

# Promat

Wood protection with boards and intumescent coating

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# Contacts



## Adam Malenki

Fire Stopping Manager CEE & Training Centre Manager  
M | +48 604245545

Promat TOP Sp. z o.o. | ul. Przeclawska 8  
Warsaw | 03-879 | Polska | [www.promat.com](http://www.promat.com)



## Linas Krisciunas

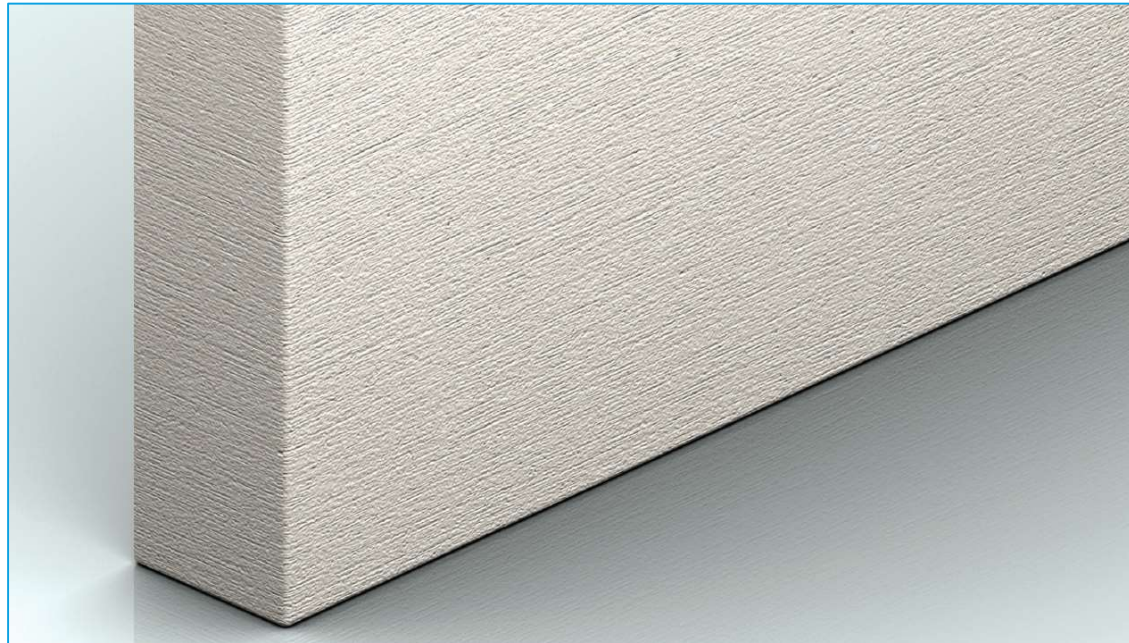
Promat Project Manager Lithuania, Latvia and Estonia  
M | +37061888458

E | [linas.krisciunas@etexgroup.com](mailto:linas.krisciunas@etexgroup.com)  
Promat TOP Sp. z o.o. | ul. Przeclawska 8  
Warsaw | 03-879 | Poland | [www.promat.com](http://www.promat.com)

## Key points of presentation

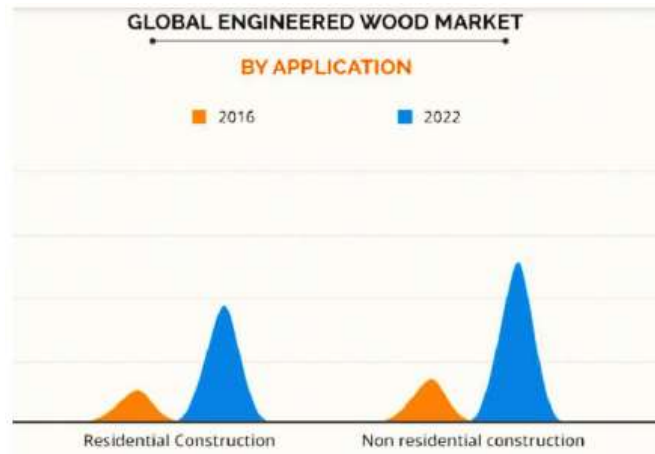
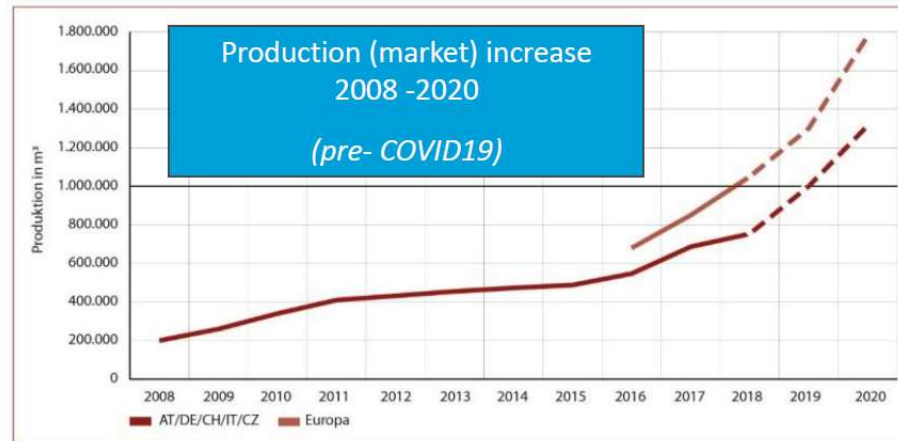
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- Wood protection with Promatect boards: R60 – R90 for wooden beams and REI30 – REI120 for ceiling and floor.



# The renaissance of timber structures

Engineered wood market is projected to grow by **24%** from 2016 to 2022 (**40 billions Euro by 2022**)



# The main problems of structural timber:

## Fire (& maintenance)

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Due to combustion:

The combustible gasses allows the propagation of fire due to the additional combustible that it finds in the structure

**(Fire Reaction / A1, A2, B, C, D...)**

The charring of the wood reduce the resistant section and consequently the load bearing capacity

**(Fire Resistance / 30, 60, 90, 120 min)**



## Wood protection with boards (beams R60 – R90 and wood slabs till REI120)



# Where timber floors are protected?



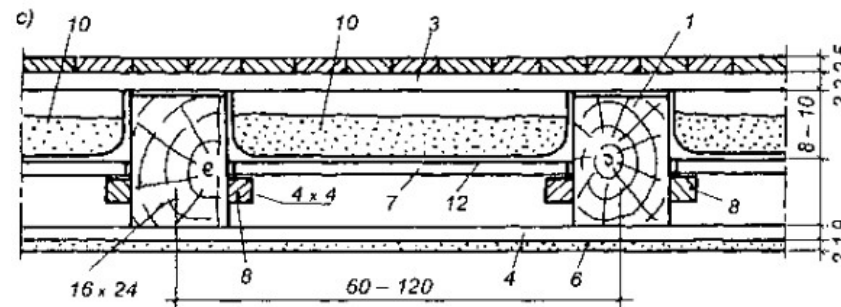
- Refurbishment of the old buildings
- New constructed buildings
- Existing buildings which need to be upgrade on the matter of fire resistance



## The most frequent situations

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- Needs for the fire resistance from bottom and top of the slab
- Distance between the beams is approx. 100 cm - old houses
- Existing floor difficult to remove (neighbours)
- Existing ceiling difficult to remove
- No insulation (mineral wool) inside the slab





## Design of the specimen

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- Resistance to the fire from the bottom (fire test) and from the top (calculations based on Eurocode 2)
- Distance between the beams 1000mm
- Cross section of the beams 104 cm<sup>2</sup>
- No additional insulation inside the slab
- Single layer of the board
- Wooden based product on the top (possibility to walk)
- Assembly with all kind of fixings



# Specimen preparation

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# Specimen preparation

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# Fire test

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## Fire test – after 60/90 mins

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## New solution – advantages (REI60 and REI90)

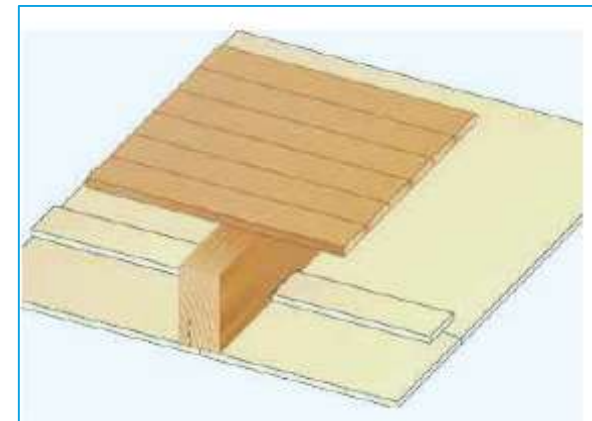
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### Fire resistance **REI 30 - REI 90**

- Possible to install in span of the beams up to **1000mm**
- **Single** layer of the boards:
  - Promaxon Typ- A -10mm for REI 30
  - Promaxon Typ- A -15mm for REI 60
  - Promaxon Typ- A -20mm for REI 90
- **Direct fixing**

(no subconstruction, possibility to fix on existing plaster)

- **Time/cost** of application
- No needs for additional **mineral wool** inside
- Fixation of **all types** of fasteners (screw, nails, staples)
- **Weight** of the system

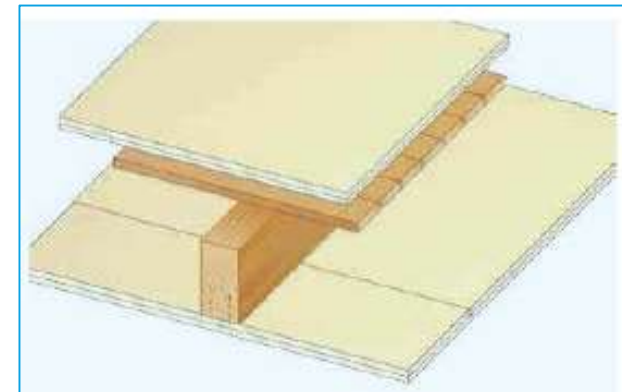


## New solution – advantages (REI120)

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### Fire resistance **REI 120**

- PROMAXON Typ<sup>®</sup>-A (2 x 10 mm on top of the slab and 2 x 25 mm under the wooden slab) for REI120
- **Direct fixing**  
(no subconstruction, possibility to fix on existing plaster)
- **Time/cost** of application
- No needs for additional **mineral wool** inside
- Fixation of **all types** of fasteners (screw, nails, staples)



# Wooden roof protection REI60

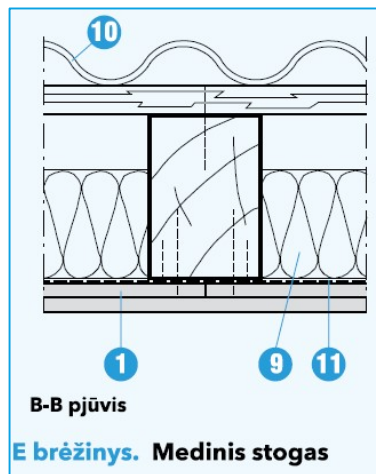
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Fire class: REI60

**Solution:** REI60 with 2x10mm of PROMATECT®-H (fire from both sides / roof drawing below)

**What is needed in order to fulfil the requirements/the solution?**

- We should know the measurements of the wooden beam and the thickness of wooden planks which are on top of the beam.
- „b“ is the width of the wooden beam and „h“ is height. „g<sub>min</sub>“ is the minimum thickness of the wooden board on the top



**Tablica 2**

Szerokość belki konstrukcyjnej; b, mm	Minimalna grubość podłogi <sup>1)</sup>					
	g <sub>min</sub> , mm					
	b/h <sup>2)</sup>					
	1	0,8	0,6	0,5	0,4	0,3
40	54	54	53	53	53	53
60	50	50	49	49	48	48
80	47	46	45	45	44	44
100	42	41	38	36	36	35
120	35	32	29	28	27	26
140	28	24	21	19	18	18
≥ 180	18	18	18	18	18	18

<sup>1)</sup> w przypadku podłóg wykonanych z płyty wiórowej lub sklejk, minimalną grubość podłogi należy zwiększyć o 10%  
<sup>2)</sup> wysokość przekroju belki



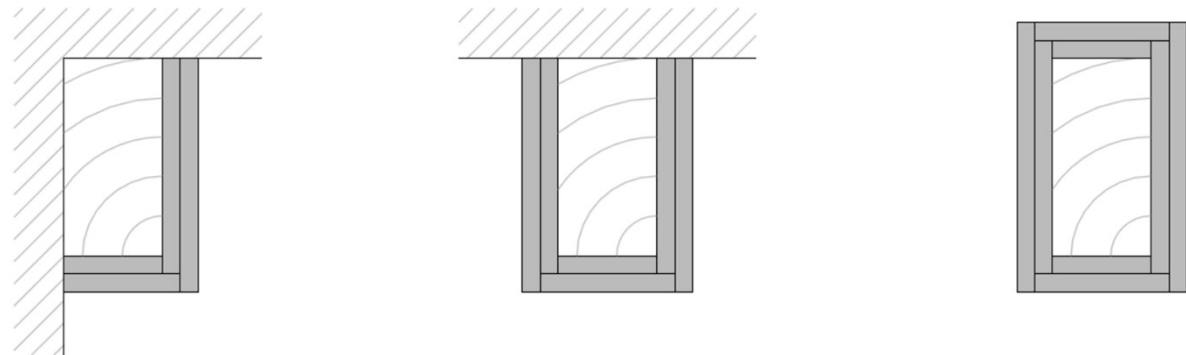
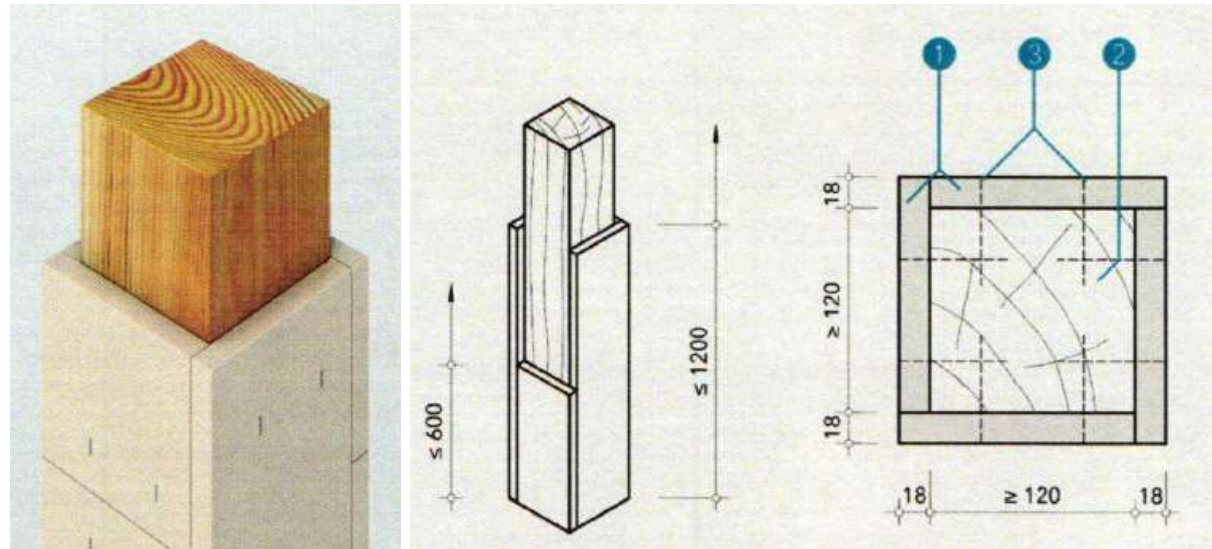
# Wooden beams (R60)

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Fire class: R60

Solution:

- R60 with 18mm Promatect® -100



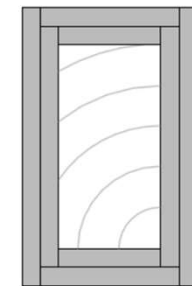
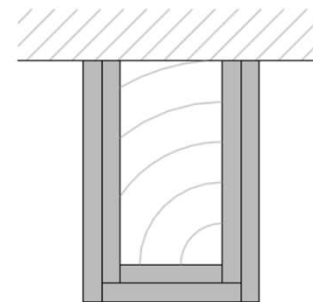
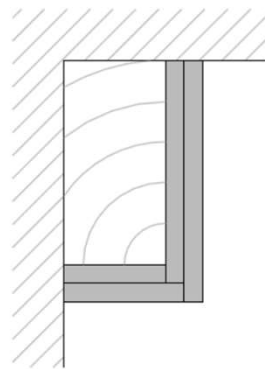
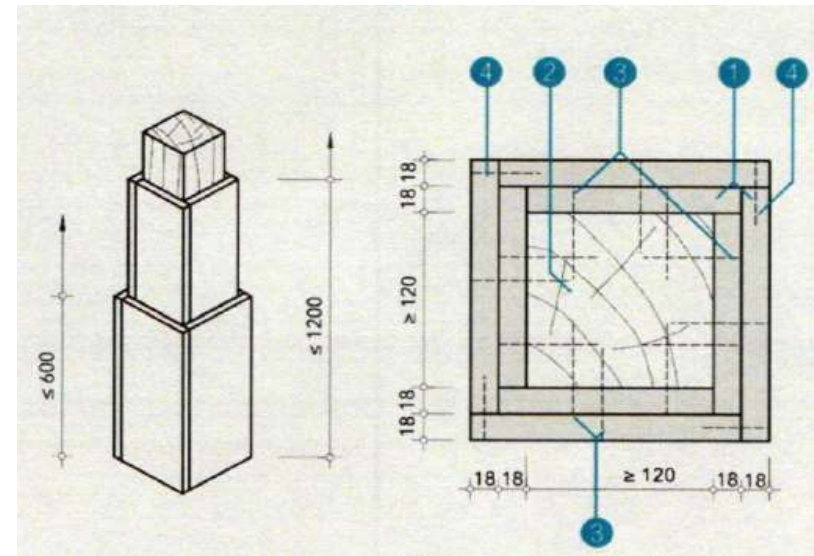
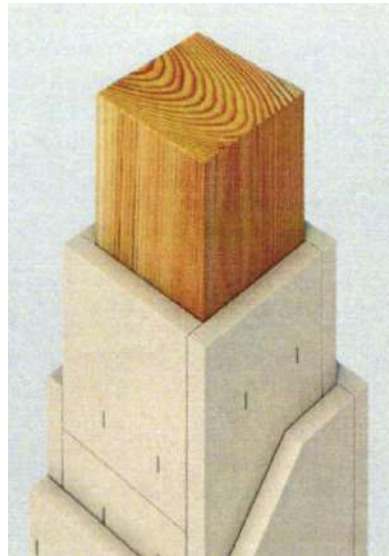
# Wooden beams (R90)

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Fire class: R90

Solution:

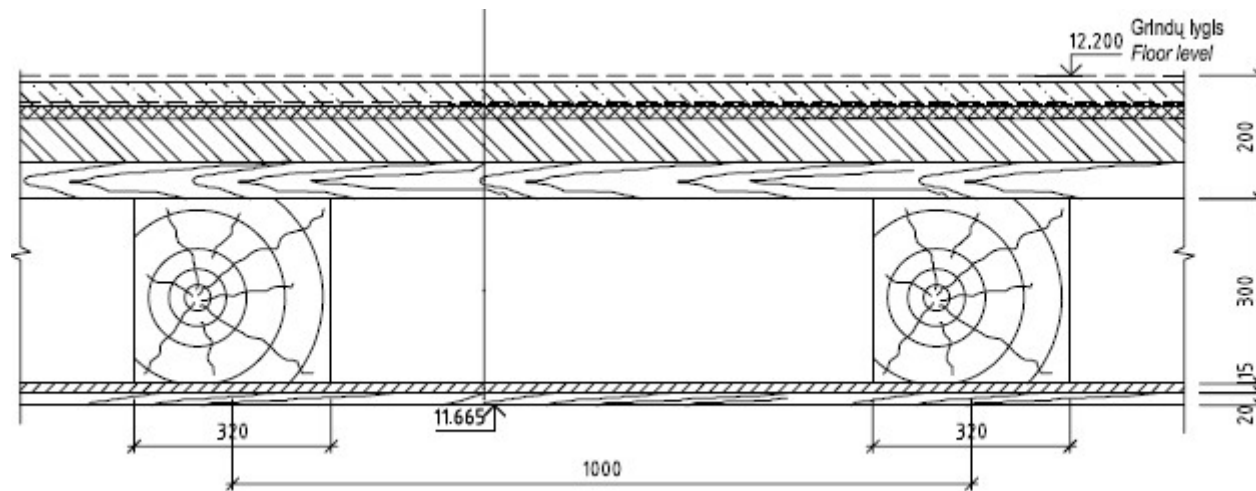
- R90 with 2x18mm Promatect® -100



**Type:** NATO barracks in Kaunas, Lithuania

**Solution:** REI60 with 15mm of PROMAXON Typ<sup>®</sup>-A

**Additional:** 1 layer / no acrylic in between the boards



# Projects

