# **Report Information**

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 <a href="mailto:taxonomy@eeri.org">taxonomy@eeri.org</a>

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

<u>Note</u>: 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: Precast reinforced concrete residential buildings Bulgaria

Authors: Manya Deyanova

Country: Bulgaria

Region: Major towns

Summary of building Typology

Very common residential buildings, found mostly in big towns, 30-50 years old, 5-15 stories, elongated in plan, organized in relatively big neighborhoods.

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

Direction X

Direction		
Direction V	$\odot$	Unspecified Direction
Direction X	0	Structural system parallel to street

### Material of the Lateral Load-Resisting System in Direction X

	Material type		Material technology		Material properties
0	Unknown material				
0	Concrete, unknown reinforcement				
0	Concrete, unreinforced				
		0	Unknown concrete technology		
		0	Cast-in-place concrete		
$\odot$	Concrete, reinforced	$\odot$	Precast concrete		
		Õ	Cast-in-place prestressed concrete		
		Õ	Precast prestressed concrete		
0	Concrete, composite with steel section				
		0	Steel, unknown	0	Steel connections, unknown
	Obert	Ŏ	Cold-formed steel members	ŤŎ	Welded connections
0	Steel	Ô	Hot-rolled steel members	Ō	Riveted connections
		Õ	Steel, other	Ō	Bolted connections
		0	Metal, unknown		
Ο	Metal (except steel)	Q	Iron		
		0	Metal, other		
		Q	Masonry unit, unknown	0	Mortar type unknown
		0	Adobe blocks	0	No mortar
		0	Stone, unknown type	0	Mud mortar
		0	Rubble (field stone) or semi-dressed stone	0	Lime mortar
		0	Dressed stone	0	Cement mortar
		0	Fired clay unit, unknown type	0	Cement:lime mortar
		Õ	Fired clay solid bricks	Ō	Stone, unknown type
0	Masonry, unknown reinforcement	Õ	Fired clay hollow bricks	Ŏ	Limestone
		ŏ	Fired clay hollow blocks or tiles	Ŏ	Sandstone
		ŏ	Concrete blocks, unknown type	ŏ	Tuff
		ŏ	Concrete blocks, solid	ŏ	Slate
		ŏ	Concrete blocks, hollow	ŏ	Granite
		$\vdash$	Masonry unit, other	1 ŏ	
				1 ŏ	Basalt Stone, other type
			Maaanni unit unimaaan		
		8	Masonry unit, unknown	00	Mortar type unknown
		HX	Adobe blocks Stone, unknown type	8	No mortar Mud mortar
		K	Rubble (field stone) or semi-dressed stone	ŏ	Lime mortar
		ŏ	Dressed stone	ŏ	Cement mortar
		Ŏ	Fired clay unit, unknown type	Ŏ	Cement:lime mortar
0	Masonry, unreinforced	Q	Fired clay solid bricks	Ô	Stone, unknown type
	macenty, amoniforda	Q	Fired clay hollow bricks	0	Limestone
		18	Fired clay hollow blocks or tiles		Sandstone
		$\vdash \varkappa$	Concrete blocks, unknown type Concrete blocks, solid	18	Tuff Slate
		H	Concrete blocks, solid Concrete blocks, hollow	8	Granite
		K	Masonry unit, other	K	Basalt
		Ĕ		ŏ	Stone, other type
		Ο	Masonry unit, unknown	Ŏ	Mortar type unknown
		Ō	Adobe blocks	Ŏ	No mortar
		Ō	Stone, unknown type	Ŏ	Mud mortar
		Q	Rubble (field stone) or semi-dressed stone	0	Lime mortar
		Q	Dressed stone	0	Cement mortar
		<u> </u>	Fired clay unit, unknown type	2	Cement:lime mortar
0	Masonry, confined	$\mathbb{R}$	Fired clay solid bricks Fired clay hollow bricks	8	Stone, unknown type
		$\mathbb{H}$	Fired clay hollow bricks Fired clay hollow blocks or tiles	8	Limestone Sandstone
		$\vdash$	Concrete blocks, unknown type	K	Tuff
		L X	Concrete blocks, unknown type	ŏ	Slate
		ŏ	Concrete blocks, hollow	Ŏ	Granite
		LŎ	Masonry unit, other	Ŏ	Basalt
				Ō	Stone, other type

### Direction X

		$\mathbf{O}$	Masonry unit, unknown	0	Mortar type unknown
		ŏ	Adobe blocks	Ŏ	No mortar
		Ŏ	Stone, unknown type	ŏ	Mud mortar
		ŏ	Rubble (field stone) or semi-dressed stone	ŏ	Lime mortar
		ŏ	Dressed stone	ŏ	Cement mortar
		ŏ	Fired clay unit, unknown type	ŏ	Cement:lime mortar
		Ŏ	Fired clay solid bricks	ŏ	Stone, unknown type
		ŏ	Fired clay hollow bricks	ŏ	Limestone
		ŏ	Fired clay hollow blocks or tiles	ŏ	Sandstone
	Masonry, reinforced	ŏ	Concrete blocks, unknown type	ŏ	Tuff
0	Masonry, remoiced	ŏ	Concrete blocks, solid	ŏ	Slate
		ŏ	Concrete blocks, solid	ŏ	Granite
		ŏ	Masonry unit, other	ŏ	Basalt
				ŏ	
			Masonry reinforcement, unknown	0	Stone, other type
		0	Steel-reinforced		
		<u> </u>	Wood-reinforced		
		0	Bamboo-, cane- or rope -reinforced		
		0	Reinforced composite mesh		
		0	Reinforced concrete bands		
			Unknown earth technology		
	Earth, unknown reinforcement	0	Rammed earth		
0	Latti, unknown feiniorcement	0	Cob or wet construction		
		0	Earth technology, other		
			Unknown earth technology		
	Earth, unreinforced	Ô	Rammed earth		
0		Ŏ	Cob or wet construction		
		Ô	Earth technology, other		
		0	Unknown earth technology		
0	Earth, reinforced	Q	Rammed earth		
	Later, formoroda	LQ.	Cob or wet construction		
		<u> </u>	Earth technology, other		
		10	Wood, unknown		
		LX-	Heavy wood		
	Wood	$\vdash \prec$	Light wood members Solid wood		
	4400d	HX	Wattle and daub		
		K	Bamboo		
		ŏ	Wood, other		
0	Other material				
	-				

	Type of lateral load-resisting system		System ductility
0	Unknown lateral load-resisting system		
Õ	No lateral load-resisting system		
			Ductility unknown
$\cap$	Noment frame	0	Ductile
U	Moment frame	0	Non-ductile
			Equipped with base isolation and/or supplemental energy dissipation devices
		0	Ductility unknown
$\cap$	Infilled frame	0	Ductile
U		0	Non-ductile
		Ο	Equipped with base isolation and/or supplemental energy dissipation devices
		0	Ductility unknown
$\cap$	Braced frame	0	Ductile
$\cup$	Diaced frame	0	Non-ductile
		Ο	Equipped with base isolation and/or supplemental energy dissipation devices
		Ο	Ductility unknown
$\cap$	Deat and beam	0	Ductile
U	Post and beam	0	Non-ductile
		Ο	Equipped with base isolation and/or supplemental energy dissipation devices
	Wall	0	Ductility unknown
$\odot$		0	Ductile
U		$\odot$	Non-ductile
		Ο	Equipped with base isolation and/or supplemental energy dissipation devices
		Ο	Ductility unknown
$\cap$	Duel frame well existem	Ο	Ductile
0	Dual frame-wall system	Ô	Non-ductile
		0	Equipped with base isolation and/or supplemental energy dissipation devices
		Ο	Ductility unknown
$\cap$	Elet elek/slete er weffle elek	0	Ductile
0	Flat slab/plate or waffle slab	0	Non-ductile
		0	Equipped with base isolation and/or supplemental energy dissipation devices
		Ο	Ductility unknown
	Infilled flat clab/plate or infilled woffle clab	0	Ductile
$\cup$	Infilled flat slab/plate or infilled waffle slab	0	Non-ductile
		0	Equipped with base isolation and/or supplemental energy dissipation devices
		0	Ductility unknown
	the deside the terms of the second state of the second state	Õ	Ductile
U	Hybrid lateral load-resisting system	Õ	Non-ductile
		Ŏ	Equipped with base isolation and/or supplemental energy dissipation devices
		Õ	Ductility unknown
	Other lateral land assisting system.	Ŏ	Ductile
U	Other lateral load-resisting system	Ŏ	Non-ductile
		Õ	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	0	Unspecified Direction
Direction	0	Structural system perpendicular to the street

### Material of the Lateral Load-Resisting System in Direction Y

	Material type		Material technology		Material properties
0	Unknown material				
0	Concrete, unknown reinforcement				
0	Concrete, unreinforced				
		0	Unknown concrete technology		
		Ó	Cast-in-place concrete		
0	Concrete, reinforced	Ó	Precast concrete		
-		Õ	Cast-in-place prestressed concrete		
		Õ	Precast prestressed concrete		
0	Concrete, composite with steel section				
	· · · · · · · · · · · · · · · · · · ·	0	Steel, unknown	0	Steel connections, unknown
	Charl	Ŏ	Cold-formed steel members	Ŏ	Welded connections
0	Steel	0	Hot-rolled steel members	0	Riveted connections
		Ó	Steel, other	0	Bolted connections
		Q	Metal, unknown		
0	Metal (except steel)	Q	Iron		
		0	Metal, other		
		Õ	Masonry unit, unknown	0	Mortar type unknown
		0	Adobe blocks	0	No mortar
		0	Stone, unknown type	0	Mud mortar
		0	Rubble (field stone) or semi-dressed stone	0	Lime mortar
		0	Dressed stone	0	Cement mortar
		0	Fired clay unit, unknown type	0	Cement:lime mortar
0	Masonry, unknown reinforcement	0	Fired clay solid bricks	0	Stone, unknown type
	Masonry, unknown reinforcement	0	Fired clay hollow bricks	0	Limestone
		0	Fired clay hollow blocks or tiles	0	Sandstone
		0	Concrete blocks, unknown type	0	Tuff
		0	Concrete blocks, solid	0	Slate
		0	Concrete blocks, hollow	Ô	Granite
		Ó	Masonry unit, other	0	Basalt
				0	Stone, other type
		0	Masonry unit, unknown	0	Mortar type unknown
		Õ	Adobe blocks	Ó	No mortar
		0	Stone, unknown type	0	Mud mortar
		Q	Rubble (field stone) or semi-dressed stone	Q	Lime mortar
		8	Dressed stone	10	Cement mortar
		X	Fired clay unit, unknown type Fired clay solid bricks	LX-	Cement:lime mortar Stone, unknown type
0	Masonry, unreinforced	X	Fired clay solid blicks	K	Limestone
		Ŏ	Fired clay hollow blocks or tiles	Ŏ	Sandstone
		Ő	Concrete blocks, unknown type	Ŏ	Tuff
		Q	Concrete blocks, solid	Q	Slate
		Q	Concrete blocks, hollow	18	Granite
		0	Masonry unit, other	8	Basalt Stone, other type
		$\cap$	Masonry unit, unknown	ŏ	Mortar type unknown
		ŏ	Adobe blocks	ŏ	No mortar
	O Masonry, confined	ŏ	Stone, unknown type	ŏ	Mud mortar
		ŏ	Rubble (field stone) or semi-dressed stone	Ŏ	Lime mortar
		Ŏ	Dressed stone	Ŏ	Cement mortar
		Q	Fired clay unit, unknown type	Q	Cement:lime mortar
0		Q	Fired clay solid bricks	<u>Q</u>	Stone, unknown type
		2	Fired clay hollow blocks	8	Limestone
		K	Fired clay hollow blocks or tiles Concrete blocks, unknown type	1X	Sandstone Tuff
		K	Concrete blocks, solid	ŏ	Slate
		Ŏ	Concrete blocks, hollow	LŎ	Granite
		Ŏ	Masonry unit, other	Ó	Basalt
				0	Stone, other type

### Direction Y

		Masonry unit, unknown	0	Mortar type unknown
		Adobe blocks	Ŏ	No mortar
		Stone, unknown type	ŏ	Mud mortar
		Rubble (field stone) or semi-dressed stone	ŏ	Lime mortar
		O Dressed stone	ŏ	Cement mortar
		O Fired clay unit, unknown type	ŏ	Cement:lime mortar
		O Fired clay solid bricks	ŏ	Stone, unknown type
		O Fired clay hollow bricks	ŏ	Limestone
		O Fired clay hollow blocks or tiles	ŏ	Sandstone
	Masonry, reinforced	O Concrete blocks, unknown type	ŏ	Tuff
	Masoniy, reinorceu	O Concrete blocks, solid	ŏ	Slate
		O Concrete blocks, hollow	ŏ	Granite
		O Masonry unit, other	ŏ	Basalt
		Masonry reinforcement, unknown	0	Stone, other type
		Steel-reinforced	-	
		Wood-reinforced	_	
		O Bamboo-, cane- or rope -reinforced	-	
		Reinforced composite mesh		
		Reinforced concrete bands		
		O Unknown earth technology		
	Earth, unknown reinforcement	Rammed earth		
	Ealth, unknown reinforcement	Cob or wet construction		
		Earth technology, other		
		O Unknown earth technology		
	Earth, unreinforced	O Rammed earth		
0	Earth, unreinforced	O Cob or wet construction		
		O Earth technology, other		
		Unknown earth technology		
	Earth, reinforced	Rammed earth		
$\cup$	Earth, Territorded	O Cob or wet construction		
		O Earth technology, other		
		Wood, unknown		
		O Heavy wood		
	\A/a a d	Light wood members		
	Wood	Solid wood Wattle and daub		
		Bamboo		
		Wood, other		
	Other material			
$\cup$				

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

Height

Height			
	0	Unknown number of storeys	
	$\odot$	Range of number of storeys above ground	5-15
Number of stories above ground	0	Exact number of storeys above ground	
	0	Approximate number of storeys above ground	
	0	Unknown number of storeys	
	$\odot$	Range of number of storeys below ground	1-2
Number of stories below ground	0	Exact number of storeys below ground	
	0	Approximate number of storeys below ground	
	0	Height above grade unknown	
	$\odot$	Range of height of ground floor above grade	2.8-4
Height of ground floor level above grad	0	Exact height of ground floor above grade	
	0	Approximate height of ground floor level above grade	
Slope of the ground	$\odot$	Unknown slope	
Slope of the ground		Slope of the ground	

# Date of Construction or Retrofit

	Date of construction or Retrofit	Year
Ο	Year unknown	
0	Exact date of construction or retrofit	
$\odot$	Upper and lower bound for the date of construction or retrofit	1960-1980
0	Latest possible date of construction or retrofit	
0	Approximate date of construction or retrofit	

## Occupancy

	Building occupancy class - general		Building occupancy class - detail
0	Unknown occupancy type		
			Residential, unknown type
		0	Single dwelling
	Residential	$\odot$	Multi-unit, unknown type
		Ō	2 Units (Duplex)
		Q	3-4 Units
$\bigcirc$		$\square$	5-9 Units
Ŭ		$\square$	10-19 Units 20-49 Units
		$\square$	50+ Units
		No	Temporary lodging
		ŏ	Institutional housing
		ŏ	Mobile home
		ŏ	Commercial and public, unknown type
		K	Retail trade
		ŏ	Wholesale trade and storage
		ŏ	Offices, professional/technical services
		ŏ	Hospital/medical clinic
		ŏ	Entertainment
$\cup$	Commercial and public	Hŏ	Public building
		$\check{\circ}$	Covered parking garage
		Hŏ	Bus station
		Hŏ	Railway station
		$\vdash \overset{\frown}{\sim}$	Airport
			Recreation and leisure
		ŏ	Mixed, unknown type
		Hŏ	Mostly residential and commercial
		۲ŏ	Mostly commercial and residential
$\cap$	Mixed use	Hŏ	Mostly commercial and industrial
$\sim$		Image: Construction	Mostly residential and industrial
		Hŏ	Mostly industrial and commercial
		$\vdash \overset{\frown}{\circ}$	Mostly industrial and residential
		K	Industrial, unknown type
$\cap$	Industrial	$\vdash \overset{\frown}{\frown}$	Heavy industrial
$\cup$	induction	HX	Light industrial
		LX-	Agriculture, unknown type
		$\vdash$	Produce Storage
$\circ$	Agriculture	L H	Animal shelter
		$\vdash \bowtie$	Agricultural processing
			Assembly, unknown type
		$\vdash \overset{\frown}{\sim}$	Religious gathering
$\cap$	Assembly	$\vdash$	Arena
	Accountry		Cinema or concert hall
		1 Č	Other gatherings
		Image: Construction	Government, unknown type
$\circ$	Government	Hŏ	Government, general services
	Sovonmont	$\vdash$	Government, emergency response
			Education, unknown type
		$\vdash$	Pre-school facility
	Education	$\vdash \overset{\frown}{\leftarrow}$	School
$\cup$	Education	Image: Construction	College/university, offices and/or classrooms
		Hŏ	College/university, research facilities and/or labs
$\cap$	Other occupancy type		
$\cup$			

# Building Position within a Block

	Building Position within a Block
Ο	Detached building
$\odot$	One adjacent building
Ο	Corner building
Ο	Three adacent buildings
0	Interior of block

Shape of Building Plan

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

	Type of irregularity		Irregularity description
$\bigcirc$	Unknown structural irregularity		
$\bigcirc$	Regular structure		
Õ	Irregular Structure		
		Ο	No plan irregularity
		Ŏ	Torsion eccentricity
	Plan irregularity - primary	$\overline{\bullet}$	Re-entrant corner
		Ô	Other horizontal irregularity
		Ο	No plan irregularity
	Plan irregularity - secondary	0	Torsion eccentricity
	Fian megulanty - Secondary	0	Re-entrant corner
		Ο	Other horizontal irregularity
		$\bigcirc$	No vertical irregularity
		0	Soft storey
		Ο	Cripple wall
	Vertical structural irregularity - primary	0	Short column
	vertical structural megularity - primary	Q	Pounding potential
		Q	Setback
		Q	Change in vertical structure (includes large overhangs)
		O	Other vertical irregularity
		Q	No vertical irregularity
		$\bigcirc$	Soft storey
		Q	Cripple wall
	Vertical structural irregularity - secondary	Q	Short column
		Q	Pounding potential
		Q	Setback
		Q	Change in vertical structure (includes large overhangs)
		O	Other vertical irregularity

# Exterior Walls

	Exterior walls
Ο	Unknown material
$oldsymbol{eta}$	Concrete
0	Glass
0	Earth
Ο	Masonry
0	Metal
0	Vegetative
0	Wood
0	Stucco finish on light framing
0	Plastic/vinyl, various
$\circ$	Cement-based boards
0	Material of exterior wall, other

Roof

	Roof shape		Roof covering		Roof material		Roof type	R	oof connections*		
С	Unknown roof shape	Ο	Unknown roof covering	0	Roof material, unknown						
٢	Flat	Ō	Concrete roof with no additional covering		Masonry	0	Masonry, unknown	1			
Ć	Pitched with gable ends	0	Clay or concrete tile			0	Vaulted masonry				
С	Pitched and hipped	Ο	Fibre cement or metal tile			0	Shallow-arched masonry				
Ĉ	Pitched with dormers	0	Membrane roofing			0	Composite masonry and concrete roof system		n Roof-wall diaphragm connection unknow		
D	Monopitch	0	Slate	$\cap$	Earthen	0	Earthen, unknown	Wall/roof diaphragm			
С	Sawtooth	0	Stone slab	U	Earthen	0	Vaulted earthen roofs	connection			
С	Curved	0	Metal sheets			0	Concrete, unknown	00			
С	Complex regular	0	Wooden and asphalt shingles		Concrete	0	Reinforced concrete slabs, flat slabs or plates				
С	Complex irregular	Ο	Vegetative	$\odot$		Reinforced concrete waffle or hollow clay tile coffered reinforced concrete sla	Reinforced concrete waffle or hollow clay tile coffered reinforced concrete slabs				
$\mathcal{D}$	Roof Shape, other	0	Earthen			$\odot$	Precast concrete roof system with reinforced concrete topping	]			
		0	Solar panelled roofs			0	Precast concrete roof system without reinforced concrete topping				
		Ο	Tensile membrane or fabric roof		) Metal	0	Metal, unknown	]			
		0	Roof covering, other	$\cap$		0	Metal beams or trusses supporting light roofing	]			
				$\cup$		Metai	Weta	0	Metal beams supporting precast concrete slabs	]	
								0	Composite steel deck and concrete slab	]	
					) Wood	0	Wood, unknown				
						Weed	0	Wooden roof structure with light infill or covering	Destric		
				0			0	Wooden roof structure supporting a heavy flat or domed roof	Roof tie- downs	Roof tie-down unknown	
				U		0	Wood-based sheets on rafters or purlins	uowiis			
						0	Plywood panels or other light-weight panels for roof	1			
						0	Bamboo, straw or thatch roof				
				0	Eabria	) Fabric	0	Fabiric, unknown	]		
				0	Pablic		Fabric	0	Inflatable or tensile membrane roof	]	
				$\bigcirc$	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 material		Floor type	Floor connections	
$\bigcirc$	Floor material non-existant	0	No elevated or suspended floor material (single-storey building)		
$\bigcirc$	Floor material, unknown				
		0	Masonry, unknown		
	Masonry	0	Vaulted masonry		
$\square$		0	Shallow-arched masonry		
		0	Composite cast-in-place reinforced concrete and masonry floor system		
$\bigcirc$	Earthen	0	Earthen, unknown		
		0	Concrete, unknown		
		0	Cast-in-place beamless reinforced concrete floor		
$\odot$	Concrete	0	Cast-in-place beam-supported reinforced concrete floor		
		$\odot$	Precast concrete floor system with reinforced concrete topping	Floor-wall diaphragm connection present	
		0	Precast concrete floor system without reinforced concrete topping		
		0	Metal, unknown		
	Metal	0	Metal beams, trusses, or joists supporting light flooring		
$\sim$		weta	0	Metal beams supporting precast concrete slabs	
		0	Composite steel deck and concrete slab		
	Wood	0	Wood, unknown		
		0	Wooden beams or trusses and joists supporting light flooring		
$\circ$		0	Wooden beams or trusses and joists supporting heavy flooring		
		0	Wood-based sheets on joists or beams		
		0	Plywood panels or other light-weight panels for floor		
$\bigcirc$	Floor material, other				

Floor

# Foundation

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

# Report Title: Precast reinforced concrete residential buildings Bulgaria

Authors: Manya Deyanova

Country: Bulgaria

Region: Major towns

Summary of building Typology

Very common residential buildings, found mostly in big towns, 30-50 years old, 5-15 stories, elongated in plan, organized in relatively big neighborhoods.

Comments on missing information:

The outlines of the buildings in plan vary. Mostly the dimensions are a/b>1/4 but there are also L-shaped, H-shaped.

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 <u>taxonomy@eeri.org</u>