Report Information

Clear Entire Form

The GEM Building Taxonomy is a uniform classification scheme of buildings across the globe. It will be used as a basis for assessing the risk from earthquakeswithin the scope of GEM. It also facilitates global collaboration and growing of our joint knowledge on the diversity and seismic vulnerability of all the buildings that exist around the globe.

Please fill out the following form by describing a specific building or building typology in your country. Fill out information for as many attributes as possible. Save form (Lastname_buildingtypology.pdf) and email to taxonomy@eeri.org

For more information on the taxonomy and the fields, visit the online GEM Building Taxonomy Glossary http://www.nexus.globalquakemodel.org/gem-building-taxonomy/overview

Note: This form will work best if you can save it and then open/use it in Adobe Acrobat. If you save the file in Preview, text in some of the fields may disappear, and only reappear when you click in the field. This is an issue with Apple Preview software. The data can still be extracted by the Taxonomy Team after it has been emailed to us.

Report Title:

Authors:

Country:

Region:

Summary of building Typology

Additional comments on building. A typical residential building? Found only in certain regions?

Direction X

Direction		
Direction X	○	Unspecified Direction
	○	Structural system parallel to street

Material of the Lateral Load-Resisting System in Direction X

	Material type		Material technology		Material properties
○	Unknown material				
○	Concrete, unknown reinforcement				
○	Concrete, unreinforced				
○	Concrete, reinforced	○	Unknown concrete technology		
		○	Cast-in-place concrete		
		○	Precast concrete		
		○	Cast-in-place prestressed concrete		
		○	Precast prestressed concrete		
○	Concrete, composite with steel section				
○	Steel	○	Steel, unknown	○	Steel connections, unknown
		○	Cold-formed steel members	○	Welded connections
		○	Hot-rolled steel members	○	Riveted connections
		○	Steel, other	○	Bolted connections
○	Metal (except steel)	○	Metal, unknown		
		○	Iron		
		○	Metal, other		
○	Masonry, unknown reinforcement	○	Masonry unit, unknown	○	Mortar type unknown
		○	Adobe blocks	○	No mortar
		○	Stone, unknown type	○	Mud mortar
		○	Rubble (field stone) or semi-dressed stone	○	Lime mortar
		○	Dressed stone	○	Cement mortar
		○	Fired clay unit, unknown type	○	Cement:lime mortar
		○	Fired clay solid bricks	○	Stone, unknown type
		○	Fired clay hollow bricks	○	Limestone
		○	Fired clay hollow blocks or tiles	○	Sandstone
		○	Concrete blocks, unknown type	○	Tuff
		○	Concrete blocks, solid	○	Slate
		○	Concrete blocks, hollow	○	Granite
		○	Masonry unit, other	○	Basalt
				○	Stone, other type
○	Masonry, unreinforced	○	Masonry unit, unknown	○	Mortar type unknown
		○	Adobe blocks	○	No mortar
		○	Stone, unknown type	○	Mud mortar
		○	Rubble (field stone) or semi-dressed stone	○	Lime mortar
		○	Dressed stone	○	Cement mortar
		○	Fired clay unit, unknown type	○	Cement:lime mortar
		○	Fired clay solid bricks	○	Stone, unknown type
		○	Fired clay hollow bricks	○	Limestone
		○	Fired clay hollow blocks or tiles	○	Sandstone
		○	Concrete blocks, unknown type	○	Tuff
		○	Concrete blocks, solid	○	Slate
		○	Concrete blocks, hollow	○	Granite
		○	Masonry unit, other	○	Basalt
				○	Stone, other type
○	Masonry, confined	○	Masonry unit, unknown	○	Mortar type unknown
		○	Adobe blocks	○	No mortar
		○	Stone, unknown type	○	Mud mortar
		○	Rubble (field stone) or semi-dressed stone	○	Lime mortar
		○	Dressed stone	○	Cement mortar
		○	Fired clay unit, unknown type	○	Cement:lime mortar
		○	Fired clay solid bricks	○	Stone, unknown type
		○	Fired clay hollow bricks	○	Limestone
		○	Fired clay hollow blocks or tiles	○	Sandstone
		○	Concrete blocks, unknown type	○	Tuff
		○	Concrete blocks, solid	○	Slate
		○	Concrete blocks, hollow	○	Granite
		○	Masonry unit, other	○	Basalt
				○	Stone, other type

Direction X

○	Masonry, reinforced	○	Masonry unit, unknown	○	Mortar type unknown
		○	Adobe blocks	○	No mortar
		○	Stone, unknown type	○	Mud mortar
		○	Rubble (field stone) or semi-dressed stone	○	Lime mortar
		○	Dressed stone	○	Cement mortar
		○	Fired clay unit, unknown type	○	Cement:lime mortar
		○	Fired clay solid bricks	○	Stone, unknown type
		○	Fired clay hollow bricks	○	Limestone
		○	Fired clay hollow blocks or tiles	○	Sandstone
		○	Concrete blocks, unknown type	○	Tuff
		○	Concrete blocks, solid	○	Slate
		○	Concrete blocks, hollow	○	Granite
		○	Masonry unit, other	○	Basalt
		○	Masonry reinforcement, unknown	○	Stone, other type
		○	Steel-reinforced		
		○	Wood-reinforced		
		○	Bamboo-, cane- or rope -reinforced		
		○	Reinforced composite mesh		
		○	Reinforced concrete bands		
○	Earth, unknown reinforcement	○	Unknown earth technology		
		○	Rammed earth		
		○	Cob or wet construction		
		○	Earth technology, other		
○	Earth, unreinforced	○	Unknown earth technology		
		○	Rammed earth		
		○	Cob or wet construction		
		○	Earth technology, other		
○	Earth, reinforced	○	Unknown earth technology		
		○	Rammed earth		
		○	Cob or wet construction		
		○	Earth technology, other		
○	Wood	○	Wood, unknown		
		○	Heavy wood		
		○	Light wood members		
		○	Solid wood		
		○	Wattle and daub		
		○	Bamboo		
		○	Wood, other		
○	Other material				

Lateral System in Direction X

	Type of lateral load-resisting system		System ductility
○	Unknown lateral load-resisting system		
○	No lateral load-resisting system		
○	Moment frame	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Infilled frame	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Braced frame	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Post and beam	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Wall	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Dual frame-wall system	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Flat slab/plate or waffle slab	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Infilled flat slab/plate or infilled waffle slab	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Hybrid lateral load-resisting system	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Other lateral load-resisting system	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices

Direction Y

Leave Direction Y blank if lateral load-resisting system is same in both directions

Direction		
Direction Y	○	Unspecified Direction
	○	Structural system perpendicular to the street

Material of the Lateral Load-Resisting System in Direction Y

	Material type		Material technology		Material properties
○	Unknown material				
○	Concrete, unknown reinforcement				
○	Concrete, unreinforced				
○	Concrete, reinforced	○	Unknown concrete technology		
		○	Cast-in-place concrete		
		○	Precast concrete		
		○	Cast-in-place prestressed concrete		
		○	Precast prestressed concrete		
○	Concrete, composite with steel section				
○	Steel	○	Steel, unknown	○	Steel connections, unknown
		○	Cold-formed steel members	○	Welded connections
		○	Hot-rolled steel members	○	Riveted connections
		○	Steel, other	○	Bolted connections
○	Metal (except steel)	○	Metal, unknown		
		○	Iron		
		○	Metal, other		
○	Masonry, unknown reinforcement	○	Masonry unit, unknown	○	Mortar type unknown
		○	Adobe blocks	○	No mortar
		○	Stone, unknown type	○	Mud mortar
		○	Rubble (field stone) or semi-dressed stone	○	Lime mortar
		○	Dressed stone	○	Cement mortar
		○	Fired clay unit, unknown type	○	Cement:lime mortar
		○	Fired clay solid bricks	○	Stone, unknown type
		○	Fired clay hollow bricks	○	Limestone
		○	Fired clay hollow blocks or tiles	○	Sandstone
		○	Concrete blocks, unknown type	○	Tuff
		○	Concrete blocks, solid	○	Slate
		○	Concrete blocks, hollow	○	Granite
		○	Masonry unit, other	○	Basalt
				○	Stone, other type
○	Masonry, unreinforced	○	Masonry unit, unknown	○	Mortar type unknown
		○	Adobe blocks	○	No mortar
		○	Stone, unknown type	○	Mud mortar
		○	Rubble (field stone) or semi-dressed stone	○	Lime mortar
		○	Dressed stone	○	Cement mortar
		○	Fired clay unit, unknown type	○	Cement:lime mortar
		○	Fired clay solid bricks	○	Stone, unknown type
		○	Fired clay hollow bricks	○	Limestone
		○	Fired clay hollow blocks or tiles	○	Sandstone
		○	Concrete blocks, unknown type	○	Tuff
		○	Concrete blocks, solid	○	Slate
		○	Concrete blocks, hollow	○	Granite
		○	Masonry unit, other	○	Basalt
				○	Stone, other type
○	Masonry, confined	○	Masonry unit, unknown	○	Mortar type unknown
		○	Adobe blocks	○	No mortar
		○	Stone, unknown type	○	Mud mortar
		○	Rubble (field stone) or semi-dressed stone	○	Lime mortar
		○	Dressed stone	○	Cement mortar
		○	Fired clay unit, unknown type	○	Cement:lime mortar
		○	Fired clay solid bricks	○	Stone, unknown type
		○	Fired clay hollow bricks	○	Limestone
		○	Fired clay hollow blocks or tiles	○	Sandstone
		○	Concrete blocks, unknown type	○	Tuff
		○	Concrete blocks, solid	○	Slate
		○	Concrete blocks, hollow	○	Granite
		○	Masonry unit, other	○	Basalt
				○	Stone, other type

Direction Y

○	Masonry, reinforced	○	Masonry unit, unknown	○	Mortar type unknown
		○	Adobe blocks	○	No mortar
		○	Stone, unknown type	○	Mud mortar
		○	Rubble (field stone) or semi-dressed stone	○	Lime mortar
		○	Dressed stone	○	Cement mortar
		○	Fired clay unit, unknown type	○	Cement:lime mortar
		○	Fired clay solid bricks	○	Stone, unknown type
		○	Fired clay hollow bricks	○	Limestone
		○	Fired clay hollow blocks or tiles	○	Sandstone
		○	Concrete blocks, unknown type	○	Tuff
		○	Concrete blocks, solid	○	Slate
		○	Concrete blocks, hollow	○	Granite
		○	Masonry unit, other	○	Basalt
		○	Masonry reinforcement, unknown	○	Stone, other type
		○	Steel-reinforced		
		○	Wood-reinforced		
		○	Bamboo-, cane- or rope -reinforced		
		○	Reinforced composite mesh		
		○	Reinforced concrete bands		
○	Earth, unknown reinforcement	○	Unknown earth technology		
		○	Rammed earth		
		○	Cob or wet construction		
		○	Earth technology, other		
○	Earth, unreinforced	○	Unknown earth technology		
		○	Rammed earth		
		○	Cob or wet construction		
		○	Earth technology, other		
○	Earth, reinforced	○	Unknown earth technology		
		○	Rammed earth		
		○	Cob or wet construction		
		○	Earth technology, other		
○	Wood	○	Wood, unknown		
		○	Heavy wood		
		○	Light wood members		
		○	Solid wood		
		○	Wattle and daub		
		○	Bamboo		
		○	Wood, other		
○	Other material				

Lateral System in Direction Y

	Type of lateral load-resisting system		System ductility
○	Unknown lateral load-resisting system		
○	No lateral load-resisting system		
○	Moment frame	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Infilled frame	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Braced frame	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Post and beam	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Wall	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Dual frame-wall system	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Flat slab/plate or waffle slab	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Infilled flat slab/plate or infilled waffle slab	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Hybrid lateral load-resisting system	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices
○	Other lateral load-resisting system	○	Ductility unknown
		○	Ductile
		○	Non-ductile
		○	Equipped with base isolation and/or supplemental energy dissipation devices

Height

Height			
Number of stories above ground	○	Unknown number of storeys	
	○	Range of number of storeys above ground	
	○	Exact number of storeys above ground	
	○	Approximate number of storeys above ground	
Number of stories below ground	○	Unknown number of storeys	
	○	Range of number of storeys below ground	
	○	Exact number of storeys below ground	
	○	Approximate number of storeys below ground	
Height of ground floor level above grad	○	Height above grade unknown	
	○	Range of height of ground floor above grade	
	○	Exact height of ground floor above grade	
	○	Approximate height of ground floor level above grade	
Slope of the ground	○	Unknown slope	
	○	Slope of the ground	

Date of Construction or Retrofit

	Date of construction or Retrofit	Year
○	Year unknown	
○	Exact date of construction or retrofit	
○	Upper and lower bound for the date of construction or retrofit	
○	Latest possible date of construction or retrofit	
○	Approximate date of construction or retrofit	

	Building occupancy class - general		Building occupancy class - detail
○	Unknown occupancy type		
○	Residential	○	Residential, unknown type
		○	Single dwelling
		○	Multi-unit, unknown type
		○	2 Units (Duplex)
		○	3-4 Units
		○	5-9 Units
		○	10-19 Units
		○	20-49 Units
		○	50+ Units
		○	Temporary lodging
		○	Institutional housing
		○	Mobile home
○	Commercial and public	○	Commercial and public, unknown type
		○	Retail trade
		○	Wholesale trade and storage
		○	Offices, professional/technical services
		○	Hospital/medical clinic
		○	Entertainment
		○	Public building
		○	Covered parking garage
		○	Bus station
		○	Railway station
		○	Airport
		○	Recreation and leisure
○	Mixed use	○	Mixed, unknown type
		○	Mostly residential and commercial
		○	Mostly commercial and residential
		○	Mostly commercial and industrial
		○	Mostly residential and industrial
		○	Mostly industrial and commercial
		○	Mostly industrial and residential
○	Industrial	○	Industrial, unknown type
		○	Heavy industrial
		○	Light industrial
○	Agriculture	○	Agriculture, unknown type
		○	Produce Storage
		○	Animal shelter
		○	Agricultural processing
○	Assembly	○	Assembly, unknown type
		○	Religious gathering
		○	Arena
		○	Cinema or concert hall
		○	Other gatherings
○	Government	○	Government, unknown type
		○	Government, general services
		○	Government, emergency response
○	Education	○	Education, unknown type
		○	Pre-school facility
		○	School
		○	College/university, offices and/or classrooms
		○	College/university, research facilities and/or labs
○	Other occupancy type		

Building Position within a Block

	Building Position within a Block
○	Detached building
○	One adjacent building
○	Corner building
○	Three adacent buildings
○	Interior of block

Shape of Building Plan

○	Unknown plan shape
○	Square, solid
○	Square, with an interior opening (e.g. a "donut")
○	Rectangular, solid
○	Rectangular, with an opening
○	L-shape
○	A-shape
○	B-shape
○	Curved, solid (e.g. circular, elliptical, ovoid)
○	Circular, with an opening
○	Triangular shape, solid
○	Triangular shape, with an opening
○	E-shape
○	F-shape
○	H-shape
○	S-shape
○	T-shape
○	U-shape
○	X-shape
○	Y-shape
○	Irregular plan shape

Structural Irregularity

	Type of irregularity		Irregularity description
○	Unknown structural irregularity		
○	Regular structure		
○	Irregular Structure		
	Plan irregularity - primary	○	No plan irregularity
		○	Torsion eccentricity
		○	Re-entrant corner
		○	Other horizontal irregularity
	Plan irregularity - secondary	○	No plan irregularity
		○	Torsion eccentricity
		○	Re-entrant corner
		○	Other horizontal irregularity
	Vertical structural irregularity - primary	○	No vertical irregularity
		○	Soft storey
		○	Cripple wall
		○	Short column
		○	Pounding potential
		○	Setback
		○	Change in vertical structure (includes large overhangs)
		○	Other vertical irregularity
	Vertical structural irregularity - secondary	○	No vertical irregularity
		○	Soft storey
		○	Cripple wall
		○	Short column
		○	Pounding potential
		○	Setback
		○	Change in vertical structure (includes large overhangs)
		○	Other vertical irregularity

	Exterior walls
○	Unknown material
○	Concrete
○	Glass
○	Earth
○	Masonry
○	Metal
○	Vegetative
○	Wood
○	Stucco finish on light framing
○	Plastic/vinyl, various
○	Cement-based boards
○	Material of exterior wall, other

Roof

	Roof shape		Roof covering		Roof material		Roof type	Roof connections*	
○	Unknown roof shape	○	Unknown roof covering	○	Roof material, unknown				
○	Flat	○	Concrete roof with no additional covering	○	Masonry	○	Masonry, unknown	Wall/roof diaphragm connection	Roof-wall diaphragm connection unknown
○	Pitched with gable ends	○	Clay or concrete tile			○	Vaulted masonry		
○	Pitched and hipped	○	Fibre cement or metal tile			○	Shallow-arched masonry		
○	Pitched with dormers	○	Membrane roofing			○	Composite masonry and concrete roof system		
○	Monopitch	○	Slate	○	Earthen	○	Earthen, unknown		
○	Sawtooth	○	Stone slab			○	Vaulted earthen roofs		
○	Curved	○	Metal sheets	○	Concrete	○	Concrete, unknown		
○	Complex regular	○	Wooden and asphalt shingles			○	Reinforced concrete slabs, flat slabs or plates		
○	Complex irregular	○	Vegetative			○	Reinforced concrete waffle or hollow clay tile coffered reinforced concrete slabs		
○	Roof Shape, other	○	Earthen			○	Precast concrete roof system with reinforced concrete topping		
		○	Solar panelled roofs			○	Precast concrete roof system without reinforced concrete topping		
		○	Tensile membrane or fabric roof	○	Metal	○	Metal, unknown	Roof tie-downs	Roof tie-down unknown
		○	Roof covering, other			○	Metal beams or trusses supporting light roofing		
						○	Metal beams supporting precast concrete slabs		
						○	Composite steel deck and concrete slab		
				○	Wood	○	Wood, unknown		
						○	Wooden roof structure with light infill or covering		
						○	Wooden roof structure supporting a heavy flat or domed roof		
						○	Wood-based sheets on rafters or purlins		
						○	Plywood panels or other light-weight panels for roof		
						○	Bamboo, straw or thatch roof		
				○	Fabric	○	Fabiric, unknown		
						○	Inflatable or tensile membrane roof		
				○	Roof material, other				

*Roof connections** - There are two aspects: (a) does the roof have horizontal shear transfer to the walls, and (b) is the roof internally adequately connected? The latter includes Simpson ties preventing wind lift-off. The former is probably sometimes discernible from the street. The latter only by interior inspection.

Floor

	Floor material		Floor type	Floor connections
○	Floor material non-existant	○	No elevated or suspended floor material (single-storey building)	Floor-wall diaphragm connection unknown
○	Floor material, unknown			
○	Masonry	○	Masonry, unknown	
		○	Vaulted masonry	
		○	Shallow-arched masonry	
		○	Composite cast-in-place reinforced concrete and masonry floor system	
○	Earthen	○	Earthen, unknown	
○	Concrete	○	Concrete, unknown	
		○	Cast-in-place beamless reinforced concrete floor	
		○	Cast-in-place beam-supported reinforced concrete floor	
		○	Precast concrete floor system with reinforced concrete topping	
		○	Precast concrete floor system without reinforced concrete topping	
○	Metal	○	Metal, unknown	
		○	Metal beams, trusses, or joists supporting light flooring	
		○	Metal beams supporting precast concrete slabs	
		○	Composite steel deck and concrete slab	
○	Wood	○	Wood, unknown	
		○	Wooden beams or trusses and joists supporting light flooring	
		○	Wooden beams or trusses and joists supporting heavy flooring	
		○	Wood-based sheets on joists or beams	
		○	Plywood panels or other light-weight panels for floor	
○	Floor material, other			

Foundation

	Foundation System
○	Unknown foundation system
○	Shallow foundation, with lateral capacity
○	Shallow foundation, no lateral capacity
○	Deep foundation, with lateral capacity
○	Deep foundation, no lateral capacity
○	Foundation, other

Report Title:

Authors:

Country:

Region:

Summary of building Typology

Comments on missing information:

Please use this box to comment on information you feel the taxonomy missed or comments to improve the taxonomy

Please include a photo of your building and save the form as (Lastname_buildingtypology.pdf) and email to taxonomy@eeri.org