

Edition: October 2023

VISUAL INSPECTION FORM

(V.I.F.)





1. INTRODUCTION

The Visual Inspection Form (V.I.F.) has been prepared and published by the Scientific and Technical Chamber of Cyprus (ETEK) with the scope of providing a standardized methodology for the carrying out of visual checks on buildings and the encouragement of the regular inspection of buildings. The Visual Inspection Form is intended to serve as a tool for ensuring the minimum basic safety requirements for buildings users and the public, related to the condition of the load-bearing elements of a building. The carrying out of visual inspections of buildings with the use of the Visual Inspection Form (V.I.F.) may also include the visual assessment of the stability of non-load bearing elements such as external and internal cladding.

The Visual Inspection Form (V.I.F.) is part of the "Methodology for the Regular Inspection of Buildings" prepared and published by ETEK. The existence of a standardized methodology for carrying out visual inspections of buildings is necessary and stems mainly from:

- a. the fact that many of the existing buildings (of Cyprus) have issues with their structural and seismic capacity, mainly due to the fact that they were designed and built in time periods during which no anti-seismic regulations were implemented for the design of structures and / or there was lack of suitable materials for the construction of structural elements (e.g. lack of suitable gravel) and / or the mandatory supervision of construction works had not been enforced by legislation, etc.
- b. the lack of systematic maintenance of buildings as a preventive measure for ensuring the safety of building users and public safety.

The Members of the Committees, Civil-Structural Engineers, who prepared the "Methodology for the Regular Inspection of Buildings" are:

- Platonas Stylianou (Coordinator 2018-2020 & 2020-2023)
- Nikolas Kyriakides
- Nikos Kalathas
- Paris Skouloukos (Coordinator 2012-2017)
- Kleopas Papanikolaou
- Polydoros Polydorou
- Giorgos Karas
- Loukas Petrou
- Petros Christou
- Michalis Pittas
- Panayiotis Polykarpou
- Christakis Tyrimou
- Stelios Avraamides
- Yiannos Poumbouris (Revision 2020-2023)

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- Despina Hadjimarkou (Revision 2020-2023)
- Irini Yiannakou (Revision 2020-2023)
- Kyriakos Kyriakides (Revision 2020-2023)
- Lydia Mina (Revision 2020-2023 (Scientific Support))

It is noted that the above methodology is based on a report prepared by the **ETEK BUILDINGS SAFETY Committee**, in **October 2014**, composed of the following members:

- George Karas (Team Chairman for the preparation of the methodology (2008-2012))
- Loukas Petrou
- Dimitris Partellas
- Petros Christou
- Michalis Pittas
- Yannis Konstantinides
- Nikos Kalathas
- Paris Skouloukos

The initial committee used the report of the Ad-hoc Committee which was formed on 18/06/2008 with the scope of preparing a proposal towards the Government for the inspection of Public Buildings, as a basis for its work.

2. CARRYING OUT VISUAL INSPECTIONS OF BUILDINGS WITH THE USE OF THE VISUAL INSPECTION FORM

Guidelines for the completion of the Visual Inspection Form (V.I.F.) are provided in Appendix 1 of this document. Upon completion of the visual inspection with the use of the V.I.F. form, one of the following Certificates, as per Annex 2, is issued, depending on the result of the visual inspection:

- (a) Successful Visual Inspection Certificate
- (b) Visual Inspection Certificate with Observations Re-inspection Required
- (c) Unsuccessful Visual Inspection Certificate

Note: In case that identified damages and/ or issues are deemed to be of concern a Successful Visual Inspection Certificate is not issued.

It is highlighted that carrying out inspections and visual checks on the load-bearing structure of a building using the V.I.F. form, is not equivalent to carrying out a first-level assessment check (rapid visual screening of buildings for potential seismic hazard) nor to assessing the load-bearing capacity and/or the structural capacity of the building, which, if required, should be carried out in accordance with the requirements of Eurocode 8, Part 3 (CYS EN 1998-3:2005).

3. LAWS/INTERPRETATIONS

For the purposes of completing the V.I.F. form, the interpretation of "public building" as described in the Regulation of Streets and Buildings Law has been adopted, which includes the concepts of Public Building or Public Use Building (Annex 3).

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VISUAL INSPECTION FORM (V.I.F.) (October 2023)

SECTION A: IDENTITY OF BUILDING
1. DISTRICT:
2. MUNICIPALITY/COMMUNITY: Sheet/Plan: Block: Parcel:
3. ADDRESS:
P.CTel.:
4. COMPLEX:
4a. GEOGRAPHICAL POSITION OF BUILDING (COORDINATES): X:
5. BUILDING USE: Initial:
6. USER:
7. OWNER:
8. CONTRACTING AUTHORITY:
9. MAXIMUM NUMBER OF PERSONS OCCUPYING THE BUILDING:
UP TO 10 10 - 100 >100 Estimated number of occupants
SECTION B: TECHNICAL INFORMATION OF THE BUILDING
10. NUMBER OF FLOORS:NUMBER OF BASEMENTS:
11. FLOOR PLAN AREA:
12. TOTAL BUILT AREA:
13. YEAR OF DESIGN:
14. YEAR OF CONSTRUCTION:14a. YEAR OF LAST ADDITION/ EXTENSION:
15. AVAILABILITY OF STRUCTURAL DESIGN / STRUCTURAL DRAWINGS: YES NO*
15a. AVAILABILITY OF GEOTECHNICAL STUDY OR OF THE GEOTECHNICAL
CHARACTERISTICS OF THE SUBSOIL: YES NO
16. HAS THE STRUCTURAL DESIGN BEEN USED FOR THE INSPECTION? YES NO
17. IS THE BUILDING CLASSIFIED AS LISTED?YES NO
18. HAS THE BUILDING UNDERGONE REPAIR/STRUCTURAL UPGRADING? YES NO
IF YES, FOR WHAT REASON AND WHEN:
18a. IMPACT IN RELATION TO ADJACENT STRUCTURES:
IF SO, PLEASE SPECIFY:
19. ADDITIONAL INFORMATION:

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SEC	TION C: ELEMENTS OF INSPECTION			
20.	EXTERIOR	YES	NO	IF YES, PLEASE ASSESS **
i. ii. iii. iv. v. vii. viii. ix. x.	Damage to beams, slabs, cantilevers Deflection of beams, slabs, cantilevers Damage to columns / shear walls Damages to load bearing walls Damages to non-load bearing walls. Settlement /Displacement Damages to glazing units/ windows/ doors Damages to cladding Damages to awnings (canopies) Condition of Concrete: Good Moderate Poor Cervations/Notes:			
••••				
21.	INTERIOR	YES	NO	IF YES, PLEASE ASSESS **
i. ii. iii. iv. v. vi. vii. viii. ix.	Damage to beams, slabs, cantilevers Deflection of beams, slabs, cantilevers Damage to columns / shear walls Damages to load bearing walls Damages to non-load bearing walls Damages to suspended ceilings Damages to balustrades (railings) Settlement /Displacements. Condition of Concrete: Good Moderate Poor			
<u>Obs</u>	ervations/Notes:			
***	- Insignificant II. Not conserving III. Conserving			
Note	: Insignificant II: Not concerning III: Concerning e: A Successful Visual Inspection Certificate is not issued in case terning (III).	ses wl	here (damages are deemed to be

FORM	No.:	
	(V.I.F	.)

SECTION D: ROOF INFORMATION **				
22. ROOF TYPE	Timber n	Steel	Reinforced Concrete	Other
23. BEARING OF ROOF STRUCTURE	Satisfactory	Non Satisfa	actory*	
24. NODES / CONNECTIONS	Satisfactory	Non Satisfac	tory*	
25. DEFLECTION	NO	YES	k	
* A Successful Visual Inspection Certificate ** Ensure that adequate and safe access is				
SECTION E: OBSERVATIONS/NOTES				

Note: In case that during the visual inspection of a building with the use of the Visual Inspection Form (V.I.F.) visually apparent damages to the structural elements of the building are identified that are deemed to pose a safety hazard to the building occupants and passers-by, according to the judgement of the Inspecting Engineer, then the Inspecting Engineer is not permitted to proceed with further checks with the use of the Rapid Visual Screening of Buildings for Potential Seismic Hazard Form (R.V.S.B.) Form.

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SECTION F: FINDINGS				
Based on all of the above sections there are / there are no visually apparent areas of concern in the building and a "Successful Visual Inspection Certificate"/ "Visual Inspection Certificate with Observations – Re-inspection Required"/ "Unsuccessful Visual Inspection Certificate" is issued.				
26. DETAILS OF INSPECTING ENGINEERS:				
1. SIGNATURE: 2.	SIGNATURE:			
NAME:	NAME:			
ETEK Member Register Number:	ETEK Member Register Number:			
Civil Engineer	Architect			
Note: It is highlighted that the carrying out of inspection a building using the V.I.F. form is not equivalent to carr screening of buildings for potential seismic hazard) nor to capacity of the building, which, if required, should be capacity of the building, which, if required, should be capacity of the building, which, if required, should be capacity of the building, which, if required, should be capacity of the building, which, if required, should be capacity of the building, which, if required, should be capacity of the building of the building seconds and supplies to public seconds. SECTION G: DANGEROUS BUILDINGS Is the building or part of it deemed dangerous to public safety necessary actions pursuant to Articles 15, 15A and 15B taken.	ying out a first-level pre-seismic check (rapid visual assessing the load-bearing capacity and/or structural carried out in accordance with the requirements of safety? YES NO			
SECTION H: DECLARATION BY THE OWNER/AUTHO	PRISED REPRESENTATIVE OF THE OWNER			
I, the undersigned, ow that I have received a copy of this form, have studied and will be taken into account in the building's maintenance p	have understood its contents and the various findings rogram.			
Signature(Name)				

FORM	No.:
	(V.I.F.)

a) Photos	
a) Ckatch	
o) Sketch	
c) Other docu	ments/data
	Tierres) data

<u>Disclaimer:</u> Completion of this form and recording of data and/or results, should be carried out with the required care and/or ordinary due diligence. The form and/or its contents are the sole responsibility of the individual on behalf of which they are recorded and their validity and/or legality is not checked by ETEK.

<u>NOTE</u>: This form was proposed by the Ad-hoc Committee on the basis of a decision of the Council of Ministers and modified by the ETEK Committees on "Building Safety" and "Regular Inspection of Structures".

ANNEX 1

"INSTRUCTIONS FOR THE COMPLETION

OF THE VISUAL INSPECTION FORM (V.I.F.)

October 2023

INSTRUCTIONS FOR THE COMPLETION OF THE VISUAL INSPECTION FORM (V.I.F.)

General

The **Visual Inspection Form** consists of five pages.

- For each structurally independent building (not divided into smaller substructures by joints) only one Visual Inspection Form is completed.
- The Form is divided in nine (9) sections, from A to I, which are explained below.

An "observations/notes" box is provided in most sections, where comments that are worth special mention or require further clarification can be included. Check boxes should be marked with X or $\sqrt{}$.

It is understood that the completion of the form, including the assessment of whether any damage/signs of deterioration or other issues identified during the visual inspection of the building are of concern or not, relies on the judgement of the Inspecting Engineer.

Section A: Identity of building (1st page)

1. District

No further explanation is required.

2. <u>Municipality/Community</u>

Record the Sheet/Plan, the block and parcel(s).

3. Address

The full postal address of the building, i.e. street, number, postcode, district and contact number of the owner or management committee is recorded. In the case that several autonomous Authorities occupy the building, it is useful to provide additional telephone numbers.

4. Complex

Record the official name of the complex to which the building under inspection belongs to (where applicable).

4a. **Building**

Record the official name of the building. If it forms part of a complex, it should be made clear which building is of interest. If the building has no name, record the name of the Organisation/Authority that uses it or the owner of the building.

4b. **Geographical Position of Building (Coordinates):**

The geographical coordinates (X, Y) for the position of the building are specified according to the Geodetic System K $\Gamma\Sigma$ A93 (Ellipsoid: WGS84 (ϕ , λ) & Cartographic Projection: LTM 93). Geographical coordinates are obtained by locating the reference point on the orthophoto maps of the web portal of the Department of Lands and Surveys web portal (DLS Portal). The building's reference point should be set as the building's main entrance or as the building's centre and correspondingly described in section "Additional Information" of the form (building's main entrance/centre). If the assigned geographical coordinates follow the WGS84 Geodetic Reference System, then their conversion to the K $\Gamma\Sigma$ A 93 system is required. The geographical coordinates (X, Y) should be recorded as integers, i.e. no digits should be included following the decimal point (i.e. X= 232996, Y=391676).

5. **Building use**

Record the initial use of the building (for which a permit was issued). Subsequently, record the current use of the building (in case the initial use has changed). If the building has more than one use, record the main one at the time of the inspection.

6. <u>User</u>

Record the Authority or private company that occupies the building. If the user is a natural person, the full name of the user is recorded.

7. Owner

Record the name of the Municipality/Community, the Ministry, the Public Authority, etc., that owns the building. If the building is privately owned, record the name of the private company or the full name of the owner, in case the building is owned by a natural person.

8. **Contracting Authority**

No further explanation is required.

9. <u>Maximum number of persons occupying the building</u>

Check the box which corresponds as closely as possible to the maximum number of persons normally occupying the building. For a number of persons exceeding 100, the number of occupants is estimated and recorded in the corresponding box.

Section B: Technical Information of the Building (1st page)

10. Number of floors / basements

Record the number of floors of the building (e.g., ground floor + 3) and the number of basements. Any kind of structure whose purpose is to enclose the staircase landing above roof level does not count towards the number of floors. In the case of sloping ground surface, record the number of floors from the lowest point of the ground surface. A floor is considered to be a basement if it is predominantly below ground and is adequately encased in perimeter walls.

11. Floor plan area

Record the area most representative of the building's floor plan. If no drawings are available, the floor plan area should be measured on site and estimated.

12. Total built area

Record the total area of the building which results from the summation of the above-ground floor areas, including the ground floor (excluding basements, mezzanines, flat roofs, balconies, covered areas with pergolas, etc.). If no drawings are available, the total area of the building is estimated and a relevant note is made in the "additional information" subsection of the form.

13. **Year of Design**

Record the year the building's structural design was carried out (if any).

14. Year of construction

Record the year the building was constructed based on information or its structural characteristics.

This information is particularly useful and crucial in deciding whether more in-depth investigation is required. Therefore, every effort should be made for identifying the building's year of construction.

If it is not possible to identify an exact date, the recording of a broader reference period (e.g. 1933 - 1937) is allowed, even by approximation.

14a. Year of last addition/extension

Record the year of the last addition/ extension to the building. If the existing building was structurally upgraded as a result of the addition/extension, this must be recorded in fields with number 18 and 18a of the form.

This field refers to vertical extensions or horizontal extensions structurally connected to the existing structure.

It is noted that this field seeks to establish whether additions/extensions to an existing building were, either as provided for in the original design, or by an assessment of the load-bearing capacity of the building according to more recent regulations to those used in the original study.

15. Available Structural Design Report/Structural Drawings

The structural design (report/ drawings) of the building can be obtained from the records of the Authority that issued the building permit or from the owner.

Where only certain documents (usually drawings) are available, YES or NO is marked, depending on the available information.

16. Has the structural design been used for the inspection?

No further explanation is needed.

17. Is the building classified as a Listed?

Record whether the building has been classified as listed.

18. <u>Has the building been repaired/structurally upgraded?</u>

If the building has undergone structural interventions either for repair or for structural upgrading, the corresponding box is marked with an X or $\sqrt{.}$

Note: Of particular interest are the cases where buildings were designed without seismic regulations, which have undergone repair and structural interventions in order to restore their load-bearing capacity or for the addition of floors, as well as the case of buildings where interventions were carried out to repair damages (e.g. caused by earthquakes) or for the addition of floors according to more recent earthquake regulations to those implemented (if any) in the original study.

If yes, for what reason and when?

For example, reasons might include repair due to deterioration, or restoration of damage caused by earthquakes or differential settlement, or structural upgrading as a result of the addition of floors to the building, etc.

18a. Impact in relation to adjacent structures or civil works

Potential impact in relation to adjacent structures is noted, such as due to roadworks, excavations, adjacent buildings etc.

19. Additional Information

This part of the form is intended for any comments or observations of the Inspecting Engineer in relation to the building, its use, the condition and reliability of the information or any other information deemed necessary to be reported. If required, an additional annex with the necessary information can be attached by the Inspecting Engineer.

Section C: Elements of Inspection (2nd page)

<u>In cases where damages are identified as concerning (III), a Successful Visual Inspection</u> Certificate shall not be issued.

20. Exterior

This part seeks to record any cracks or damages visible on the exterior of the building.

21. Interior

This part seeks to record any cracks or damages visible inside the building.

20, 21: In relation to the assessment of the condition of the concrete, the following are noted:

The condition of the concrete is defined as follows:

Good: There are no visually apparent problems in the concrete and reinforcement.

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- Moderate: There may be some signs of moisture but the concrete is not disintegrated, visually there does not appear to be a substantial reduction in its strength and the concrete is able to provide adequate protection (concrete cover) to the reinforcement.
- **Poor:** There are signs of severe moisture or detachment of the concrete cover (to reinforcement) or disintegration of the concrete or oxidation of the reinforcement with reduction of the reinforcement bars cross-sectional area.

It is understood that the assessment of the condition of the concrete of the load-bearing structure of the building relies also on the judgement of the Inspecting Engineer. Indicatively, it is noted that consideration should be given to whether any problems as far as the condition of the concrete is concerned, are of limited extent (e.g. relating to individual elements) or not. Consideration should also be given to the contribution of the elements in which the condition of concrete is assessed as moderate/ poor, to ensuring the structural capacity of the building. For example, where severe problems regarding the condition of the concrete are identified during the visual inspection, which concern a limited part of the elements constituting the load-bearing structure, it is recommended that if the problems relate to a main load-bearing element (e.g. a main column/beam), the condition of the concrete is recorded as "poor". In addition, in such/similar cases, it is recommended that comments/explanations are written down in the "Obervations/Notes" field of the form.

Section D: Roof Elements (3rd page)

22. Roof Type

No further explanation is required.

23. **Bearing of the Roof Structure**

After on-site inspection, it is judged whether or not the bearing of the roof structure on the structure below is satisfactory and the appropriate box is filled in. In the case where the bearing of the roof structure is judged to be unsatisfactory, a Successful Visual Inspection Certificate is not issued and further checks are required.

24. Nodes / Connections

The same comments as in the previous field apply.

25. **Deflection**

Record whether or not there is deflection (visible to the naked eye) of the structural elements. In case that deflection is identified and it is deemed to be of concern, a Successful Visual Inspection Certificate is not issued and further checks are required.

Section E: Observations/Notes (3rd page)

This part of the form is intended for any observations of the Inspecting Engineer with respect to the building's condition, it's use and the reliability of the information provided or anything that may require special mention or clarification or any other information deemed necessary to be reported.

Section F: Findings (4th page)

Based on all the previous sections, it is stated whether or not there are visually apparent areas of concern in the structure/building and subsequently whether a "Successful Visual Inspection Certificate", a "Visual Inspection Certificate with Observations — Re-inspection Required" or an "Unsuccessful Visual Inspection Certificate" is issued for the building.

26. **Details of Inspecting Engineers**

No further explanation is required.

27. Date of Inspection

No further explanation is required.

Section G: DANGEROUS BUILDINGS (4th page)

Record whether the building is considered dangerous to public safety based on the inspections carried out. If the building is deemed dangerous, the competent authority is informed so that the necessary actions pursuant to Articles 15, 15A and 15B of the Regulation of Streets and Buildings Law are taken.

Section H: Declaration by the Owner/Authorised Representative of the Owner (4th page)

No further explanation is required.

Section I: List of attached documents/data (5th page)

a) Photos

As a general rule, a photograph of the building's façade is necessary to identify the building. It is recommended that it is taken from a sufficient distance so that the whole building facade is included. It is advisable to avoid depicting trees, vehicles or other objects that obscure the lowest (usually critical) floor. In exceptional cases, based on the judgement of the authors of the form (i.e. such as in cases of signs of poor workmanship, corrosion of reinforcement, etc.), additional photographs may be attached. Photographs must be in digital form, so that they can be managed electronically.

b) Sketch

If the authors of the form consider it useful to attach a sketch depicting part or the whole of the building, they may do so.

c) Other documents/data

Any other documents or information that are deemed appropriate to be attached should be recorded.

ANNEX 2

"Certificates Issued following visual inspection with the use of the Visual Inspection Form (V.I.F.)"

SUCCESSFUL VISUAL INSPECTION CERTIFICATE

(Certificate no. 1)

(certificate not 1)
We, the undersigned
has been inspected and after visual inspection (refer to Visual Inspection Form (V.I.F.) No), no
apparent problems were observed in the structure.
Signature: Signature:
Name of Inspecting Engineer:
Seal/Stamp: Seal/Stamp:
Note : It is highlighted that the carrying out of inspections and visual checks on the load-bearing structure of a building using the V.I.F. form is not equivalent to rapid visual screening of buildings for potential seismic hazard nor to assessing the load-bearing capacity and/or structural capacity of the building, which if required should be carried out in accordance with the requirements of Eurocode 8, Part 3 (CYS EN 1998-3:2005).

VISUAL INSPECTION CERTIFICATE WITH OBSERVATIONS – RE-INSPECTION REQUIRED

(Certificate no. 2)

We, the undersigned with ETEK Member Registration no.:
Architect, declare that on (dd/mm/yyyy) the building
located in the Municipality/Community of
, at the address
has been inspected and after visual inspection (refer to Visual Inspection Form (V.I.F.) No), apparent
problems to the load-bearing structure have been observed, which are recorded on the form and for which
remedial measures and subsequent re-inspection are required.
Date of re-inspection (to be determined by the Inspecting Engineers that carried out the inspection):
Signature: Signature:
Name of Inspecting Engineer: Name of Inspecting Engineer:
Nume of Inspecting Engineer:
Seal/Stamp: Seal/Stamp:
Note : It is highlighted that the carrying out inspections and visual checks on the load-bearing structure of a
building using the V.I.F. form is not equivalent to rapid visual screening of buildings for potential seismic hazard nor to assessing the load-bearing capacity and/or structural capacity of the building, which if required should be
carried out in accordance with the requirements of Eurocode 8, Part 3 (CYS EN 1998-3:2005).

UNSUCCESSFUL VISUAL INSPECTION BUILDING CERTIFICATE

(Certificate no. 3)

We, the undersigned
has been inspected and after visual inspection (refer to Visual Inspection Form (V.I.F.) No), apparent
concerning damages to the load-bearing structure have been observed, which are recorded on the form and for
which, an Unsuccessful Visual Inspection Certificate is issued for the building.
Signature: Name of Inspecting Engineer Firm/ Designer:
Seal/Stamp:
Note : It is highlighted that the carrying out inspections and visual checks on the load-bearing structure of a building using the V.I.F. form is not equivalent to rapid visual screening of buildings for potential seismic hazard nor to assessing the load-bearing capacity and/or structural capacity of the building, which if required should be carried out in accordance with the requirements of Eurocode 8, Part 3 (CYS EN 1998-3:2005).

ANNEX 3

"REGULATION OF STREETS AND BUILDINGS REGULATIONS"

LAW/REGULATIONS: THE STREETS AND BUILDINGS REGULATION

REGULATIONS PART I, ARTICLE 2

Public building or public use building

The term "Public building" or "public use building" is deemed to refer to buildings where a larger than the normal number of people assemble (the use of a building as a residence is equivalent to ordinary use).

For the purposes of the work of the present Committee on the "Regular Inspection of Structures", the term public buildings or public use buildings, and in accordance to the basic Regulations of the Regulation of Streets and Buildings Law, shall cover at least the following buildings:

- a) Buildings of Public Worship: churches, chapels, mosques and other places of public worship.
- b) Teaching Facilities: universities, colleges, schools, after-school educational establishments, public lecture halls.
- c) Entertainment buildings: (with a main hall area greater than 100m²), theatres, restaurants or cafes, public concert halls, public dance halls, public exhibition halls or places of public assembly (including stadiums).
- d) Hotels with more than eight (8) rooms and a volume greater than 1400 cubic meters.
- e) Hospitals, clinics, charitable institutions and other healthcare establishments.
- f) Sports Venues / Facilities: Stadiums, Sports Centres, Multipurpose halls, Swimming pools.