Signed by me this report is standing as a testimony in court.

Education:

Florida Atlantic University: Bcs in civil engineering.

Technion: MBA

Different courses in the Technion such as wetness in buildings, quality control, building materials etc.

Center of management (HAMIL): Project managers seminar.

Engineers and Architects Department: A course in fire and safety in buildings – new requirements (2008)

Experience:

- a. Project manager in public buildings in Florida, USA.
- b. Inspector in Ambassador Hotel in Eilat.
- c. Project manager in the construction of seven apartment buildings in Ramot Beit Shemesh.
- d. Project manager in the construction of an apartment building in Shikun Bavly.
- e. Project manager in the construction of infra structures in Africa
- f. Consultant in the subject of construction at sea.
- g. Consultant in the subject of building defects.

Relevant Documents

1. Planning and Construction Code (1970). (תקנות התכנון והבנייה בקשה להיתר, תנאיו ואגרות).
2. Instructions of sanitary installations (הל"ת – הוראות למתקני תברואה, התשמ"א-1970 ועדכונים משנים מאוחרות יותר)
3. Electricity law (1954) and its additions from later years.
4. Israeli Standards

General

1. The apartment is composed of a living room, kitchen, four bedrooms, three toilet rooms and a balcony.
2. In general, the report deals with the functions and quality of the apartment according to the requirements of the above standards and laws.

The apartment is inspected from the engineering and architectural aspect and does deal with correspondence to the registration in the different authorities such as the city, Taboo, etc. unless specifically mentioned.

In addition, the inspection is done with unpenetrating equipment, with respect to defects which can be discovered today. There may be defects which are hidden and may be discovered at a later time. In that case the report may be updated or an annex may be added.

The Defects

1. Outside Piping

Most of the plumbing and other utilities piping system are exterior to the building rather than embedded in the walls. This is common in old buildings but may cause the following problems:

- a. The piping system is more susceptible to corrosion which can be seen at some of the pipes.
- b. Penetration points of the pipes into the building may not be sealed appropriately and may cause water penetration during the winter time.

2. Windows

- a. Windows sills need to be cleaned from all building material.
- b. Windows outside frames and sills need to be sealed.
- c. All "water noses" need to be opened. (A water nose is a slot along the bottom of the window sill which prevents rain water from contacting the wall underneath).

Required: Sealing, cleaning and opening of all windows sills' water noses.

Estimated cost: 800 Nis.

Total for chapter 2:

800 Nis

3. Wetness

- a. In the bathroom ceiling (next to the service area and kitchen) there is a wide crack and swelling in the stucco. The signs indicate, with high probability, the existence of wetness which is not active at the moment.

In a visit on the 17/8/05 to the apartment above, on the fourth floor, a repair was seen. The repair included the application of silicon between the bathroom and wall which is a probable cause for this type of wetness. No other visible repairs or signs of wetness were seen in the above apartment's bathroom.

Clarification: Without destructive tests to the above apartment's bathroom it cannot be determined in absolute certainty that the leakage has stopped.

Required: Removal of ceiling stucco, replaster and repaint the entire ceiling.

Estimated cost: 1,000 Nis.

- b. In the service area next to the kitchen, there are water penetration signs in the ceiling. No signs of water leakage were visible in the service area of the apartment above. The signs do not indicate active wetness and may be caused due to the same reason as indicated in subparagraph (a) above. Nevertheless, wetness penetration in this area may also be due to rain water penetration in winter time.

Required: Removal of ceiling plaster, replaster and repaint the entire service area ceiling. In case water penetration reoccur during winter time, a treatment of the outside wall and its pipelines penetration holes may be needed.

Estimated cost: 3,000 Nis.

- c. In the room across the kitchen, wetness signs exist under the window and to its left. In the wall a reparation of a hole was made which is visible from the exterior side of the wall. In high probability, water penetration is through the unprofessional reparation and through the window sill and frame.

Required: A professional reparation of the repaired hole and sealing of the window. Repalster of the damaged plaster and repainting of the entire wall.
Estimated cost: 2,000 Nis.

Clarification: An inspection is recommended three months after plaster repairs of the three damaged areas, during winter time, to verify that all water penetrations have stopped.

Total for chapter 3: 6,000 Nis

4. Tiles

A tile is broken in the west bathroom.

Required: Replacement of the tile.
Estimated cost: 100 Nis.

Total for chapter 4: 100 Nis

5. Corridor width

The corridor's width is 86 cm. According to Planning and Construction Code (1970) the corridor's width needs to be at least 100 cm wide

Required: Removal of one wall and rebuilding it according to code.
Estimated cost: 4,000 Nis.

Total for chapter 5: 4,000 Nis

6. Railing

- a. The living room railing is measured at 1.03 m'. According to Planning and Construction Code (1970) the minimum required height of a railing is 1.05 m'.
Clarification: Construction Code's required measurements are minimal and should not be compromised due to safety reasons.

Required: Replacement of railing.
Estimated cost: 1,000 Nis.

Total for chapter 6: 1,000 Nis

7. Reparations

In the north western room, in the west wall, unprofessional reparation was done. The reason for reparation is unknown.

Required: Replastering of the repaired area and repaint of the entire wall.
Estimated cost: 750 Nis.

Total for chapter 7: 750 Nis

8. Electricity

- a. Some Lines are exposed.

Required: Securing the lines behind the panels. Closing off exposed areas.
Estimated cost: 300 Nis.

Total for chapter 8: 300 Nis

9. Air Conditioning

- a. The corridor's grill does not function.

Required: Matching of the air conditioning conduit to the grill opening.
Estimated cost: 200 Nis.

Total for chapter 9: 200 Nis

10. Doors

- a. The entrance door is 86 cm wide including frame. According to Planning and Construction Code (1970) the minimum required width including framing is 90 cm.

Required: Removal of existing door, widening the entrance and reinstalling a new main door according to code.
Estimated cost: 3,000 Nis.

Total for chapter 10: 3,000 Nis

11. Paint and cleaning

At the end of the work, repainting of the house is required in order to prevent difference in colors between the repaired and unprepared sections.
Afterwards, cleaning of the apartment from building material is required.

Total for chapter 11: 2,500 Nis

Total Estimated Cost

Total Cost:	18,650
Inspection on works	1,492
Total before tax	20,145
Tax	3,424
Total	23,566

Remarks

1. Reparation prices are updated to July 2005.
2. Reparation time is approximately two weeks.

Signature:
Engineer Ron Arad