

Safety Regulation-2016 for
Buildings in CRZ area



આમુખ:

ગુજરાત સરકાર

શહેરી વિકાસ અને શહેરી ગૃહનિર્માણ વિભાગ,

હુકમ ક્રમાંક: વનમ-૧૯૨૦૧૫-૪૨૧૨-લ

સચિવાલય, ગાંધીનગર

તા. - 3 FEB 2016

ગુજરાત રાજ્ય ૧૬૦૦ કી.મી. દરીયા કિનારો ધરાવે છે. આ દરીયા કિનારા પર સુરત વલસાડ, ભરૂચ, ખંભાત, જુનાગઢ, અમરેલી, પોરબંદર, દેવલુમિ દ્વારકા, જામનગર તથા કર્ણ જીલ્લાઓ છે જેમાં સુરત ભરૂચ દેવલુમિ દ્વારકા, જામનગર તથા કર્ણ જીલ્લાઓના નાના મોટા બંદરોનો સારો વિકાસ થયેલ છે. જ્યારે હાલમાં હજીરા, દહેજ, સિકકા, વાડીનાર, મુંદ્રા જેવા બંદર વિસ્તારમાં ઔદ્યોગિક વિકાસના વેગના કારણે બાંધકામ વિકાસનો વ્યાપ વધી રહેલ છે. કોસ્ટલ વિસ્તારમાં દરીયાઈ તોફાનો જેવા કે સુનામી, વાવાઝોડા, ચઢાવાત વિગેરેની અસરો દરીયા કિનારાના બાંધકામોની સ્ટ્રક્ચરલ સેફ્ટીથી લોકોની સલામતી અને સંપત્તિનું નુકશાન અટકાવી શકાય તે નજર સમક્ષ રાખી દરીયા કિનારાનાં ગામો શહેરોમાં હાઈરાઈઝ ઈમારતોનાં બાંધકામ બાબતે નિયંત્રણ રહે તે આવશ્યક બાબત છે. જે ધ્યાને લેતાં દરીયા કિનારાના સી.આર.ઝેડ વિસ્તારમાં બાંધકામ પરવાનગી બાબતે સ્ટ્રક્ચરલ સેફ્ટી નિયમો સ્થાપિત કરવાની બાબત સરકારશ્રીની વિચારણા હતી. સબબ બાબતે સરકારશ્રીની પુખ્ત વિચારણાના અંતે 'Safety Regulation - 2016 for Buildings in CRZ area' ઘડીને અમલ કરવા આથી હુકમ કરવામાં આવે છે.

:: હુકમ ::

આથી ગુજરાત નગર સ્વચ્છ અને શહેરી વિકાસ અધિનિયમ, ૧૯૭૬ ની કલમ-૧૨૨ની પેટા કલમ (૧) હેઠળ મળેલ સત્તાની રૂએ સરકાર શિડ્યુઅલ-૧ થી દર્શાવેલ વિસ્તારમાં 'Safety Regulation - 2016 for Buildings in CRZ area'ને મંજૂર કરેલ છે. આ સાથે સામેલ સદર નિયમો જી.ડી.સી.આર.માં સમાવેશ કરવા તથા આ નિયમોનો અમલ કરવા આથી હુકમ કરવામાં આવે છે.

ગુજરાતના રાજ્યપાલશ્રીના હુકમથી અને તેમના નામે,


(નીલા મુન્શી)

ખાસ ફરજ પરના અધિકારી અને હોદાની રૂએ સંયુક્ત સચિવ
શહેરી વિકાસ અને શહેરી ગૃહનિર્માણ વિભાગ

પ્રતિ,

- માન.મુખ્યમંત્રીશ્રીના સચિવશ્રી, માન.મુખ્યમંત્રીશ્રીનું કાર્યાલય, બ્લોક નં. ૧, ૫ મો માળ, સચિવાલય, ગાંધીનગર.
- સર્વે માન.મંત્રીશ્રીઓના અંગતસચિવશ્રી, સચિવાલય, ગાંધીનગર.
- મુખ્ય સચિવશ્રીના અંગત સચિવશ્રી, બ્લોક નં. ૧, ૪ થો માળ, સચિવલાય, ગાંધીનગર
- અગ્રસચિવશ્રીના રહસ્ય સચિવશ્રી, શહેરી વિકાસ અને શહેરી ગૃહનિર્માણ વિભાગ, સચિવાલય, ગાંધીનગર.
- સચિવાલયના તમામ વિભાગો તરફે
- મ્યુનિ.કમિશનરશ્રી, અમદાવાદ, વડોદરા, રાજકોટ, ભાવનગર, સુરત, જામનગર, જુનાગઢ.
- મુખ્ય કારોબારી અધિકારીશ્રી, તમામ શહેરી/વિસ્તાર વિકાસ સત્તામંડળ
- સર્વે કલેક્ટરશ્રીઓ/સર્વે જિલ્લા વિકાસ અધિકારીશ્રીઓ તરફે દરેક પંચાયતને સુચના આપી જાણ કરવાની વિનંતી સહ.
- નગર પાલિકા નિયામકશ્રી ગુજરાત રાજ્ય, ગાંધીનગર તરફે દરેક નગરપાલિકાઓને સુચના આપી જાણ કરવાની વિનંતી સહ.
- મુખ્ય નગર નિયોજકશ્રી, ગુજરાત રાજ્ય, ગાંધીનગર
- સીસ્ટમ મેનેજરશ્રી, શહેરી વિકાસ અને શહેરી ગૃહનિર્માણ વિભાગ, ગાંધીનગર તરફે વિભાગની વેબસાઈટ પર પ્રસિદ્ધિ અર્થે.
- નાયબ સેક્શન અધિકારીશ્રીની સિલેક્ટ ફાઈલ
- લ-શાખા સિલેક્ટ ફાઈલ

SCHEDULE – I
List Of UDA/ADA & Nagarpalika in CRZ area

Sr.No.	Name Of District	Name of Taluka/Nagarpalika	Name of ADA/UDA
1	Kutchh	Bhachau	Bhachau ADA
		Anjar	Anjar ADA
		Abdasa	
		Mandvi	Mandvi ADA
		Mundra	
		Gandhidham	Gandhidham ADA
2	Morbi	Maliya	
3	Jamnagar	Okhamandal	Dwarka ADA
		Khambhaliya	Khambhaliya ADA
		Jamnagar	Jamnagar ADA
		Jodiya	
		Lalpur	
		Kalyanpur	
4	Porbandar	Porbandar	Porbandar ADA
5	Junagadh	Mangrol	Mangrol ADA
		Maliya	Chorvad ADA
		Sutrapada	
6	Gir somnath	Kodinar	Kodinar ADA
		Una	Una ADA
		Patan- Veraval	Veraval –Patan ADA
7	Amreli	Jafrabad	
		Rajula	
8	Bhavnagar	Talaja	Alang ADA
		Mahuva	Mahuva ADA
		Gogha	
9	Ahmedabad	Dhandhuka	
10	Bharuch	Jambusar	Jambusar ADA
		Amod	
		Vagra	
		Bharuch	Bharuch-Ankleshwar UDA
		Hansot	
11	Anand	Khambhat	Khambhat ADA
		Borsad	Borsad ADA
12	Surat	Olpad	
		Surat	Surat UDA
		Chorasi	
13	Navsari	Navsari	Navsari ADA
		Jalalpur	
		Gandevi	Gandevi ADA
			Bilimora ADA
14	Valsad	Valsad	Valsad ADA
		Umargam	Umargam ADA

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Safety Regulation – 2015 for Buildings In CRZ area

1. SHORT TITLE AND EXTENT

- (1) This regulation may be called, "Safety Regulation –2015 for Buildings In CRZ area".
- (2) It extends to the jurisdiction of the appropriate authorities declared under the provision of the Act.

2. APPLICABILITY

- (1) For the ADA given in Schedule-I and for the buildings defined herewith:
- (2) All Residential buildings above 10.5 mtr. height.
- (3) All Specific buildings i.e. Commercial, Public purpose, Hospitality, Assembly, Institutional etc.

3. DEFINITION

- a) "Act" means Gujarat Town Planning & Urban Development Act, 1976.
- b) "Competent authority" means any person(s) or authority(s), as the case may be, authorized to grant development permission.
- c) "Committee" shall comprise of following: -

1	Municipal Commissioner or the District Collector in case of Nagarpalika/ Panchayat	Chairmen
2	Prant Officer in case of UDA, ADA, Nagarpalika or Dy.D.D.O. in case of Panchayat	Member
3	Director of fire or his senior representative officer	Member
4	Registered Structural Engineer with any authority or government having the minimum qualification of M.E., M.Tech.(Structure) with experience of high rise building.	Member
5	Officer not below the rank of superintendent engineer of design cell of Road and Building Department.	Member
6	Chief executive Authority for UDA/ADA or or Chief Officer for Nagarpalika and T.D.O. for Panchayat	Member Secretary

- a) GDCR" means the regulations approved under clause (m) of sub-section (2) of section 12 of the Act.
- b) Structure Design shall comprise of:-
 - i. Report specifying the details of design, calculations, the codes which are followed, the specification of materials and other relevant required testimonials
 - ii. Drawings.
 - iii. Test reports.

- c) "Structural Expert" means a person possessing :-
- i. Master degree in structure design or its equivalent awarded by the recognized university;
 - ii. 5 years' experience in structural design of building and should have at least design 5 buildings having height more than 40 mtrs.

- d) "Site Supervisor" means a person possessing:-
- i. Bachelor degree in Civil Engineering or its equivalent awarded by the recognized university.
 - ii. 5 years' experience in supervision of structural design implementation of building and should have at least supervised 5 buildings having height more than 40 mtrs.

- e) "Stage" means foundation, level or ground floor level or 1st floor or any other level including terrace slab and the completion.

4. SAFETY PROVISIONS

- a) safety regulations as shown in schedule-II
- b) Fire safety as per Fire Safety Regulations notified by Government.
- c) All Regulations made by GSDMA.

5. PROCEDURE

- (1) Along with the application for development permission the owner, in addition to the requirements of GDCR, shall submit the structure design and the audit report of structural expert
- (2) The audit report submitted under sub-rule (1) shall be the report of the structure expert certifying that structure design submitted complies with the relevant provisions of codes/standards applicable for the purpose of design.
- (3) Before the issue of development permission, the committee shall review the structure design and the audit report.
- (4) During the erection of the building the owner or the developer as the case may be shall in addition to whatever specified in GDCR shall appoint a site supervisor.
- (5) The site supervisor, at each stage, shall give his report specifying that the erection carried out is in conformity with the structure design as audited by the structural expert.
- (6) The owner or the developer as the case may be shall along with other requirement of GDCR, at the completion of each stage shall submit to the competent authority the report of site supervisor.

SCHEDULE - II

Structural Safety Regulations for CRZ Area

1. Applicability

The following structural and seismic safety regulations shall apply to all buildings coming in CRZ area.

2. Structural Stability and Maintenance of Existing Buildings

- 1) The Owner/ developer/ occupants and registered appointed Person on Record shall have the assessment of structural safety of an existing building/structure damaged/undamaged carried out at stipulated periodical intervals through expert(s) chosen from a panel of experts identified by the Competent Authority. The intervals for maintenance and inspection shall be as per Annexure -I .
- 2) The owner/developer/occupant on advice of such expert(s) shall carry out such repair/restoration and strengthening/retrofitting of the building found necessary so as to comply with the safety standards laid down in the national building code and the Indian standards as specified.
- 3) In case, the owner/developer/occupant does not carry out such action, the Competent Authority or any agency authorized by the Competent Authority may carry out such action at the cost of owner/developer/occupant.
- 4) The Competent Authority shall specify the period within which such compliance is to be carried out.
- 5) The Competent Authority may also direct the owner/developer/occupant, whether the building could be occupied or not during the period of compliance.

3. Additions and Alterations to Existing Buildings

An alteration or addition to an existing building that is not structurally independent shall be designed and constructed such that the entire structure conforms to the structural and seismic safety requirements for new buildings, unless the following three conditions are complied with:

- 1) The alteration or addition complies with the requirements for new buildings.
- 2) The alteration or addition does not increase the seismic forces in any structural element of the existing building by more than 5% unless the capacity of the element subject to the increased force is still in compliance with the requirements for new buildings.
- 3) The alteration or addition does not decrease the seismic resistance of any structural element of the existing building unless the reduced resistance is equal to, or greater than, that required for new buildings.

4. Change of Use of Buildings or Part of a Building

When a change of use results in a structure being reclassified to a Higher Importance Factor (I) as defined in the IS: 1893-2002 "Criteria for Earthquake Resistant Design of Structures (Fifth Revision)", the building shall conform to seismic requirements for a new building with the Higher Importance Factor.

5. Structural Safety Provisions during Construction

- 1) The quality of all materials and workmanship shall conform to accepted standards and Indian Standard Specifications and Codes as included in Part V: Building Materials and Part-VII Constructional Practices and Safety, National Building Code of India.
- 2) All borrow pits dug in the course of construction and repair of buildings, embankments, etc. shall be deep and connected with each other in the formation of a drain directed towards the lowest level and properly stepped for discharge into a river, stream, channel or drain, and no person shall create any isolated borrow pit which is likely to cause accumulation of water that may breed mosquitoes.
- 3) Alternative materials, method of design and construction and tests:- The provisions of the regulations are not intended to prevent the use of any material or method of design of construction not specifically prescribed in them provided any such alternative has been approved. Nothing of the provisions of these regulations is intended to prevent the adoption or architectural planning and layout conceived as an integrated development scheme. the competent authority may approve any such alternative if it conforms to the provisions of the relevant parts of the national building code, regarding material, design and construction, and the material, method, or work offered is, for the purpose intended, at least equivalent to that prescribed in these regulations in quality, strength, compatibility, effectiveness, fire and water resistance, durability and safety.
- 4) All buildings shall be constructed on quality control requirements.
- 5) In case of buildings under construction based on approved development permission, structural safety requirements shall have to be observed. However, due to such structural work of strengthening/retrofitting in the event of natural disaster if certain setbacks and margin get reduced, special permission may be granted by the Competent Authority on case to case basis.

6. Structural Safety Tests for Special Buildings

Whenever as per an opinion of panel experts there is insufficient evidence of compliance with the provisions of the regulations or evidence that any material or method of design or construction does not conform to the requirements of the regulations, in order to substantiate claims for alternative materials, design or methods of construction, the competent authority may require tests, sufficiently in advance, as proof of compliance. These tests shall be made by an approved agency at the expense of the owner as follows:

- 1) Test Methods:- test methods shall be as specified by the regulations for the materials or design or construction in question. if there are no appropriate test methods specified in the regulations, the competent authority shall determine the test procedure. for methods or tests for building materials, reference shall be made to the relevant Indian standards as given in the national building code of India published by the bureau of Indian standards.
- 2) Test result to be preserved:- copies of the result of all such tests shall be retained by the Competent Authority for not less than two years after the acceptance of the alternative material

- a) The testing of the materials as per Indian standards shall be carried out by laboratories approved by the competent authority on this behalf.
- b) The laboratory/agency shall work out in consultation with the construction agency a testing program of materials such as cement, steel and quality of concrete including its mixing, laying and strength at site as well as in the laboratory.
- c) This should cover various stages of construction from foundation to completion as per regulation. The laboratory shall maintain a duly authenticated report in a bound register, copy of which will be submitted to the construction agency, which will in turn forward the testing report to the competent authority.

7. Design for Structural and Seismic Safety

7.1 Design Standards

The structural design of foundations, elements of masonry, timber, plain concrete, reinforced concrete, pre-stressed concrete and structural steel shall conform to:

- 1) The provisions of the National Building Code of India, Part VI - Structural Design (Section -1 Loads, Section - 2 Foundation, Section - 3 Wood, Section - 4 Masonry, Section - 5 Concrete and Section - 6.Steel) and,
- 2) The following Indian Standards:

Structural Safety:

1. IS: 456: 2000 "Code of Practice for Plain and Reinforced Concrete"
2. IS: 800: 1984 "Code of Practice for General Construction in Steel"
3. IS 875 (Part 2): 1987 "Design loads (other than earthquake) for buildings and structures" Part 2 Imposed Loads
4. IS 875 (Part 3): 1987 "Design loads (other than earthquake) for buildings and structures" Part 3 Wind Loads
5. IS: 883: 1966 "Code of Practice for Design of Structural Timber in Building"
6. IS: 1904: 1987 "Code of Practice for Structural Safety of Buildings: Foundation"
7. IS1905: 1987 "Code of Practice for Structural Safety of Buildings: Masonry Walls"

Seismic Safety:

1. IS: 1893-2002 "Criteria for Earthquake Resistant Design of Structures (Fifth Revision)"
2. IS:13920-1993 "Ductile Detailing of Reinforced Concrete Structures subjected to Seismic Forces - Code of Practice"
3. IS:4326-1993 "Earthquake Resistant Design and Construction of Buildings - Code of Practice (Second Revision)"
4. IS:13828-1993 "Improving Earthquake Resistance of Low Strength Masonry Buildings - Guidelines"
5. IS:13827-1993 "Improving Earthquake Resistance of Earthen Buildings - Guidelines"

6. IS:13935-1993 "Repair and Seismic Strengthening of Buildings - Guidelines"
7. "Guidelines for Improving Earthquake Resistance of Buildings", by Expert Group, Government of India, Ministry of Urban Affairs & Employment, published by Building Materials and Technology Promotion Council, 1998.
- 3) In pursuance of the above, a certificate as indicated in Form 2D shall be submitted along with building plans/ drawings and other building information schedule annexed thereto.

Cyclone/ Wind Storms:

1. IS 875 (3): 1987 "Code of Practice for Design Loads (other than Earthquake) for Buildings and Structures, Part 3, Wind Loads"
2. "Guidelines (based on IS 875 (3): 1987) for Improving the Cyclonic Resistance of Low-rise Houses and Other Building", by Expert Group, Government of India, Ministry of Urban Affairs & Employment, published by Building Materials and Technology Promotion Council, 1998.

Note: Wherever an Indian Standard including those referred to in the National Building Code or the National Building Code is referred, the latest revision of the same shall be followed except specific criteria, if any, mentioned above against that Code.

7.2 Structural Inspection Report

A Structural Inspection Report (SIR) shall be prepared for all buildings specified in Annexure -I and submitted as specified in Form No. 1.

8. Structural Safety of Display Structures

Every display structure such as billboard shall be designed to ensure safety and be installed in compliance of National Building Code.

ANNEXURE-I

For Maintenance and Inspection for Structural Stability

Class 1 Buildings: All types of framed structures, factory buildings, special buildings, buildings for educational use such as schools, colleges, etc; hostels and other public buildings.

Class 2 Buildings: Masonry walled residential buildings with height more than 10mts

Structural Stability

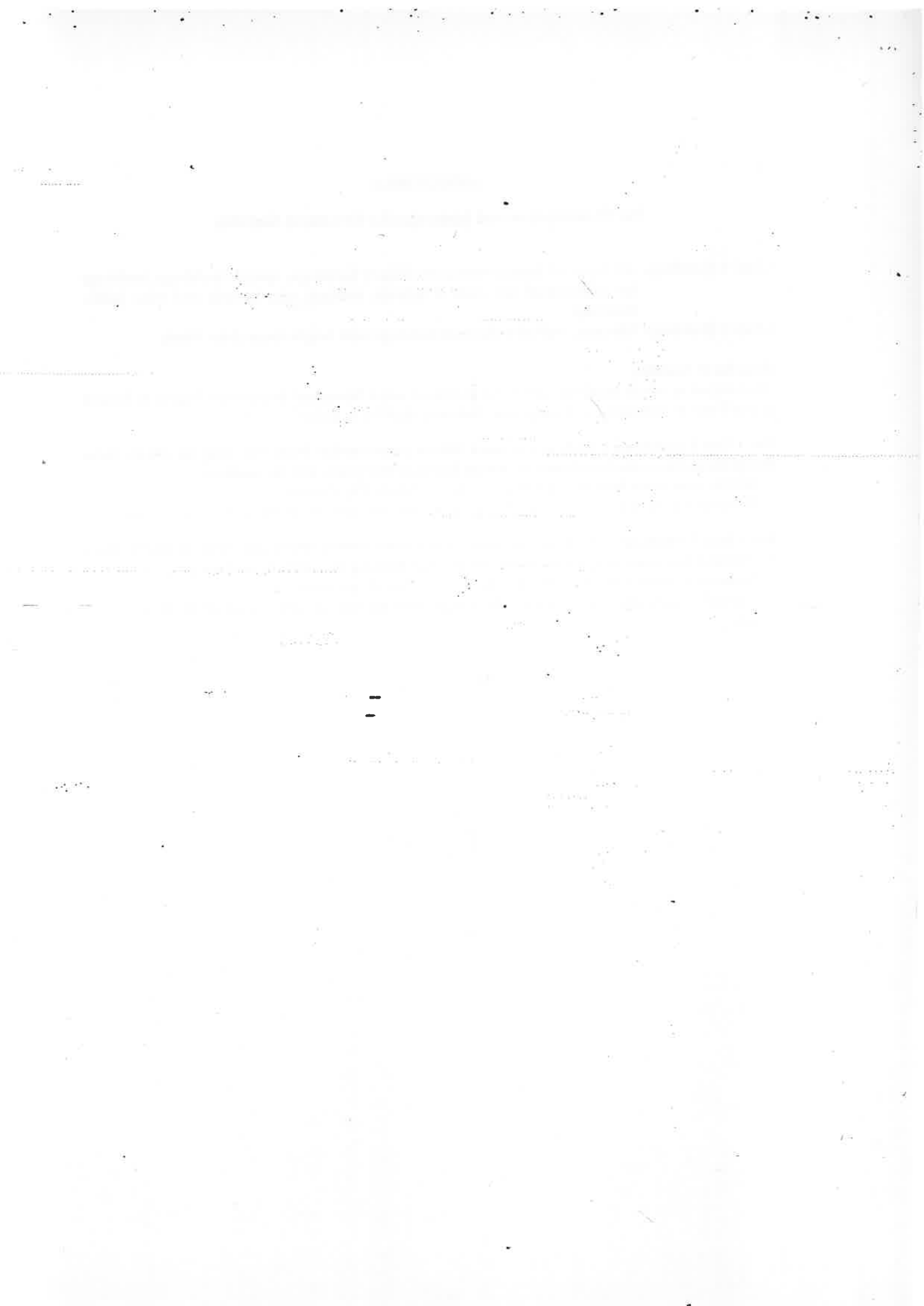
The interval at which buildings are to be examined and a Structural Inspection Report in Format as per Form 15 submitted to Competent Authority shall be as under:

For Class 1 buildings which are erected fifteen years earlier from the date on which these Regulations has come into force or which becomes five years old thereafter:

1. Within three years from the coming into force of these Regulations
2. Thereafter at the interval of every fifteen years from the date of submission of the first report

For Class 2 buildings which are erected fifteen years earlier from the date on which these Regulation has come into force or which become fifteen years old thereafter:

1. Within five years from the coming into force of these Regulations
2. Thereafter at the interval of every fifteen years from the date of submission of the first report



FORM-1
Structural Inspection Report

(This form has to be completed by registered Structural Engineer on Record after his site inspection and verification regarding compliance of all recommendation by the owner, which in the opinion of the registered Structural Engineer on Record is necessary for safety of the structure)

No	Description	Information	Notes
1	Title, Location and Address of the building including T.P. No, F.P. No, etc		
2	Name of Present Owner		
3	Name of Structural Engineer on Record		
4	Use of the building		
5	Year of construction		
	Year of subsequent additions		
	Nature of additions or alterations		
6	Date of Last Inspection Report		
	SEOR for Last Inspection Report		
7	Class 1 Building		
8	Class 2 Building		
9	Type of structure <ul style="list-style-type: none"> • Load bearing walls • R.C.C frame • R.C.C frame and Shear walls • Steel frame 		
10	Soil data <ul style="list-style-type: none"> • Type of soil • Design safe bearing capacity • Any change subsequent to construction • Any open excavation pit • Any water body near by • Proximity of drain • Underground water tank • Outlets of rain water pipes • Settlements 		IS: 1893 Cl. 6.3.5.2 IS: 1904

(a) Function	(b) Framed construction							
	Residence (with or without shops	Apartments (with or Without shops	Office Bldg.	Shopping centre	School, College	Hostel	Audito- ria	Factory
	1	2	3	4	5	6	7	8
A. Load bearing masonry wall construction								
B. Framed structure								
construction and structural materials	Critical load bearing element	Brick	RCC	Stone	Timber	Steel		
	Roof Floor	RCC	Timber	RBC	Steel	Jack-arch		

Part 2 Load bearing masonry buildings

	Description	Information	Notes
1	Building category		
2	Any cracks in masonry walls		
	Extent of cracks		
	Location of cracks		
	Sketch of cracks, if necessary		
3	Recommendations, if any		

Part 3 Reinforced Concrete framed buildings

	Description	Information	Notes
1	Type of Building		
2	Any cracks in beams		
	Extent of cracks		
	Probable causes		
3	Any cracks in columns		
	Extent of cracks		
	Probable causes		
4	Any cracks in slab		
	Extent of cracks		
	Probable causes		

	Spilling of concrete or plaster of slab		
	Corrosion of Reinforcement		
5	Cover Spell		
6	Exposure of reinforcement		
7	Subsequent damage by user for taking pipes, conduits, hanging fans or any other fixtures, etc.		
8	Loads in excess of design loads		
9	Recommendations, if any		

Part 4 Buildings in Structural Steel			
	Description	Information	Notes
1	Building category		
2	Painting		
3	Corrosion		
4	Joints, nuts, bolts, rivets, welds, gusset plates		
5	Bending or buckling of members		
6	Base plate connections with columns of pedestal		
7	Loads in excess of design loads		
8	Recommendations, if any		

This is to certify that the above is a correct representation of facts as given to me by the owner and as determined by me after Site Inspection to the best of my ability and judgment. The recommendations made by me to ensure adequate safety of the structure are compiled with by the owner to my entire satisfaction.

Name of the SEOR: _____

Registration No.: _____

Address: _____

Tel. No.: _____

Signature: _____

Date: _____

