Ref. No.: 14/2020.BV

Fire Protection Expert's Report

During writing the fire protection expert's report I considered those set out by the principles for the purposes of the national fire prevention regulations put into force by the already invalid regulation No. 54/2014(XII 05) the Ministry of Interior, and the 1st § on fire protection requirement system of buildings of the national fire prevention regulations (hereinafter referred to as: OTSZ) put into force by regulation No. 54/2014 (XII 05) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior valid at the time of writing the fire protection expert's report.

Fire protection engineer's declaration: I, undersigned, Viktor Borsos building fire protection engineer (chamber registration number: TUE 03-0906) declare that according to those set out in the 21st § of law No. XXXI of the year 1996 on fire protection, this fire protection expert's opinion was made up based on the requirements set out in the relevant measures, and based on those set out in the national fire prevention regulations put into force by regulation No. 54/2014 (XII 05) of the Ministry of Interior, amended by regulation No. 54/2014 (XII 05) of the Ministry of Interior amended by the regulation No. 30/2019 (VII 26) of the Ministry of Interior.

1 Purpose of the fire protection expert's report:

The purpose of this fire protection expert's report is to find where SIXBAU polystyrene wall structure is allowed to be built in according to Annexes No. 2 of OTSZ amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior and the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, or where can the planned building structure be replaced by it.

The national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior was in force from 5th March 2015 to 21st January 2020. The table on this building structure and its usability are detailed in point 1.

The national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior has been in force from 22nd January 2020. The table on this building structure and its usability are detailed in point 2.

The wall structrures SIXBAU Green 30 and 38, and SIXBAU Optimum 30 and 38 have got their national technical assessments (NMÉ) registered with number A-37/2015 and issued by ÉMI on 26. 11. 2018.

Furthermore, the wall structure of the dividing wall SIXBAU 80 has a national technical assessment registered with number A-51/2014 issued by ÉMI on 20. 11. 2014.

Both national fire prevention regulations allow this construction element to be built in as

- **Load-bearing wall structure,**
- **Non-loadbearing wall structure (infilling wall)*,**
- **Fire-wall,**
- **Fire-retardant dividing wall, and**
- **Façade fire-barrier,**
- **Wall, floor, ceiling cover on escape route,**
- **Fire-retardant dividing wall,**
- **Mechanical core wall structure**

due to its A2 fire protection classification.

In case points 1.3 of the provided NMÉ report are complied with:

- In case of a load-bearing wall structure the fire protection class and fire-resistance performance is A2 REI 90,
- In case of non-loadbearing wall structure (infilling wall) with 30 cm thickness A2 EI 120,
- In case of non-loadbearing wall structure (infilling wall) with 41 cm thickness A2 EI 240.

1.1 Usability in case of load-bearing wall structure:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, that is the building permit was issued **between 5th March 2015 and 21st January 2020**)

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the wall structure will be as follows:

2.2.3 Load-bearing wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer load-bearing wall (thickness: 410 mm; max height: 3240 mm) fire-resistance limit and fire protection class	REI 90* (recycled) REI 90* (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Outer load-bearing wall with reduced thickness at footing (thickness: 380 mm, max height: 3240 mm) fire-resistance limit and fire protection class	REI 90* (recycled) REI 90* (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Inner load-bearing wall (thickness: 410 mm, max height: 3240 mm) fire-resistance limit and fire-protection class	REI 90* (recycled) REI 90* (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

* Maximum allowed load simultaneous with fire effect is 50 kN/m.
** Maximum allowed load simultaneous with fire effect is 30 kN/m.

Point 1.3 of the NMÉ clearly specifies that this load-bearing structure is only allowed to be used up to a height of 2 storeys using 12 rows of blocks in each storey.

Accordingly, in case of a load-bearing wall structure this wall structure is only allowed to be built in a maximum 2 storey high building, but in case the wall structure fulfils paragraph 193 of the 4th § of the OTSZ – "*193. Infilling wall: such non-loadbearing wall structure the stability and support of which is provided by a frame structure,*", then the wall structure is an infilling wall, the details of build-in are set out by point 1.2, and in this case it can be built in unlimitedly, that is it is not dependent on the number of storeys or any risk classes.

Building-in is allowable in case of a load-bearing wall structure as follows:

Table 1 – for the subtitle structure stability in case of fire

Building structure fire protection class and fire-resistance performance requirements

	A	B	C		D	E	F	G	H	I	J	K	L
1	Standard risk class		NAK		AK			KK			MK		
2	Building structure		Basement + ground floor, in case of residential building Basement + ground floor + first floor	Basement + ground floor + max 2 floors	Basement + ground floor	Basement + ground floor + max 2 floors	In other cases	Basement + ground floor	Basement + ground floor + max 2 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases
3		Load-bearing walls and reinforcement except for basement level	D REI 15	D REI 30	D REI 30	C REI 30	A2 REI 45	A2 REI 30	A2 REI 60	A1 REI 90	A1 REI 60	A1 REI 90	A1 REI 120
4		Load-bearing pillars and reinforcement except for basement level	D R 15	D R 30	D R 30	C R 30	A2 R 45	A2 R 30	A2 R 60	A1 R 90	A1 R 60	A1 R 90	A1 R 120
5		Basement level load-bearing walls and reinforcement	A2 REI 30	A2 REI 30	A2 REI 30	A2 REI 45	A2 REI 60	A2 REI 45	A2 REI 60	A1 REI 90	A1 REI 60	A1 REI 90	A1 REI 120

1.2 Usability in case of non-loadbearing "infilling" wall structure:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, that is the building permit was issued **between 5th March 2015 and 21st January 2020**)

*non-loadbearing wall's (infilling wall) definition according to paragraph 193 of the 4th § of the OTSZ: "*193. Infilling wall: such non-loadbearing wall structure the stability and support of which is provided by a frame structure,*". Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the wall structure will be as follows:

2.2.2 Infilling wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer and inner infilling wall (thickness: 410 mm; max height: 4000 mm) fire-resistance limit and fire protection class	EI 240 (recycled) EI 240 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

Outer and inner infilling wall (thickness: 340 mm, max height: 4000 mm) fire-resistance limit and fire protection class	EI 120 (recycled) EI 120 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

Point 1.3 of the NMÉ clearly specifies that in case the frame structure provides for load-bearing of the building and space division can be provided by the wall structure.. In this case, based on paragraph 3 of the 26th § in the OTSZ:

(3) The façade fire-spread limit requirement of the outer space divider wall in the total height of the building, verified by a test according to the relevant technical requirement is

a) 15 minutes in case of ground floor and maximum 2 further building floors,

b) 30 minutes in case of ground floor and at least 3, maximum 4 further building floors,

c) 45 minutes in case of ground floor and more than 4 further building floors.

Since this is a block structure the fire protection class is A2 and the fire protection performance is EI 120, which is more than 45 minutes, therefore, irrespective of the risk classification as an infilling wall, and according to the above definition it is allowed to be built-in even in case of "ground floor + more than 4 further building floors" according to the OTSZ requirements.

All 3 issued "fire-spread protection" TVMIs include solutions for protection against spread of fire on the façade.

Based on paragraph 4.2.1 of the TVMI:

4.2.1 Protection against façade fire-spread can be provided by

- building structure with a fire-resistance performance reaching or exceeding the façade fire-spread limit requirements specified for the given number of floors, or

This is available according to the NMÉ of the infilling wall.

Based on paragraph 4.2.3 of the TVMI:

4.2.3 Solutions suitable for providing protection against façade fire-spreading between floors in the same fire section:

4.2.3.6 Non-loadbearing outer divider wall with openings and complying with the geometric requirements related to barriers with A1-A2 fire protection class against vertical façade fire-

spreading (infilling wall, suspended façade wall), the fire-resistance limit of which reaches or exceeds the period of the fire-spreading limit requirement for façade.

Accordingly, if a 1.30 m fire-spread barrier is available directly or indirectly between the floors according to the provisions of point 4.2.3.6 of the TVMI, the protection against façade fire-spreading is provided for in case of the planned block structure.

Therefore, the block structure's fire protection class is A2 and the fire protection performance is EI 120, which is more than 45 minutes, therefore, irrespective of the risk classification as an infilling wall, and it is allowed to be built-in even in case of "ground floor + more than 4 further building floors" according to the OTSZ requirements. Furthermore, this wall structure is capable of providing protection against façade fire-spreading based on the TVMI "fire-spreading" requirements.

1.3 Usability in case of fire-wall structure:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, that is the building permit was issued **between 5th March 2015 and 21st January 2020**)

Fire-wall definition according to paragraph 155 of the 4th § of the OTSZ: "*fire-wall: wall structure that prevents fire from spreading for a definite period of time between the fire sections, individual units or rooms separated by it*". The fire-wall is taken into account as a non-loadbearing structure.

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the non-loadbearing wall structure will be as follows:

2.2.2 Infilling wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer and inner infilling wall (thickness: 410 mm; max height: 4000 mm) fire-resistance limit and fire protection class	EI 240 (recycled) EI 240 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Outer and inner infilling wall (thickness: 340 mm, max height: 4000 mm) fire-resistance limit and fire protection class	EI 120 (recycled) EI 120 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

Based on line 18 of table 1 of Annex 2 of the OTSZ the fire-wall is allowed to be built in in case of the following risk classes and number of floors.

15	Standard risk class	NAK		AK			KK			MK		
16	Building structure	Basement + ground floor, in case of residential building Basement + ground floor + first floor	Basement + ground floor + max 2 floors	Basement + ground floor	Basement + ground floor + max 2 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases
17	Fire-retardant dividing wall	D EI 15	D EI 15	D EI 15	C EI 15	B EI 30	B EI 30	A2 EI 30	A1 EI 60	A1 EI 60	A1 EI 60	A1 EI 90
18	Fire-wall	A2 (R)EI 30	A2 (R)EI 30	A2 (R)EI 30	A2 (R)EI 30	A2	A2 (R)EI 45	A2 (R)EI 60	A1	A1 (R)EI 60	A1 (R)EI 90	A1

							(R)E I 45			(R)E I 90			(R)E I 120
19		Fire-retardant floor	A2 REI 30	A2 REI 30	A2 REI 30	A2 REI 30	A2 REI 45	A2 REI 45	A2 REI 60	A1 REI 90	A1 REI 60	A1 REI 90	A1 REI 120

This non-loadbearing fire-wall is allowed to be built-in in case of max 3 floors in case of NAK, unlimited number of floors in case of AK, and in a maximum 5-storey building in case of KK risk classification.

1.4 Usability in case of fire-retardant dividing wall

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, that is the building permit was issued **between 5th March 2015 and 21st January 2020**)

Fire-retarding dividing wall definition according to paragraph 161 of the 4th § of the OTSZ: "*fire-retardant dividing wall: non-loadbearing wall structure without fire-retarding closures, which – inspected on solid wall surface – prevents fire from spreading for a definite period of time shorter than that specified for a fire-wall, between the rooms separated by it*". The fire-retardant dividing wall is taken into account as a non-loadbearing structure.

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the non-loadbearing wall structure will be as follows:

2.2.2 Infilling wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer and inner infilling wall (thickness: 410 mm; max height: 4000 mm) fire-resistance limit and fire protection class	EI 240 (recycled) EI 240 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Outer and inner infilling wall (thickness: 340 mm, max height: 4000 mm) fire-resistance limit and fire protection class	EI 120 (recycled) EI 120 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

Based on line 17 of table 1 of Annex 2 of the OTSZ the fire-retardant dividing wall is allowed to be built in in case of the following risk classes and number of floors.

15	Standard risk class	NAK		AK			KK			MK		
16	Building structure	Basement + ground floor, in case of residential building Basement + ground floor + first floor	Basement + ground floor + max 2 floors	Basement + ground floor	Basement + ground floor + max 2 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases
17	Fire-retardant dividing wall	D EI 15	D EI 15	D EI 15	C EI 15	B EI 30	B EI 30	A2 EI 30	A1 EI 60	A1 EI 60	A1 EI 60	A1 EI 90

This non-loadbearing fire-wall is allowed to be built-in in case of max 3 floors in NAK, unlimited number of floors in AK, and in a maximum 5-storey building in case of KK risk classification.

1.5 Usability in case of wall structure on fire section border (in case of barrier against fire-spreading on façade):

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, that is the building permit was issued **between 5th March 2015 and 21st January 2020**)

This is figure 6 of the valid "fire-spreading" TVMI showing the barrier against fire-spreading on the façade at the fire section border.

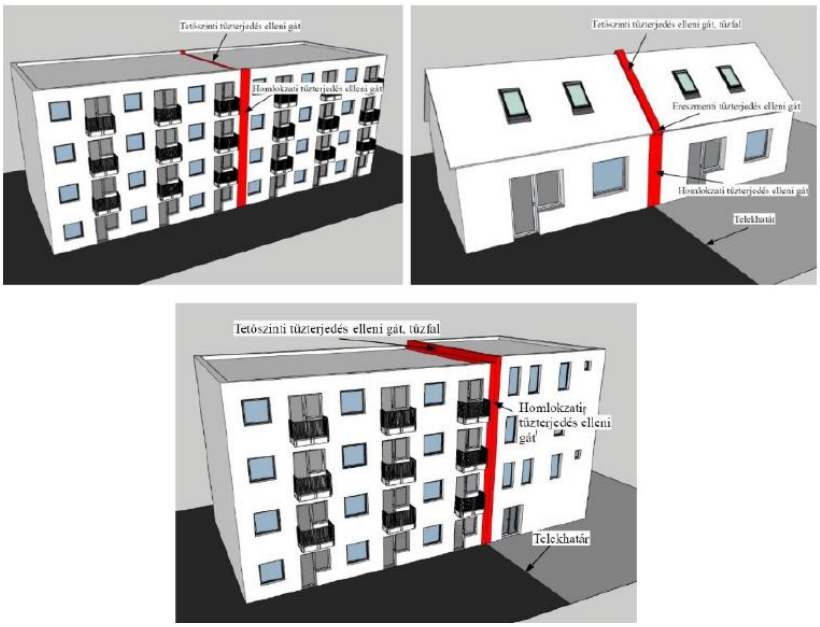

Fig. 6

Principle of establishing barriers against spreading of fire

Tetőszinti tűzterjedés elleni gát: barrier on roof against spreading of fire

Homlokzati tűzterjedés elleni gát: barrier on façade against spreading of fire

Ereszmenti tűzterjedés elleni gát: barrier by gutter against spreading of fire

Telekhatár: site limits

Tűzfal: fire-wall

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the wall structure on fire section borders will be as follows:

2.2.2 Infilling wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer and inner infilling wall (thickness: 410 mm; max height: 4000 mm) fire-resistance limit and fire protection class	EI 240 (recycled) EI 240 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Outer and inner infilling wall (thickness: 340 mm, max height: 4000 mm) fire-resistance limit and fire protection class	EI 120 (recycled) EI 120 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

Based on line 20 of table 1 of Annex 2 of the OTSZ the fire protection class requirement of the barrier against fire-spreading is A2, its fire protection performance is the same as the wall's fire protection requirements, but maximum EI 90. Since the fire protection class of the block structure is A2 and the fire protection performance is minimum EI 120, this wall structure is allowed to be built-in irrespective of the number of floors and risk classification, according to the OTSZ requirements.

15	Standard risk class	NAK		AK			KK			MK		
16	Building structure	Basement + ground floor, in case of residential building Basement + ground floor + first floor	Basement + ground floor + max 2 floors	Basement + ground floor	Basement + ground floor + max 2 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases
17	Fire-retardant dividing wall	D EI 15	D EI 15	D EI 15	C EI 15	B EI 30	B EI 30	A2 EI 30	A1 EI 60	A1 EI 60	A1 EI 60	A1 EI 90
18	Fire-wall	A2 (R)EI 30	A2 (R)EI 30	A2 (R)EI 30	A2 (R)EI 30	A2 (R)EI 45	A2 (R)EI 45	A2 (R)EI 60	A1 (R)EI 90	A1 (R)EI 60	A1 (R)EI 90	A1 (R)EI 120
19	Fire-retardant floor	A2 REI 30	A2 REI 30	A2 REI 30	A2 REI 30	A2 REI 45	A2 REI 45	A2 REI 60	A1 REI 90	A1 REI 60	A1 REI 90	A1 REI 120
20	Barrier against fire-spreading	A2 fire-resistance performance identical to the connected floor and wall requirements, but at most 90										

All 3 issued "protection against fire-spreading" TVMIs include solutions for protection against façade fire-spreading.

Based on paragraph 4.2.1 of the TVMI:

4.2.1 Protection against façade fire-spread can be provided by

- building structure with a fire-resistance performance reaching or exceeding the façade fire-spread limit requirements specified for the given number of floors, or

This is available according to the NMÉ of the wall structure.

Based on paragraph 4.2.2 of the TVMI:

4.2.2 Barriers against fire-spreading on vertical or horizontal façade are suitable for protection against façade fire-spreading on a fire section border, which

- have fire protection characteristics complying with the relevant requirements, and

- taking their size into account comply with the geometry of the figures included in paragraph 4.3 of this directive.

Therefore, according to point 4.2.2 of the TVMI, if requirements set out in paragraph 4.3 are observed (barrier against façade fire-spreading is minimum 90 cm), then the wall structure is suitable for establishing a fire-wall irrespective of the number of floors and risk classification.

1.6 Wall covering, suspended ceiling, ceiling cover, heat and sound insulation on escape route:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, that is the building permit was issued **between 5th March 2015 and 21st January 2020**)

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class, smoke generating capacity, and burning dripping of the wall and ceiling covers will be as follows:

2.2.1 Masonry units fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Masonry units fire prevention characteristics	A2-s1, d0 (recycled) A2-s1, d0 (original)	MSZ EN 13501-2:2007 +A1:2010

Based on lines 27, 29 and 31 of table 1 of Annex 2 of the OTSZ the wall covering, ceiling covering, heat and sound insulation usable on the escape route will be as follows:

27	Building structures used on escape routes	Wall covering	D s1, d0	D s1, d0	D s1, d0	D s1, d0	C s1, d0	D s1, d0	B s1, d0	A2	B s1, d0	A2	A2
28		Floor covering	Dn s1	Dn s1	Dn s1	Dn s1	Cn s1	Dn s1	Bn s1	A2	Bn s1	A2	A2
29		Suspended ceiling, ceiling covering	D s1, d0	D s1, d0	D s1, d0	D s1, d0	C s1, d0	D s1, d0	B s1, d0	A2	B s1, d0	A2	A2
30		Raised floor	D EI 15	D EI 15	D EI 15	D EI 15	C EI 30	D EI 30	A2 EI 30	A2 EI 60	A2 EI 60	A2 EI 60	A2 EI 90
31		Heat and sound insulation, without covering or behind covering	B s1, d0	B s1, d0	B s1, d0	B s1, d0	A2 s1, d0	A2 s1, d0	A2 s1, d0	A1	A1	A1	A1

The above table shows that in case of wall covering, suspended ceiling, or ceiling covering this block wall structure is allowed to be used in case of heat and sound insulation irrespective of the number of floors and the risk class, except for MK.

1.7 Usability in case of fire-retardant dividing wall:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, that is the building permit was issued **between 5th March 2015 and 21st January 2020**)

Page 18 of the given NMÉ shows the layer order of polystyrene concrete dividing wall.

3-1-0-0-0-01 Dividing wall layer order Wall height: max 3.00 m Raw wall thickness: min 80 mm		
Thickness/layer	Layer/structure	Note
5 mm	Surface finish: gypsum plastering reinforced with glass-wool	Painted or papered surface
80-200 mm	500-600 mm wide WYW Block polystyrene concrete panel	Fastened to the connecting structures by J 93 (v=1.5 mm) steel profile and PUR adhesive, to each other by PUR adhesive
5 mm	Surface finish: gypsum plastering reinforced with glass-wool	Painted or papered surface

In case of observing this order of layers and the related conditions the fire protection performance provided according to page 22 of the NMÉ is A2 EI 60.

Basic characteristics	Performance	Evaluation method
3-1-0-0-0-01 marked dividing wall (80-200 mm thick) fire-resistance value and fire-protection class	E 90, EI 60 A2	MSZ EN 13501-2:2007 +A1:2010 28/2011 (IX 6) regulation of the Ministry of Interior (OTSZ) 300th §

Based on line 17 of table 1 of Annex 2 of the OTSZ the fire-protection class requirements of the fire-retardant dividing wall are as per the table below. Since the fire-prevention class is A2, the fire-resistance performance is EI 60 of the wall structure, according to the OTSZ requirements the fire-retardant dividing wall structure is allowed to be built in

Unlimitedly in case of NAK risk,
Unlimitedly in case of AK risk,
In basement + ground floor + max 4 floors in case of KK.

15	Standard risk class	NAK		AK			KK			MK		
16	Building structure	Basement + ground floor, in case of residential building Basement + ground floor + first floor	Basement + ground floor + max 2 floors	Basement + ground floor	Basement + ground floor + max 2 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases
17	Fire-retardant dividing wall	D EI 15	D EI 15	D EI 15	C EI 15	B EI 30	B EI 30	A2 EI 30	A1 EI 60	A1 EI 60	A1 EI 60	A1 EI 90
18	Fire-wall	A2 (R)EI 30	A2 (R)EI 30	A2 (R)EI 30	A2 (R)EI 30	A2 (R)EI 45	A2 (R)EI 45	A2 (R)EI 60	A1 (R)EI 90	A1 (R)EI 60	A1 (R)EI 90	A1 (R)EI 120
19	Fire-retardant floor	A2 REI 30	A2 REI 30	A2 REI 30	A2 REI 30	A2 REI 45	A2 REI 45	A2 REI 60	A1 REI 90	A1 REI 60	A1 REI 90	A1 REI 120
20	Barrier against fire-spreading	A2 fire-resistance performance identical to the connected floor and wall requirements, but at most 90										

The above table shows that in case of the fire-retardant dividing wall for KK risk and above 5 floors, except for MK risk class this 80 mm thick wall structure is allowed to be built in as a fire-retardant dividing wall in all cases.

1.8. Usability in case of mechanical core:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, that is the building permit was issued **between 5th March 2015 and 21st January 2020**)

Page 18 of the given NMÉ shows the layer order of polystyrene concrete dividing wall.

3-1-0-0-0-01 Dividing wall layer order Wall height: max 3.00 m Raw wall thickness: min 80 mm		
Thickness/layer	Layer/structure	Note
5 mm	Surface finish: gypsum plastering reinforced with glass-wool	Painted or papered surface
80-200 mm	500-600 mm wide WYW Block polystyrene concrete panel	Fastened to the connecting structures by J 93 (v=1.5 mm) steel profile and PUR adhesive, to each other by PUR adhesive
5 mm	Surface finish: gypsum plastering reinforced with glass-wool	Painted or papered surface

In case of observing this order of layers and the related conditions the fire protection performance provided according to page 22 of the NMÉ is A2 EI 60.

Basic characteristics	Performance	Evaluation method
3-1-0-0-0-01 marked dividing wall (80-200 mm thick) fire-resistance value and fire-protection class	E 90, EI 60 A2	MSZ EN 13501-2:2007 +A1:2010 28/2011 (IX 6) regulation of the Ministry of Interior (OTSZ) 300th §

Based on paragraphs 1 and 6 of the 27th § of the OTSZ: "*27 § (1) Spreading of fire through the lead-through locations of electric or engineering wires crossing the building structures between the rooms, and having E and I fire-resistance performance set out by this regulation, and in the gaps between the building structures, in the openings, and clearances for the period of the fire-resistance performance requirement on the given building structure with that lead-through.*"

"(6) The electric and mechanical core lead through the building floors' parts located in the same fire section should be established and placed in a way that fire cannot spread between building floors above each other during the fire-resistance performance requirement period prescribed for the slab between the storeys, except for spreading within the mechanical wire."

That is, in case of mechanical cores fire-resistance relevant to the slab fire-resistance should be provided for. Therefore, based on line 8 of table 1 of annex 2 of the OTSZ the floor's fire protection classification requirement is as per the table.

Since the fire protection class of the polystyrene concrete dividing wall structure is A2, and the fire-resistance performance is EI 60, based on the OTSZ requirements it is allowed to be built in the mechanical core wall structure:
Unlimitedly in case of NAK risk,
Unlimitedly in case of AK risk,
Unlimitedly in case of KK risk.

	A	B	C		D	E	F	G	H	I	J	K	L
1	Standard risk class		NAK		AK			KK			MK		
2	Building structure		Basement + ground floor, in case of residential building Basement + ground floor + first floor	Basement + ground floor + max 2 floors	Basement + ground floor	Basement + ground floor + max 2 floors	In other cases	Basement + ground floor	Basement + ground floor + max 2 floors	In other cases	Basement + ground floor	Basement + ground floor + max 4 floors	In other cases
8	Building structures	Slab and attic floor	D REI 15	D REI 30	-	C REI 30	A2 REI 45	-	A2 REI 45	A1 REI 60	-	A1 REI 60	A1 REI 90

The above table shows that as a wall structure for the engineering core the 80 mm thick polystyrene concrete dividing wall structure is allowed to be used in all cases, except for MK.

2.1 Usability in case of load-bearing wall structure:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior, that is the building permit was issued **after 22nd January 2020**)

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the wall structure will be as follows:

2.2.3 Load-bearing wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer load-bearing wall (thickness: 410 mm; max height: 3240 mm) fire-resistance limit and fire protection class	REI 90* (recycled) REI 90* (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Outer load-bearing wall with reduced thickness at footing (thickness: 380 mm, max height: 3240 mm) fire-resistance limit and fire protection class	REI 90* (recycled) REI 90* (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Inner load-bearing wall (thickness: 410 mm, max height: 3240 mm) fire-resistance limit and fire-protection class	REI 90* (recycled) REI 90* (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

* Maximum allowed load simultaneous with fire effect is 50 kN/m.
** Maximum allowed load simultaneous with fire effect is 30 kN/m.

Point 1.3 of the NMÉ clearly specifies that this load-bearing structure is only allowed to be used up to a height of 2 storeys using 12 rows of blocks in each storey.

Accordingly, in case of a load-bearing wall structure this wall structure is only allowed to be built in a maximum 2 storey high building, but in case the wall structure fulfils paragraph 193 of the 4th § of the OTSZ – "*193. Infilling wall: such non-loadbearing wall structure the stability and support of which is provided by a frame structure,*", then the wall structure is an infilling wall, the details of build-in are set out by point 1.2, and in this case it can be built in unlimitedly, that is it is not dependent on the number of storeys or any risk classes.

Building-in is allowable in case of a load-bearing wall structure as follows:

Requirements relevant to building structure fire protection classes and fire-resistance performance

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Standard risk class		NAK	NAK	NAK	AK	AK	AK	KK	KK	KK	MK	MK	MK
2	Number of floors in building, individual building part (based on paragraph (4) of the 12th §)		In case of 1-2 industrial, agricultural, storage basic systems. In case of 1-3 residential basic systems.	In case of 3 industrial, agricultural, storage basic systems. In case of 1-3 community basic systems.	4	1-2	3	4-7	1-2	3-6	7-15	1-2	3-15	>15
3	Building structure	Criteria	Required fire-resistance performance and fire protection class											
4	Load-bearing building structures, except for slabs and the structure for covering the uppermost floor - walls playing part in preventing spreading of fire are also subject to EI criteria - the basement level structures' fire protection class requirement is at least A2, the fire-resistance performance is at least R30	R	15 D	30 D	60 D	30 D	30 C	60 A2	30 A2	60 A2	90 A2	60 A2	90 A2	120 A2
5	Floors above basement level, between storeys, slabs under	R	15 D	30 D	60 D	30 D	30 C	60 A2	30 A2	60 A2	90 A2	60 A2	90 A2	90 A2

	the attic and attic slabs - slabs playing part in preventing spreading of fire are also subject to EI criteria - the fire protection class requirement of structures over basement level is at least A2, the fire-resistance performance requirement is at least R30													

Usability for build-in in case of load-bearing wall structure is as follows:

- 1-2 floors in case of NAK risk class,
- 1-2 floors in case of AK risk class,
- 1-2 floors in case of KK risk class,
- 1-2 floors in case of MK risk class.

2.2 Usability in case of non-loadbearing "infilling" wall structure:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior, that is the building permit was issued **after 22nd January 2020**)

*non-loadbearing wall's (infilling wall) definition according to paragraph 193 of the 4th § of the OTSZ: "*193. Infilling wall: such non-loadbearing wall structure the stability and support of which is provided by a frame structure,*". Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the wall structure will be as follows:

2.2.2 Infilling wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer and inner infilling wall (thickness: 410 mm; max height: 4000 mm) fire-resistance limit and fire protection class	EI 240 (recycled) EI 240 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Outer and inner infilling wall (thickness: 340 mm, max height: 4000 mm) fire-resistance limit and fire protection class	EI 120 (recycled) EI 120 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

Point 1.3 of the NMÉ clearly specifies that in case the frame structure provides for load-bearing of the building and space division can be provided by the wall structure..In this case, based on paragraph 3 of the 26th § in the OTSZ:

(3) The façade fire-spread limit requirement of the outer space divider wall in the total height of the building, verified by a test according to the relevant technical requirement is

a) 15 minutes in case of ground floor and maximum 2 further building floors,

b) 30 minutes in case of ground floor and at least 3, maximum 4 further building floors,

c) 45 minutes in case of ground floor and more than 4 further building floors.

Since this is a block structure the fire protection class is A2 and the fire protection performance is EI 120, which is more than 45 minutes, therefore, irrespective of the risk classification as an infilling wall, and according to the above definition it is allowed to be built-in even in case of "ground floor + more than 4 further building floors" according to the OTSZ requirements.

All 3 issued "fire-spread protection" TVMIs include solutions for protection against spread of fire on the façade.

Based on paragraph 4.2.1 of the TVMI:

4.2.1 Protection against façade fire-spread can be provided by

- building structure with a fire-resistance performance reaching or exceeding the façade fire-spread limit requirements specified for the given number of floors, or

This infilling wall is available according to its NMÉ.

Based on paragraph 4.2.3 of the TVMI:

4.2.3 Solutions suitable for providing protection against façade fire-spreading between floors in the same fire section:

4.2.3.6 Non-loadbearing outer divider wall with openings and complying with the geometric requirements related to barriers with A1-A2 fire protection class against vertical façade fire-spreading (infilling wall, suspended façade wall), the fire-resistance limit of which reaches or exceeds the period of the fire-spreading limit requirement for façade.

Accordingly, if a 1.30 m fire-spread barrier is available directly or indirectly between the floors according to the provisions of point 4.2.3.6 of the TVMI, the protection against façade fire-spreading is provided for in case of the planned block structure.

Therefore, the block structure's fire protection class is A2 and the fire protection performance is EI 120, which is more than 45 minutes, therefore, irrespective of the risk classification as an infilling wall, and it is allowed to be built-in even in case of "ground floor + more than 4 further building floors" according to the OTSZ requirements. Furthermore, this wall structure is capable of providing protection against façade fire-spreading based on the TVMI "fire-spreading" requirements.

2.3 Usability in case of fire-wall structure:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior, that is the building permit was issued **after 22nd January 2020**)

Fire-wall definition according to paragraph 155 of the 4th § of the OTSZ: "*fire-wall: wall structure that prevents fire from spreading for a definite period of time between the fire sections, individual units or rooms separated by it*". The fire-wall is taken into account as a non-loadbearing structure.

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the non-loadbearing wall structure will be as follows:

2.2.2 Infilling wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer and inner infilling wall (thickness: 410 mm; max height: 4000 mm) fire-resistance limit and fire protection class	EI 240 (recycled) EI 240 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Outer and inner infilling wall (thickness: 340 mm, max height: 4000 mm) fire-resistance limit and fire protection class	EI 120 (recycled) EI 120 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

Based on line 11 of table 1 of Annex 2 of the OTSZ the fire-wall is allowed to be built in in case of the following risk classes and number of floors.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Standard risk class		NAK	NAK	NAK	AK	AK	AK	KK	KK	KK	MK	MK	MK
2	Number of floors in building, individual building part (based on paragraph (4) of the 12th §)		In case of 1-2 industrial, agricultural, storage basic systems. In case of 1-3 residential basic systems.	In case of 3 industrial, agricultural, storage basic systems. In case of 1-3 community basic systems.	4	1-2	3	4-7	1-2	3-6	7-15	1-2	3-15	>15
3	Building structure	Criteria	Required fire-resistance performance and fire protection class											

1 1	Fire-wall and slab - EW criteria can be applied instead of EI in case of a fire-wall with at least B fire protection class, in a band above 2.1 m height measured from the floor surface used for traffic and escape. - EW criteria can be applied instead of EI in an outer dividing wall protected against fire-spread, if it does not increase the risk of spreading	EI (EW)	30 A2	60 A2	30 A2	30 A2	60 A2	30 A2	60 A2	90 A2	60 A2	90 A2	120 A2

Since the fire protection class of the block structure is A2 and the fire protection performance is also EI 120, and the above table specifies a requirement of A2 EI 120 fire-resistance, this wall structure is allowed to be built-in irrespective of the number of floors and risk classification.

2.4 Usability in case of fire-retardant dividing wall

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior, that is the building permit was issued **after 22nd January 2020**)

Fire-retarding dividing wall definition according to paragraph 161 of the 4th § of the OTSZ: "*fire-retardant dividing wall: non-loadbearing wall structure without fire-retarding closures, which – inspected on solid wall surface – prevents fire from spreading for a definite period of time shorter than that specified for a fire-wall, between the rooms separated by it*". The fire-retardant dividing wall is taken into account as a non-loadbearing structure.

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the non-loadbearing wall structure will be as follows:

2.2.2 Infilling wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer and inner infilling wall (thickness: 410 mm; max height: 4000 mm) fire-resistance limit and fire protection class	EI 240 (recycled) EI 240 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Outer and inner infilling wall (thickness: 340 mm, max height: 4000 mm) fire-resistance limit and fire protection class	EI 120 (recycled) EI 120 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

Based on line 13 of table 1 of Annex 2 of the OTSZ the fire-retardant dividing wall is allowed to be built in in case of the following risk classes and number of floors.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Standard risk class		NAK	NAK	NAK	AK	AK	AK	KK	KK	KK	MK	MK	MK
2	Number of floors in building, individual building part (based on paragraph (4) of the 12th §)		In case of 1-2 industrial, agricultural, storage basic systems. In case of 1-3 residential basic systems.	In case of 3 industrial, agricultural, storage basic systems. In case of 1-3 community basic systems.	4	1-2	3	4-7	1-2	3-6	7-15	1-2	3-15	>15
3	Building structure	Criteria	Required fire-resistance performance and fire protection class											
13	Fire-retardant dividing wall - EW criteria can be applied instead of EI for the dividing wall in a band above 2.1 m height measured from the floor surface used for traffic and escape	EI (EW)	15					30						

Since the fire protection class of the block structure is A2 and the fire protection performance is also EI 120, and the above table specifies a requirement of EI 30 fire-resistance, this wall structure is allowed to be built-in irrespective of the number of floors and risk classification.

2.5 Usability in case of wall structure on fire section border (in case of barrier against fire-spreading on façade):

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior, that is the building permit was issued **after 22nd January 2020**)

This is figure 6 of the valid "fire-spreading" TVMI showing the barrier against fire-spreading on the façade at the fire section border.

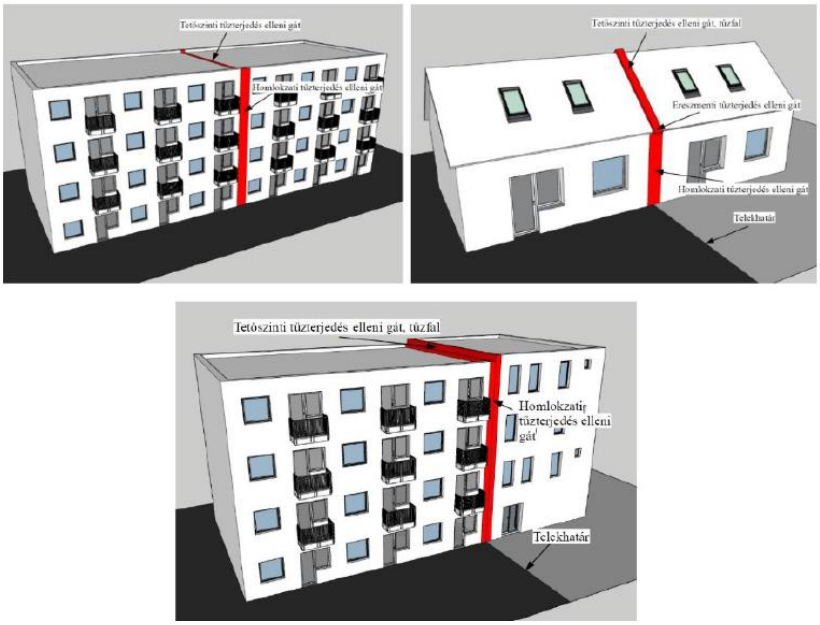

Fig. 6

Principle of establishing barriers against spreading of fire

Tetőszinti tűzterjedés elleni gát: barrier on roof against spreading of fire

Homlokzati tűzterjedés elleni gát: barrier on façade against spreading of fire

Ereszmenti tűzterjedés elleni gát: barrier by gutter against spreading of fire

Telekhatár: site limits

Tűzfal: fire-wall

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class and fire-resistance performance of the wall structure on fire section borders will be as follows:

2.2.2 Infilling wall structure fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Outer and inner infilling wall (thickness: 410 mm; max height: 4000 mm) fire-	EI 240 (recycled) EI 240 (original) A2 (recycled)	MSZ EN 13501-2:2007 +A1:2010

resistance limit and fire protection class	A2 (original)	54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §
Outer and inner infilling wall (thickness: 340 mm, max height: 4000 mm) fire-resistance limit and fire protection class	EI 120 (recycled) EI 120 (original) A2 (recycled) A2 (original)	MSZ EN 13501-2:2007 +A1:2010 54/2014 (XII 5) regulation of the Ministry of Interior (OTSZ) 14th §

Based on line 12 of table 1 of Annex 2 of the OTSZ the fire protection class requirement of the barrier against fire-spreading is A2, its fire protection performance is the same as the wall's fire protection requirements, but maximum EI 90. Since the fire protection class of the block structure is A2 and the fire protection performance is minimum EI 120, this wall structure is allowed to be built-in irrespective of the number of floors and risk classification, according to the OTSZ requirements.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Standard risk class		NAK	NAK	NAK	AK	AK	AK	KK	KK	KK	MK	MK	MK
2	Number of floors in building, individual building part (based on paragraph (4) of the 12th §)		In case of 1-2 industrial, agricultural, storage basic systems. In case of 1-3 residential basic systems.	In case of 3 industrial, agricultural, storage basic systems. In case of 1-3 community basic systems.	4	1-2	3	4-7	1-2	3-6	7-15	1-2	3-15	>15
3	Building structure	Criteria	Required fire-resistance performance and fire protection class											
12	Barrier against fire-spread		Fire-resistance performance at least equal to requirements set out for the connected floor, and wall, but at most 90 A2											

All 3 issued "protection against fire-spreading" TVMIs include solutions for protection against façade fire-spreading.

Based on paragraph 4.2.1 of the TVMI:

4.2.1 Protection against façade fire-spread can be provided by

- building structure with a fire-resistance performance reaching or exceeding the façade fire-spread limit requirements specified for the given number of floors, or

This is available according to the wall structure's NMÉ.

Based on paragraph 4.2.2 of the TVMI:

4.2.2 Barriers against fire-spreading on vertical or horizontal façade are suitable for protection against façade fire-spreading on a fire section border, which

- have fire protection characteristics complying with the relevant requirements, and

- taking their size into account comply with the geometry of the figures included in paragraph 4.3 of this directive.

Therefore, according to point 4.2.2 of the TVMI, if requirements set out in paragraph 4.3 are observed (barrier against façade fire-spreading is minimum 90 cm), then the wall structure is suitable for establishing a fire-wall irrespective of the number of floors and risk classification.

2.6 Wall covering, suspended ceiling, ceiling cover, heat and sound insulation on escape route:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior, that is the building permit was issued **after 22nd January 2020**)

Requirements are set out by point 1.3 of the given NMÉ. In case of compliance with these parts the fire protection class, smoke generating capacity, and burning dripping of the wall and ceiling covers will be as follows:

2.2.1 Masonry units fire prevention characteristics

Basic characteristics	Performance	Evaluation method
Masonry units fire prevention characteristics	A2-s1, d0 (recycled) A2-s1, d0 (original)	MSZ EN 13501-2:2007 +A1:2010

Based on lines 21, 22 of table 1 of Annex 2 of the OTSZ the wall covering, ceiling covering, heat and sound insulation usable on the escape route will be as follows:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Standard risk class		NAK	NAK	NAK	AK	AK	AK	KK	KK	KK	MK	MK	MK
2	Number of floors in building, individual building part (based on paragraph (4) of the 12th §)		In case of 1-2 industrial, agricultural, storage basic systems. In case of 1-3 residential basic systems.	In case of 3 industrial, agricultural, storage basic systems. In case of 1-3 community basic systems.	4	1-2	3	4-7	1-2	3-6	7-15	1-2	3-15	>15
3	Building structure	Criteria	Required fire-resistance performance and fire protection class											
19	Escape route floor covering		Dfl-s1			Dfl-s1		Cfl-s1	Dfl-s1	Bfl-s1		Bfl-s1		
20	Escape route floor covering in staircase									Bfl-s1	A2fl-s1	Bfl-s1	A2fl-s1	
21	Escape route floor covering, suspended ceiling, ceiling covering		D-s1, d0			D-s1, d0		C-s1, d0	D-s1, d0	B-s1, d0	A2-s1, d0	B-s1, d0	A2-s1, d0	
22	Escape route heat and sound insulation, with or without covering		B-s1, d0			B-s1, d0		A2-s1, d0	A2-s1, d0			A2-s1, d0		

The above table shows that in case of wall covering, suspended ceiling, or ceiling covering this block wall structure is allowed to be used in case of heat and sound insulation irrespective of the number of floors and the risk class.

Therefore, based on this fire protection expert's opinion it can be stated that in case of the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior, **only the fire-wall is subject to A1 fire protection class requirement,** therefore, in case of this wall structure the use of block wall structure is not allowed.

2.7 Usability in case of fire-retardant dividing wall:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior, that is the building permit was issued **after 22nd January 2020**)

Page 18 of the given NMÉ shows the layer order of polystyrene concrete dividing wall.

3-1-0-0-0-01 Dividing wall layer order Wall height: max 3.00 m Raw wall thickness: min 80 mm		
Thickness/layer	Layer/structure	Note
5 mm	Surface finish: gypsum plastering reinforced with glass-wool	Painted or papered surface
80-200 mm	500-600 mm wide WYW Block polystyrene concrete panel	Fastened to the connecting structures by J 93 (v=1.5 mm) steel profile and PUR adhesive, to each other by PUR adhesive
5 mm	Surface finish: gypsum plastering reinforced with glass-wool	Painted or papered surface

In case of observing this order of layers and the related conditions the fire protection performance provided according to page 22 of the NMÉ is A2 EI 60.

Basic characteristics	Performance	Evaluation method
3-1-0-0-0-01 marked dividing wall (80-200 mm thick) fire-resistance value and fire-protection class	E 90, EI 60 A2	MSZ EN 13501-2:2007 +A1:2010 28/2011 (IX 6) regulation of the Ministry of Interior (OTSZ) 300th §

Based on line 13 of table 1 of Annex 2 of the OTSZ the fire-protection class requirements of the fire-retardant dividing wall are as per the table below. Since the fire-prevention class is A2, the fire-resistance performance is EI 60 of the dividing wall structure, according to the OTSZ requirements the fire-retardant dividing wall structure is allowed to be built in
Unlimitedly in case of NAK risk,
Unlimitedly in case of AK risk,
Unlimitedly in case of KK risk,
Unlimitedly in case of MK risk.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Standard risk class		NAK	NAK	NAK	AK	AK	AK	KK	KK	KK	MK	MK	MK
2	Number of floors in building, individual building part (based on paragraph (4) of the 12th §)		In case of 1-2 industrial, agricultural, storage basic systems. In case of 1-3 residential basic systems.	In case of 3 industrial, agricultural, storage basic systems. In case of 1-3 community basic systems.	4	1-2	3	4-7	1-2	3-6	7-15	1-2	3-15	>15
3	Building structure	Criteria	Required fire-resistance performance and fire protection class											
13	Fire-retardant dividing wall - EW criteria can be applied instead of EI for the dividing wall in a band above 2.1 m height measured from the floor surface used for traffic and escape	EI (EW)	15					30						

The above table shows that in case of the fire-retardant dividing wall this 80 mm thick wall structure is allowed to be built in as a fire-retardant dividing wall in all cases irrespective of risk classification and the number of floors.

2.8. Usability in case of mechanical core:

(according to the national fire prevention regulations put into force by regulation No. 54/2014 (XII 5) of the Ministry of Interior, amended by regulation No. 30/2019 (VII 26) of the Ministry of Interior, that is the building permit was issued **after 22nd January 2020**)

Page 18 of the given NMÉ shows the layer order of polystyrene concrete dividing wall.

3-1-0-0-0-01 Dividing wall layer order Wall height: max 3.00 m Raw wall thickness: min 80 mm		
Thickness/layer	Layer/structure	Note
5 mm	Surface finish: gypsum plastering reinforced with glass-wool	Painted or papered surface
80-200 mm	500-600 mm wide WYW Block polystyrene concrete panel	Fastened to the connecting structures by J 93 (v=1.5 mm) steel profile and PUR adhesive, to each other by PUR adhesive
5 mm	Surface finish: gypsum plastering reinforced with glass-wool	Painted or papered surface

In case of observing this order of layers and the related conditions the fire protection performance provided according to page 22 of the NMÉ is A2 EI 60.

Basic characteristics	Performance	Evaluation method
3-1-0-0-0-01 marked dividing wall (80-200 mm thick) fire-resistance value and fire-protection class	E 90, EI 60 A2	MSZ EN 13501-2:2007 +A1:2010 28/2011 (IX 6) regulation of the Ministry of Interior (OTSZ) 300th §

Based on paragraphs 1 and 6 of the 27th § of the effective OTSZ: "*27 § (1) Spreading of fire through the lead-through locations of electric or engineering wires crossing the building structures between the rooms, and having E and I fire-resistance performance set out by this regulation, and in the gaps between the building structures, in the openings, and clearances for the period of the fire-resistance performance requirement on the given building structure with that lead-through."*

"(6) The electric and mechanical core lead through the building floors' parts located in the same fire section should be established and placed in a way that fire cannot spread between

building floors above each other during the fire-resistance performance requirement period prescribed for the slab between the storeys, except for spreading within the mechanical wire."

That is, in case of mechanical cores fire-resistance relevant to the slab fire-resistance should be provided for. Therefore, based on line 5 of table 1 of annex 2 of the OTSZ the floor's fire protection classification requirement is as per the table.

Since the fire protection class of the polystyrene concrete dividing wall structure is A2, and the fire-resistance performance is EI 60, based on the OTSZ requirements it is allowed to be built in the mechanical core wall structure:
Unlimitedly in case of NAK risk,
Unlimitedly in case of AK risk,
Up to 6 building floors in case of KK risk,
Up to 2 building floors in case of MK risk.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Standard risk class		NAK	NAK	NAK	AK	AK	AK	KK	KK	KK	MK	MK	MK
2	Number of floors in building, individual building part (based on paragraph (4) of the 12th §)		In case of 1-2 industrial, agricultural, storage basic systems. In case of 1-3 residential basic systems.	In case of 3 industrial, agricultural, storage basic systems. In case of 1-3 community basic systems.	4	1-2	3	4-7	1-2	3-6	7-15	1-2	3-15	>15
3	Building structure	Criteria	Required fire-resistance performance and fire protection class											
5	Floors above basement level, between storeys, slabs under the attic and attic slabs - slabs playing part in preventing spreading of fire are also subject to EI criteria - the fire protection class requirement of	R	15 D	30 D	60 D	30 D	30 C	60 A2	30 A2	60 A2	90 A2	60 A2	90 A2	90 A2

	structures over basement level is at least A2, the fire-resistance performance requirement is at least R30													

The above table shows that as a wall structure for the engineering core the 80 mm thick polystyrene concrete dividing wall structure is allowed to be used in all cases, except for KK risk and above 6 building floors, and for MK risk and above 2 building floors.

Kecskemét, 30th April 2020

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