



**PAVUS, a.s.**

Order No.  
Z220200107

**FIRE CLASSIFICATION APPROVAL  
ON FIRE RESISTANCE  
No. PKO-20-044**

for products  
**Fire resistant walls made of FIRESTOP boards**

Performed on the basis of:  
fire resistance test reports and the test result analysis

**Sponsor: KRONOSPAN OSB, spol. s r.o.**  
Na Hranici 6  
587 04 Jihlava  
Czech republic

**References:**

**ČSN EN 1365-1 Fire resistance tests for loadbearing elements - Part 1: Walls**  
**ČSN 73 0810 Fire safety of buildings – General provisions**

The fire classification approval includes 18 pages of text

Number of copies: 2

Copy number: 1

The fire classification report is done based on the agreement No. Z220200107 between the certificate sponsor, company KRONOSPAN OSB, spol. s r.o. and its elaborator, company PAVUS, a.s.

## 1. TECHNICAL PRODUCT DESCRIPTION

### 1.1 General

Fire resistant walls made of FIRESTOP boards have been defined as loadbearing walls with a fire separating function with regards to their parameters of fire resistance mentioned in ČSN 73 0810.

### 1.2 Description of structures

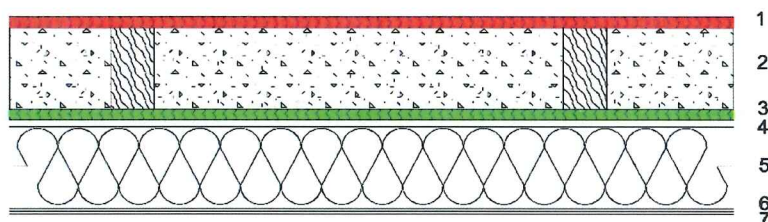
For a detailed description of assessed structures is given in analysis of the test result No. Z220200107.

Maximum wall height is 3000 mm.

The timber used is class C 24 or better.

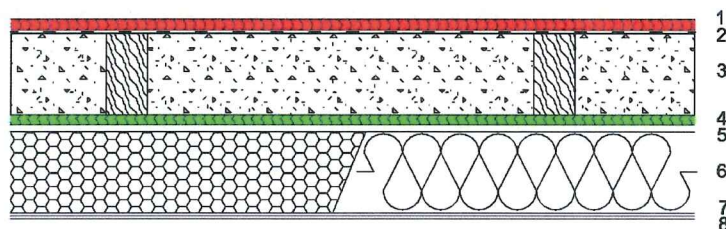
#### 1.2.1 EWO.CMW.BI

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Loadbearing timber stud – 120 x 60 mm / 625 mm / The room between the studs is filled with thermal insulation made of blown cellulose Climatizer® Plus (producer CIUR a.s., density 73 kg·m <sup>-3</sup> )	120,0 mm
	3) DFP (KRONOSPAN)	15,0 mm
	4) Adhesive levelling compound	10 mm
	5) Mineral wool thermal insulation - glued all over	min. 60 mm
	6) Prime layer	4 mm
	7) Thin-layer plaster	1,5 mm
	<b>Total</b>	<b>226,5 mm</b>



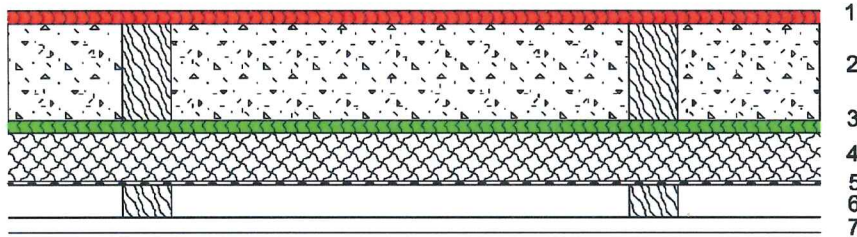
#### 1.2.2 EWU.CEPS.BI

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Vapour barrier	-
	3) Loadbearing timber stud – 120 x 60 mm / 625 mm / The room between the studs is filled with thermal insulation made of blown cellulose Climatizer® Plus (producer CIUR a.s., density 73 kg·m <sup>-3</sup> )	120,0 mm
	4) OSB 3 board (KRONOSPAN)	15,0 mm
	5) Adhesive levelling compound	10 mm
	6) Thermal insulation from MW or EPS mechanically anchored	min. 60 mm
	7) Prime layer	4 mm
	8) Thin-layer plaster	1,5 mm
	<b>Total</b>	<b>226,5 mm</b>



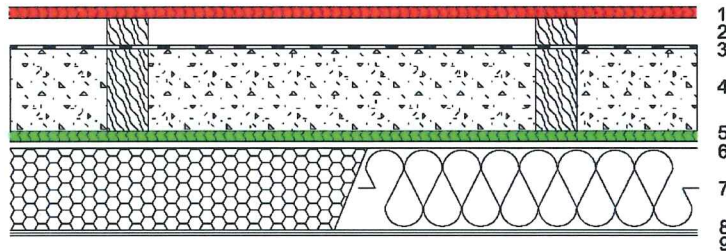
1.2.3 EWO.V-WF.BI

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Loadbearing timber stud – 120 x 60 mm / 625 mm / The room between the studs is filled with thermal insulation made of blown cellulose Climatizer® Plus (producer CIUR a.s., density 73 kg·m <sup>-3</sup> )	120,0 mm
	3) DFP (KRONOSPAN)	15,0 mm
	4) Wood-fibre thermal insulation Steico	min. 60 mm
	5) DHV	-
	6) Vertical unidirectional timber grid + ventilated air layer	40 mm
	7) Timber sheathing	19,0 mm
	<b>Total</b>	<b>270,0 mm</b>



1.2.4 EWU.CEPS.BI.IG

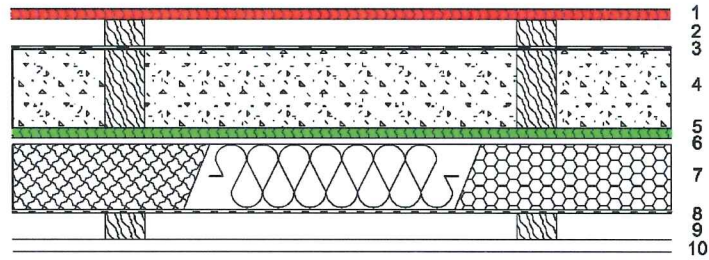
structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Bidirectional grid	40,0 mm
	3) Vapour barrier - PE foil	-
	4) Loadbearing timber stud – 120 x 60 mm / 625 mm / The room between the studs is filled with thermal insulation made of blown cellulose Climatizer® Plus (producer CIUR a.s., density 73 kg·m <sup>-3</sup> )	120,0 mm
	5) OSB 3 board (KRONOSPAN)	15,0 mm
	6) Adhesive levelling compound	10 mm
	7) EPS thermal insulation, resp. MV - mechanically anchored	min. 60 mm
	8) Prime layer	4,0 mm
	9) Thin-layer plaster	1,5 mm
	<b>Total</b>	<b>266,5 mm</b>



1.2.5 EWU.V-MW-BI

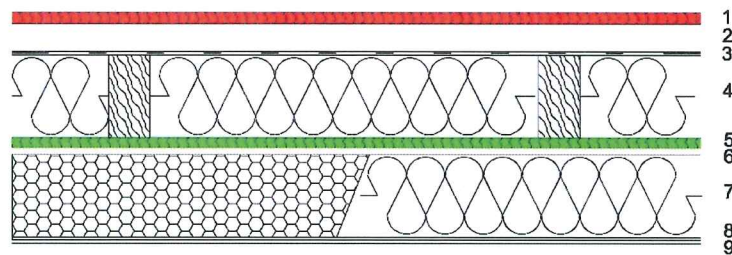
structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Bidirectional grid	40,0 mm
	3) Vapour barrier - PE foil	-
	4) Loadbearing timber stud – 120 x 60 mm / 625 mm / The room between the studs is filled with thermal insulation made of blown cellulose Climatizer® Plus (producer CIUR a.s., density 73 kg·m <sup>-3</sup> )	120,0 mm
	5) OSB 3 board (KRONOSPAN)	15,0 mm
	6) Adhesive levelling compound	10,0 mm
	7) EPS thermal insulation, resp. MV, resp. wood-fibre board - mechanically anchored	min. 60 mm
	8) DHV	-
	9) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	10) Timber sheathing	19,0 mm
	<b>Total</b>	<b>264,0 mm</b>





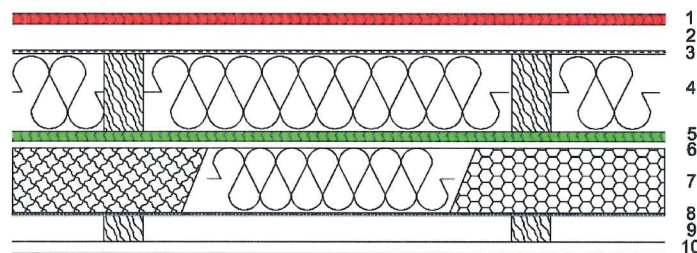
1.2.6 EWU.V-A.MW.IG

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Vapour barrier - PE foil	-
	4) Loadbearing timber stud – 120 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Knauf Insulation type MPN (producer KNAUF INSULATION s.r.o., 30 kg·m <sup>-3</sup> )	120,0 mm
	5) OSB 3 board (KRONOSPAN)	15,0 mm
	6) Adhesive levelling compound	10,0 mm
	7) EPS thermal insulation, resp. MV - mechanically anchored	min. 60 mm
	8) Prime layer	4,0 mm
	9) Thin-layer plaster	1,5 mm
	<b>Total</b>	<b>266,5 mm</b>



1.2.7 EWU.CEPS.MW.IG

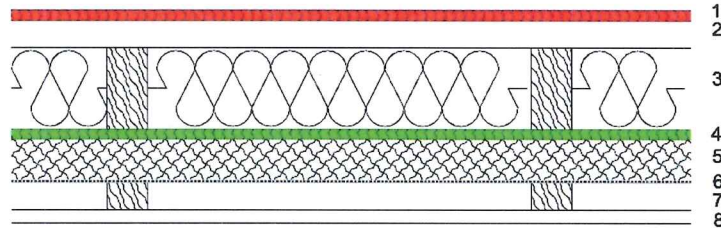
structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Vapour barrier - PE foil	-
	4) Loadbearing timber stud – 120 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Knauf Insulation type MPN (producer KNAUF INSULATION s.r.o., 30 kg·m <sup>-3</sup> )	120,0 mm
	5) OSB 3 board (KRONOSPAN)	15,0 mm
	6) Adhesive levelling compound	10,0 mm
	7) EPS thermal insulation, resp. MV, resp. wood-fibre board	min. 60 mm
	8) DHV	-
	9) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	10) Timber sheathing	19,0 mm
	<b>Total</b>	<b>320,0 mm</b>





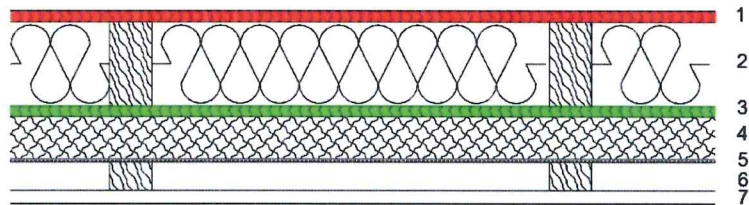
1.2.8 EWO.V-WF.MW.IG

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Loadbearing timber stud – 120 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Knauf Insulation type MPN (producer KNAUF INSULATION s.r.o., 30 kg·m <sup>-3</sup> )	120,0 mm
	4) DFP (KRONOSPAN)	15,0 mm
	5) Thermal insulation wood-fibre board	min. 60 mm
	6) DHV	-
	7) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	8) Timber sheathing	19,0 mm
	<b>Total</b>	<b>310,0 mm</b>



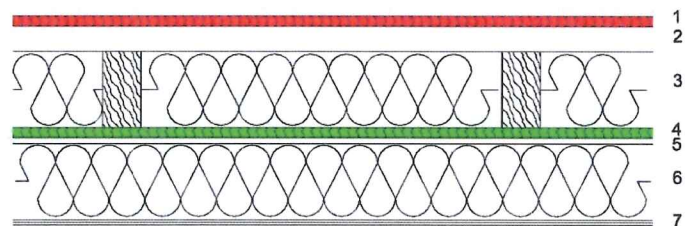
1.2.9 EWO.V-WF.MW

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Loadbearing timber stud – 120 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Knauf Insulation type MPN (producer KNAUF INSULATION s.r.o., 30 kg·m <sup>-3</sup> )	120,0 mm
	3) DFP (KRONOSPAN)	15,0 mm
	4) Thermal insulation wood-fibre board	min. 60 mm
	5) DHV	-
	6) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	7) Timber sheathing	19,0 mm
	<b>Total</b>	<b>270,0 mm</b>



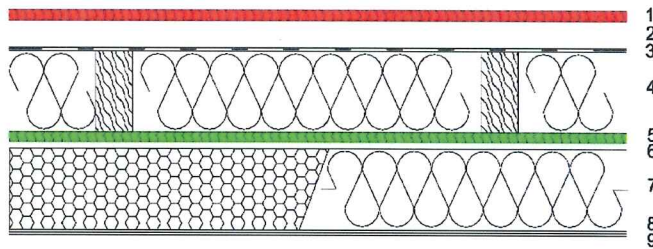
1.2.10 EWO.C-MW.MW

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Loadbearing timber stud – 120 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Knauf Insulation type MPN (producer KNAUF INSULATION s.r.o., 30 kg·m <sup>-3</sup> )	120,0 mm
	4) DFP (KRONOSPAN)	15,0 mm
	5) Adhesive levelling compound	10,0 mm
	6) Mineral wool thermal insulation - mechanically anchored	min. 60 mm
	7) Prime layer	4,0 mm
	8) Thin-layer plaster	1,5 mm
	<b>Total</b>	<b>266,5 mm</b>



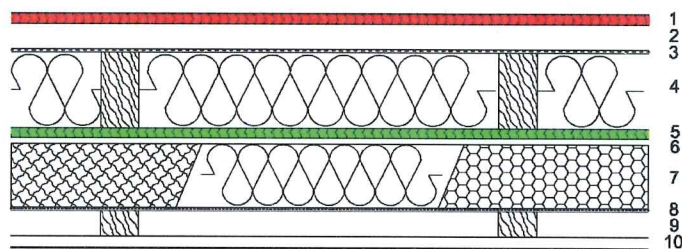
1.2.11 EWU.C-EPS.MW.IG

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Vapour barrier - PE foil	
	4) Loadbearing timber stud – 140 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	140,0 mm
	5) OSB 3 board (KRONOSPAN)	15,0 mm
	6) Adhesive levelling compound	10,0 mm
	7) EPS thermal insulation, resp. MW - mechanically anchored	min. 60 mm
	8) Prime layer	4,0 mm
	9) Thin-layer plaster	1,5 mm
	<b>Total</b>	<b>286,5 mm</b>



1.2.12 EWU.V-A.MW.IG

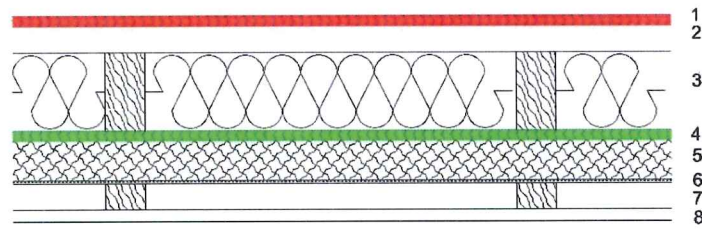
structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Vapour barrier - PE foil	-
	4) Loadbearing timber stud – 140 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	140,0 mm
	5) OSB 3 board (KRONOSPAN)	15,0 mm
	6) Adhesive levelling compound	10,0 mm
	7) EPS thermal insulation, resp. MV, resp. wood-fibre board	min. 60 mm
	8) DHV	-
	9) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	10) Timber sheathing	19,0 mm
	<b>Total</b>	<b>340,0 mm</b>



1.2.13 EWO.V-WF.MW.IG

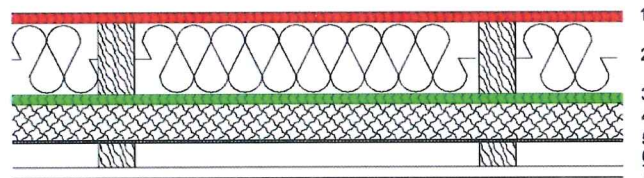
structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Loadbearing timber stud – 140 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	140,0 mm
	4) DFP (KRONOSPAN)	15,0 mm
	5) Thermal insulation wood-fibre board	60 mm
	6) DHV	-
	7) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	8) Timber sheathing	19,0 mm
	<b>Total</b>	<b>330,0 mm</b>





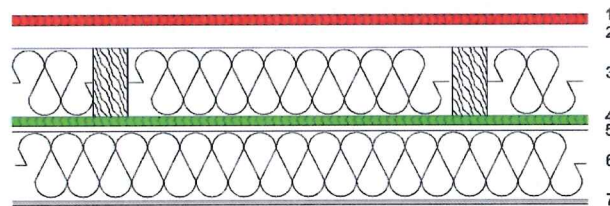
1.2.14 EWO.V-WF.MW

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Loadbearing timber stud – 140 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	140,0 mm
	3) DFP (KRONOSPAN)	15,0 mm
	4) Thermal insulation wood-fibre board	60 mm
	5) DHV	-
	6) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	7) Timber sheathing	19,0 mm
	<b>Total</b>	<b>290,0 mm</b>



1.2.15 EWO.C-MW.MW

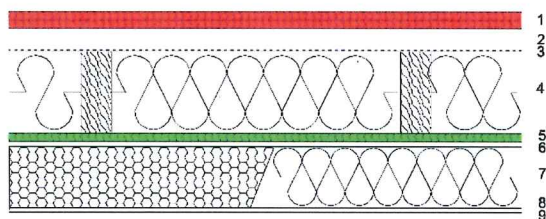
structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Loadbearing timber stud – 140 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	140,0 mm
	4) DFP (KRONOSPAN)	15,0 mm
	5) Adhesive levelling compound	10 mm
	6) Mineral wool thermal insulation - mechanically anchored	min. 60 mm
	7) Prime layer	4,0 mm
	7) Thin-layer plaster	1,5 mm
	<b>Total</b>	<b>286,5 mm</b>



1.2.16 EWU.C-EPS.MWIG.2

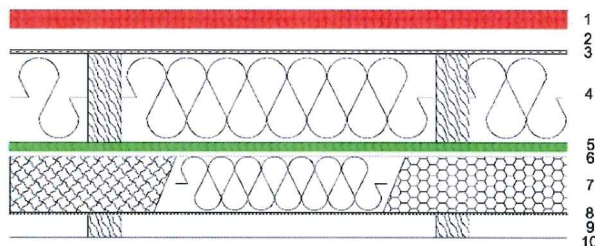
structure:	1) 2x OSB board FIRESTOP (KRONOSPAN)	32,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Vapour barrier - PE foil	-
	4) Loadbearing timber stud – 160 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Isover WOODSIL (producer Saint-Gobain Construction Products CZ a.s., 38 kg·m <sup>-3</sup> ) or ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	160,0 mm
	5) OSB 3 board (KRONOSPAN)	15,0 mm
	6) Adhesive levelling compound	10 mm
	7) EPS thermal insulation, resp. MW - mechanically anchored	min. 60 mm
	8) Prime layer	4,0 mm
	9) Thin-layer plaster	1,5 mm
	<b>Total</b>	<b>302,5 mm</b>





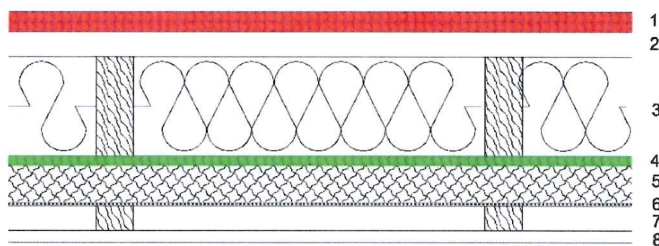
1.2.17 EWU.V-A.MW.IG.2

structure:	1) 2x OSB board FIRESTOP (KRONOSPAN)	32,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Vapour barrier - PE foil	-
	4) Loadbearing timber stud – 160 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Isover WOODSIL (producer Saint-Gobain Construction Products CZ a.s., 38 kg·m <sup>-3</sup> ) or ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	160,0 mm
	5) OSB 3 board (KRONOSPAN)	15,0 mm
	6) Adhesive levelling compound	10 mm
	7) EPS thermal insulation, resp. MV, resp. wood-fibre board - mechanically anchored	min. 60 mm
	8) DHV	-
	9) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	10) Timber sheathing	19,0 mm
	<b>Total</b>	<b>356,0 mm</b>



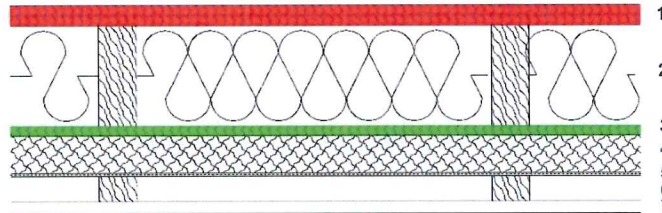
1.2.18 EWO.V-WF.MW.IG.2

structure:	1) 2x OSB board FIRESTOP (KRONOSPAN)	32,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Loadbearing timber stud – 160 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Isover WOODSIL (producer Saint-Gobain Construction Products CZ a.s., 38 kg·m <sup>-3</sup> ) or ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	160,0 mm
	4) DFP (KRONOSPAN)	15,0 mm
	5) Thermal insulation wood-fibre board	min. 60 mm
	6) DHV	-
	7) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	8) Timber sheathing	19,0 mm
	<b>Total</b>	<b>346,0 mm</b>



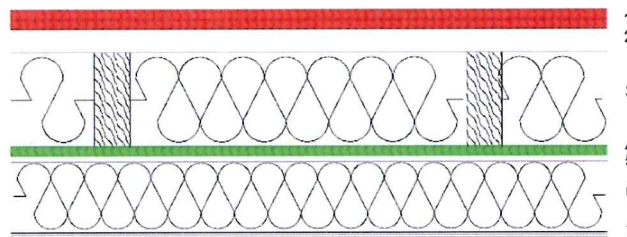
1.2.19 EWO.V-WF.MW.2

structure:	1) 2x OSB board FIRESTOP (KRONOSPAN)	32,0 mm
	2) Loadbearing timber stud – 160 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Isover WOODSIL (producer Saint-Gobain Construction Products CZ a.s., 38 kg·m <sup>-3</sup> ) or ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	160,0 mm
	3) DFP (KRONOSPAN)	15,0 mm
	4) Thermal insulation wood-fibre board	min. 60 mm
	5) DHV	-
	6) Vertical unidirectional timber grid + ventilated air layer	40,0 mm
	7) Timber sheathing	19,0 mm
	<b>Total</b>	<b>306,0 mm</b>



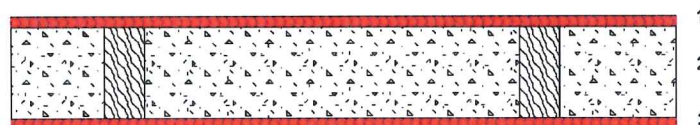
1.2.20 EWO.C-MW.MW.2

structure:	1) 2x OSB board FIRESTOP (KRONOSPAN)	32,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Loadbearing timber stud – 160 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Isover WOODSIL (producer Saint-Gobain Construction Products CZ a.s., 38 kg·m <sup>-3</sup> ) or ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	160,0 mm
	4) DFP (KRONOSPAN)	15,0 mm
	5) Adhesive levelling compound	10 mm
	6) Mineral wool thermal insulation - mechanically anchored	min. 60 mm
	7) Prime layer	4,0 mm
	7) Thin-layer plaster	1,5 mm
	<b>Total</b>	<b>302,5 mm</b>



1.2.21 IW.BI

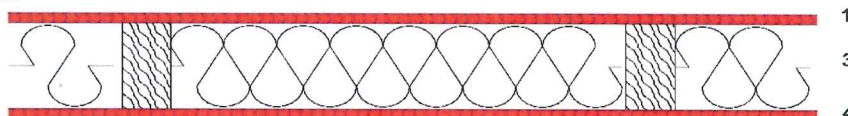
structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Loadbearing timber stud – 120 x 60 mm every 625 mm / The room between the studs is filled with thermal insulation made of blown cellulose Climatizer® Plus (producer CIUR a.s., density 73 kg·m <sup>-3</sup> )	120,0 mm
	3) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	<b>Total</b>	<b>152,0 mm</b>





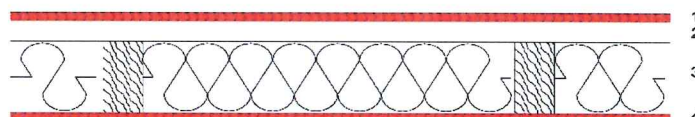
1.2.22 IW.MW (REI 45)

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Loadbearing timber stud – 120 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Knauf Insulation type MPN (producer KNAUF INSULATION s.r.o., Slovakia, 30 kg·m <sup>-3</sup> )	120,0 mm
	3) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	<b>Total</b>	<b>152,0 mm</b>



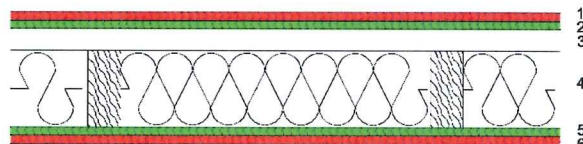
1.2.23 IW.MW.IG

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40 mm
	3) Loadbearing timber stud – 120 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Knauf Insulation type MPN (producer KNAUF INSULATION s.r.o., Slovakia, 30 kg·m <sup>-3</sup> )	120,0 mm
	4) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	<b>Total</b>	<b>192,0 mm</b>



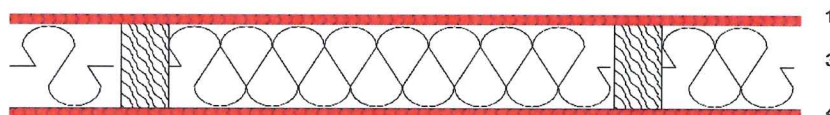
1.2.24 IW.MW.IG.AKU

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) OSB 3 board (KRONOSPAN)	15,0 mm
	3) Unidirectional grid - laths 40x60 mm	40,0 mm
	4) Loadbearing timber stud – 120 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation Knauf Insulation type MPN (producer KNAUF INSULATION s.r.o., Slovakia, 30 kg·m <sup>-3</sup> )	120,0 mm
	5) OSB 3 board (KRONOSPAN)	15,0 mm
	6) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	<b>Total</b>	<b>222,0 mm</b>



1.2.25 IW.MW

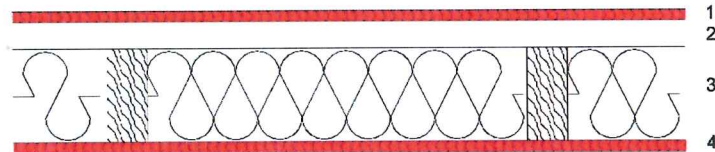
structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	3) Loadbearing timber stud – 140 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	140,0 mm
	4) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	<b>Total</b>	<b>172,0 mm</b>





## 1.2.26 IW.MW.IG

structure:	1) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	2) Unidirectional grid - laths 40x60 mm	40,0 mm
	3) Loadbearing timber stud – 140 x 60 mm every 625 mm / The room between the studs is filled with mineral fibre thermal insulation ROCKMIN PLUS (producer ROCKWOOL, a.s., 34 kg·m <sup>-3</sup> )	140,0 mm
	4) OSB board FIRESTOP (KRONOSPAN)	16,0 mm
	<b>Total</b>	<b>212,0 mm</b>



## 2. LIST OF TECHNICAL STANDARDS AND REFERENCES IN SUPPORT OF FIRE CLASSIFICATION APPROVAL

### 2.1 Test reports

Name of lab. Address Accreditation No.	Test report sponsor	Test report No. Date of issue Date of testing	Test method
PAVUS, a. s. Veselí nad Lužnicí AZL No. 1026	KRONOSPAN CR, spol. s r.o. Na Hranici 6 587 04 Jihlava Czech Republic	Pr-14-2.044 29-04-2014 20-02-2014	ČSN EN 1365-1
		Pr-14-2.045 29-04-2014 25-02-2014	
		Pr-15-2.031 14-07-2015 10-04-2015	
		Pr-15-2.053 16-07-2015 19-05-2015	
		Pr-15-2.112 21-01-2016 16-09-2015	
		Pr-15-2.113 14-12-2015 03-09. 2015	
		Pr-15-2.133 18-02-2016 20-10-2015	
		Pr-15-2.096 14-12-2015 10-08-2015	
		Pr-16-2.100 20-04-2016 19-02-2016	

## 2.2 Test results analysis

Name Address	Test report sponsor	Test report No. Date of issue	Test method
PAVUS, a. s. Prosecká 412/74 190 00 Prosek	KRONOSPAN CR, spol. s r.o. Na Hranici 6 587 04 Jihlava Czech republic	Z220200107 16-06-2020	ČSN 73 0810

## 2.3 References

- [1] ČSN 73 0810 Fire safety of buildings – General provisions
- [2] ČSN EN 1365-1 Fire resistance tests for loadbearing elements - Part 1: Walls
- [3] ČSN EN 1363-1 Fire resistance tests – Part 1: General requirements
- [4] ČSN EN 1363-2 Fire resistance tests - Part 2: Alternative and additional procedures

## 3. RESULTS OF THE PERFORMED TESTS

### 3.1 Performed tests

- 3.1.1 Test of loadbearing wall with timber frame 60/120 and OSB Pyrotite ECO, type LBW 60/120 - Pyrotite 15 (specimen No. 1)

Structure from the ext.: -OSB Superfinish ECO 15,0 mm  
 -Mineral insulation Rockmin +stud KVH 120/60 120,0 mm  
 -Pyrotite (OSB Firestop) 17,0 mm

Test method and report	Parameter	Result	
ČSN EN 1365-1 No. Pr-14-2.044	Wall with standard curve applied from one side		
	Applied load	32,04 kN/m	
	Supporting construction	Embedded all over the length	
	<b>Criterion</b>	<b>Partial criterion</b>	<b>Measured value <sup>1)</sup></b>
	<b>Loadbearing capacity</b>	Contraction	<b>52 min</b> , no failure
		Rate of contraction	<b>52 min</b> , no failure
	<b>Integrity</b>	Cotton pad	<b>52 min</b> no failure
		Gap gauge passage	<b>52 min</b> no failure
		Sustained flaming	<b>52 min</b> no failure
	<b>Insulation</b>	Mean temperature	<b>52 min</b> , no failure
Maximum temperature		<b>52 min</b> , no failure	

Note: <sup>1)</sup> End of test in 53<sup>rd</sup> test minute.

Fire resistance of sandwich wall panel REI 45 / REW 45<sup>\*)</sup> (i→o).

<sup>\*)</sup> Classification REW 45 has been performed in compliance with ČSN EN 13501-2, National note<sup>NP1)</sup>.

### 3.1.2 Test of loadbearing wall with timber frame 60/160 and OSB Pyrotite ECO, type LBW 60/160 - Pyrotite 2 x 15 (specimen No. 2)

<u>Structure from the ext.:</u>	-OSB Superfinish ECO	15,0 mm
	-Mineral insulation Woodsil + stud KVH 160/60	160,0 mm
	-OSB Pyrotite ECO (OSB Firestop ECO)	17,0 mm
	-OSB Pyrotite ECO (OSB Firestop ECO)	17,0 mm

Test method and report	Parameter	Result	
ČSN EN 1365-1 No. Pr-14-2.045	Wall with standard curve applied from one side		
	Applied load	73,14 kN/m	
	Supporting construction	Embedded all over the length	
	<b>Criterion</b>	<b>Measured value <sup>1)</sup></b>	<b>Measured value <sup>1)</sup></b>
	<b>Loadbearing capacity</b>	Contraction	<b>82 min</b> , no failure
		Rate of contraction	<b>82 min</b> , no failure
	<b>Integrity</b>	Cotton pad	<b>82 min</b> no failure
		Gap gauge passage	<b>82 min</b> no failure
		Sustained flaming	<b>82 min</b> no failure
	<b>Insulation</b>	Mean temperature	<b>82 min</b> , no failure
Maximum temperature		<b>82 min</b> , no failure	

Note: <sup>1)</sup> End of test in 83<sup>rd</sup> test minute.

#### Fire resistance of sandwich wall panel REI 60 / REW 60 (i→o).

### 3.1.3 Test of loadbearing wall LBW 60/120 - Firestop 16 - EMPTY (specimen No. 3)

<u>Structure from the ext.:</u>	-OSB Superfinish ECO	15,0 mm
	-Air gap +studs 120/60	120,0 mm
	-OSB Firestop	16,0 mm

Test method and report	Parameter	Result	
ČSN EN 1365-1 No. Pr-15-2.031	Wall with standard curve applied from one side		
	Applied load	32,04 kN/m	
	Supporting construction	Embedded all over the length	
	<b>Criterion</b>	<b>Measured value <sup>1)</sup></b>	<b>Measured value <sup>1)</sup></b>
	<b>Loadbearing capacity</b>	Contraction	<b>28 min</b> , no failure
		Rate of contraction	<b>28 min</b> , no failure
	<b>Integrity</b>	Cotton pad	<b>27 min</b>
		Gap gauge passage	<b>28 min</b>
		Sustained flaming	<b>27 min</b>
	<b>Insulation</b>	Mean temperature	<b>27 min</b> , no failure
Maximum temperature		<b>27 min</b> , no failure	

Note: <sup>1)</sup> End of test in 29<sup>th</sup> test minute.

#### Fire resistance of sandwich wall panel REI 20 / REW 20 (i→o).



## 3.1.4 Test of loadbearing wall LBW 60/140 - Firestop 16 - MW (specimen No.4)

Structure from the ext.: -Wood-fibre board DFP 16,0 mm  
 -Mineral insulation Rockmin PLUS + studs 140/60 140,0 mm  
 -OSB Firestop 16,0 mm

Test method and report	Parameter	Result	
ČSN EN 1365-1 No. Pr-15-2.053	Wall with standard curve applied from one side		
	Applied load	32,04 kN/m	
	Supporting construction	Embedded all over the length	
	<b>Criterion</b>	<b>Measured value <sup>1)</sup></b>	<b>Measured value <sup>1)</sup></b>
	<b>Loadbearing capacity</b>	Contraction	<b>68 min</b>
		Rate of contraction	<b>68 min</b>
	<b>Integrity</b>	Cotton pad	<b>69 min, no failure</b>
		Gap gauge passage	<b>69 min, no failure</b>
		Sustained flaming	<b>69 min, no failure</b>
	<b>Insulation</b>	Mean temperature	<b>69 min, no failure</b>
Maximum temperature		<b>69 min, no failure</b>	

Note: <sup>1)</sup> End of test in 70<sup>th</sup> test minute.

**Fire resistance of sandwich wall panel REI 60 / REW 60 (i→o).**

## 3.1.5 Test of loadbearing wall with timber frame 60/140 with thermal insulation system, type LBW 60/140 - Firestop 16 - RW.ETIC (specimen No. 6)

Structure from the ext.: -Glued thermal insulation mineral wool Knauf and EPS 70 F 400 mm  
 -Glue - Rollkleber 615 2 mm  
 -OSB Superfinish ECO - 15 mm 15 mm  
 -Thermal insulation – stone wool Rock Rockmin (min. 28 kg·m<sup>-3</sup>) + timber load-bearing frame, studs KVH 60/140 140,0 mm  
 -OSB Firestop 16,0 mm

Test method and report	Parameter	Result	
ČSN EN 1365-1 No. Pr-15-2.112	Wall with standard curve applied from one side		
	Applied load	32,04 kN/m	
	Supporting construction	Embedded all over the length	
	<b>Criterion</b>	<b>Measured value <sup>1)</sup></b>	<b>Measured value <sup>1)</sup></b>
	<b>Loadbearing capacity</b>	Contraction	<b>75 min</b>
		Rate of contraction	<b>75 min</b>
	<b>Integrity</b>	Cotton pad	<b>75 min, no failure</b>
		Gap gauge passage	<b>75 min, no failure</b>
		Sustained flaming	<b>75 min, no failure</b>
	<b>Insulation</b>	Mean temperature	<b>75 min, no failure</b>
Maximum temperature		<b>75 min, no failure</b>	

Note: <sup>1)</sup> End of test in 76<sup>th</sup> test minute.

**Fire resistance of sandwich wall panel REI 60 / REW 60 (i→o).**

### 3.1.6 Test of loadbearing wall with timber frame 60/140 provided with a face wall from both sides, type LBW 60/140 - Firestop 16 - MW.2IG (specimen No. 7)

<u>Structure from the ext.:</u>	-OSB Superfinish ECO	15 mm
	-Laths 30/50	30 mm
	-Thermal insulation mineral wool Isover Orset + timber load-bearing frame, studs KVH 60/140	140,0 mm
	-Laths 30/50	30 mm
	-OSB Firestop ECO	16,0 mm

Test method and report	Parameter	Result	
ČSN EN 1365-1 No. Pr-15-2.113	Wall with standard curve applied from one side		
	Applied load	32,04 kN/m	
	Supporting construction	Embedded all over the length	
	<b>Criterion</b>	<b>Partial criterion</b>	<b>Measured value <sup>1)</sup></b>
	<b>Loadbearing capacity</b>	Contraction	<b>55 min</b>
		Rate of contraction	<b>55 min</b>
	<b>Integrity</b>	Cotton pad	<b>60 min, no failure</b>
		Gap gauge passage	<b>60 min, no failure</b>
		Sustained flaming	<b>60 min, no failure</b>
	<b>Insulation</b>	Mean temperature	<b>56 min, no failure</b>
Maximum temperature		<b>56 min, no failure</b>	

Note: <sup>1)</sup> End of test in 61<sup>st</sup> test minute.

#### Fire resistance of sandwich wall panel REI 45 / REW 45<sup>)</sup> (i→o).

<sup>)</sup> Classification REW 45 has been performed in compliance with ČSN EN 13501-2, National note<sup>NP1)</sup>.

### 3.1.7 Test of loadbearing wall with timber frame 60/140 provided with a face wall from one side, type LBW 60/140 - Firestop 16 - RW.IG (specimen No. 9)

<u>Structure from the ext.:</u>	- Wood-fibre board DFP P+D	16 mm
	-Thermal insulation mineral wool Isover Rock Rockmin + timber load-bearing frame, studs KVH 60/140	140,0 mm
	-Laths 30/50	30 mm
	-OSB Firestop	16,0 mm

Test method and report	Parameter	Result	
ČSN EN 1365-1 No. Pr-15-2.133	Wall with standard curve applied from one side		
	Applied load	32,04 kN/m	
	Supporting construction	Embedded all over the length	
	<b>Criterion</b>	<b>Partial criterion</b>	<b>Measured value <sup>1)</sup></b>
	<b>Loadbearing capacity</b>	Contraction	<b>62 min</b>
		Rate of contraction	<b>62 min</b>
	<b>Integrity</b>	Cotton pad	<b>62 min</b>
		Gap gauge passage	<b>62 min</b>
		Sustained flaming	<b>62 min</b>
	<b>Insulation</b>	Mean temperature	<b>62 min</b>
Maximum temperature		<b>62 min</b>	

Note: <sup>1)</sup> End of test in 63<sup>rd</sup> test minute.

#### Fire resistance of sandwich wall panel REI 60 / REW 60 (i→o).



### 3.1.8 Test of loadbearing wall with timber frame 60/140 provided with a face wall from both sides, type LBW 60/140 - Firestop 16 - GW.2IG (specimen No. 10)

Structure from the ext.:

-Wood-fibre board DFP P+D	16 mm
-Laths 30/50	30 mm
-Mineral insulation from molten glass density 12 kg/m <sup>3</sup> stud – spruce C24 – 60 x 140 mm	140,0 mm
-Laths 30/50	30 mm
-OSB Firestop	16,0 mm

Test method and report	Parameter	Result	
ČSN EN 1365-1 No. Pr-15-2.096	Wall with standard curve applied from one side		
	Applied load	32,04 kN/m	
	Supporting construction	Embedded all over the length	
	<b>Criterion</b>	<b>Partial criterion</b>	<b>Measured value <sup>1)</sup></b>
	<b>Loadbearing capacity</b>	Contraction	<b>49 min</b>
		Rate of contraction	<b>49 min</b>
	<b>Integrity</b>	Cotton pad	<b>50 min</b>
		Gap gauge passage	<b>50 min</b>
		Sustained flaming	<b>51 min, no failure</b>
	<b>Insulation</b>	Mean temperature	<b>51 min, no failure</b>
Maximum temperature		<b>51 min, no failure</b>	

Note: <sup>1)</sup> End of test in 51<sup>st</sup> test minute.

#### Fire resistance of sandwich wall panel REI 45 / REW 45<sup>1)</sup> (i→o).

<sup>1)</sup> Classification REW 45 has been performed in compliance with ČSN EN 13501-2, National note<sup>NP1)</sup>.

### 3.1.9 Test of loadbearing wall with timber frame 60/120 with blown cellulose, type LBW 60/120 - Firestop 16 - BI (specimen No. 11)

Structure from the ext.:

-OSB 3 board Superfinish ECO	15 mm
-Blown cellulose Climatizer® - C24 - 60/120 mm	120,0 mm
-OSB Firestop	16,0 mm

Test method and report	Parameter	Result	
ČSN EN 1365-1 No. Pr-16-2.100	Wall with standard curve applied from one side		
	Applied load	32,04 kN/m	
	Supporting construction	Embedded all over the length	
	<b>Criterion</b>	<b>Partial criterion</b>	<b>Measured value <sup>1)</sup></b>
	<b>Loadbearing capacity</b>	Contraction	<b>41 min, no failure</b>
		Rate of contraction	<b>41 min, no failure</b>
	<b>Integrity</b>	Cotton pad	<b>41 min</b>
		Gap gauge passage	<b>41 min</b>
		Sustained flaming	<b>41 min</b>
	<b>Insulation</b>	Mean temperature	<b>41 min, no failure</b>
Maximum temperature		<b>41 min, no failure</b>	

Note: <sup>1)</sup> End of test in 42<sup>nd</sup> test minute.

#### Fire resistance of sandwich wall panel REI 30 / REW 30 (i→o).

### 3.2 Assessment of the structures

The assessment of the changes took place in the test results analysis No. Z220200107.

### 3.3 Assessment of the structure type

The assessment of the structure type took place in the test results analysis No. Z220200107.

## 4. CLASSIFICATION

### 4.1 Reference

This classification has been performed in compliance with ČSN 73 0810 cl. 5.2.

### 4.2 Classification

Fire resistant walls made of FIRESTOP boards has been classified according to the following combinations of performance parameters and classes:

The classification of external walls (structures 1-20, tab. 1) applies for wall exposed to heat from interior side REI XX / REW XX (i→o).

Table 1 Fire resistance of external walls (structure 1-20)

	Structure	Resistance	Permitted load
1	EWO.CMW.BI	REI 30 DP3 / REW 30 DP3	32 kN·m <sup>-3</sup>
2	EWU.CEPS.BI	REI 30 DP3 / REW 30 DP3	32 kN·m <sup>-3</sup>
3	EWO.V-WF.BI	REI 30 DP3 / REW 30 DP3	32 kN·m <sup>-3</sup>
4	EWU.CEPS.BI.IG	REI 30 DP3 / REW 30 DP3	32 kN·m <sup>-3</sup>
5	EWU.V-MW.IG	REI 30 DP3 / REW 30 DP3	32 kN·m <sup>-3</sup>
6	EWU.CEPS.MW.IG	REI 30 DP3 / REW 30 DP3	32 kN·m <sup>-3</sup>
7	EWU.V-A.MW.IG	REI 30 DP3 / REW 30 DP3	32 kN·m <sup>-3</sup>
8	EWO.V-WF.MW.IG	REI 30 DP3 / REW 30 DP3	32 kN·m <sup>-3</sup>
9	EWO.V-WF.MW	REI 45 DP3 / REW 45 DP3	32 kN·m <sup>-3</sup>
10	EWO.C-MW.MW	REI 30 DP3 / REW 30 DP3	32 kN·m <sup>-3</sup>
11	EWU.C-EPS.MW.IG	REI 60 DP3 / REW 60 DP3	32 kN·m <sup>-3</sup>
12	EWU.V-A.MW.IG	REI 60 DP3 / REW 60 DP3	32 kN·m <sup>-3</sup>
13	EWO.V-WF.MW.IG	REI 60 DP3 / REW 60 DP3	32 kN·m <sup>-3</sup>
14	EWO.V-WF.MW	REI 60 DP3 / REW 60 DP3	32 kN·m <sup>-3</sup>
15	EWO.C-MW.MW	REI 60 DP3 / REW 60 DP3	32 kN·m <sup>-3</sup>
16	EWU.C-EPS.MW.IG.2	REI 60 DP3 / REW 60 DP3	73 kN·m <sup>-3</sup>
17	EWU.V-A.MW.IG.2	REI 60 DP3 / REW 60 DP3	73 kN·m <sup>-3</sup>
18	EWO.V-WF.MW.IG.2	REI 60 DP3 / REW 60 DP3	73 kN·m <sup>-3</sup>
19	EWO.V-WF.MW.2	REI 60 DP3 / REW 60 DP3	73 kN·m <sup>-3</sup>
20	EWO.C-MW.MW.2	REI 60 DP3 / REW 60 DP3	73 kN·m <sup>-3</sup>

Table 2 Fire resistance of internal walls (structure 21-26)

	Structure	Resistance	Note	Permitted load
21	IW.BI	REI 30 DP3 / REW 30 DP3	Symmetric construction	32 kN·m <sup>-3</sup>
22	IW.MW (REI45)	REI 45 DP3 / REW 45 DP3	Symmetric construction	32 kN·m <sup>-3</sup>
23	IW.MW.IG	REI 30 DP3 / REW 30 DP3	Symmetric construction	32 kN·m <sup>-3</sup>
24	IW.MW.IG.AKU	REI 45 DP3 / REW 45 DP3	Symmetric construction	32 kN·m <sup>-3</sup>
25	IW.MW	REI 60 DP3 / REW 60 DP3	Symmetric construction	32 kN·m <sup>-3</sup>
26	IW.MW.IG	REI 45 DP3 / REW 45 DP3 REI 60 DP3 / REW 60 DP3	Asymmetric construction, see conditions described in analysis: - exposed from grid side REI 60 / REW 60 - exposed from the side without grid REI 45 / REW 45	32 kN·m <sup>-3</sup>



### 4.3 Field of application

Results of product classification - *Fire resistant walls made of FIRESTOP boards* – are, in compliance with ČSN EN 1365-1 one or more of the following modifications may be applied and which are such that the structure continues to comply with the relevant standard in terms of rigidity and stability:

- decrease in height ( $\leq 3\ 000$  mm);
- increase in the thickness of the wall;
- increase in the thickness of component materials (apart of timber grid between the timber stud and board)
- decrease in linear dimensions of boards but not thickness;
- decrease in stud spacing ( $\leq 625$  mm);
- decrease in distance of fixing centres;
- increase in the number of horizontal joints;
- decrease in the applied load (see table 1 and 2);
- increase in element width;
- using of timber grade C 24 or better

## 5. CONCLUSION

Validity of classification certificate:

The classification certificate is valid until **2023-06-16**.

This Fire Classification Approval replaces and cancels the Fire Classification Approval No. PKO-16-030 issued by PAVUS, a.s. on 2. 9. 2016.

*This fire classification certificate may only be used or reproduced in its entirety, whereas each page must be provided with identification number of the fire classification certificate and with page number of the total number of pages. This classification certificate does not represent type approval or certification of the products.*

Elaborated by:

Jan Bednář

Checked by:

Zdeňka Stará

Approved by:

Jaroslav Dufek  
PAVUS, a.s. Manager

In Prague, on June 16<sup>th</sup> 2020

