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Váš dopis zn.:
ze dne:
Naše značka: 347/12
Vyřizuje: Ptáček
Datum: 2012-06-04

Subject: Fire resistace

Dear Sir,

with reference to your request to evaluation tests fire resistance by TP VVÚD 4.23.001 and EN 1363-1, test was perform by condition EN 1363-1 – standard curve (5.1.1., picture 7) we would like to inform you that the efficacy can be sufficiently documented with the use following report for fire retardants Adina® (contain patented fire retarder Moles-1.1) - producer Pyrochem, s.r.o. and Pyroguma® - producer Pyrochem, s.r.o.:

- Test protocols:
 - 5/12/04 – sample 9
 - 5/12/06 – sample 8
 - 5/12/07 – sample 12-12-1-1
 - 5/12/08 – sample 12-12-2-1
 - 5/12/09 – sample 13-12
 - 49/11 – sample 120/11/1,2,3

modified fire resistance test by TP VVÚD 4.23.001, issued by ČIA accredited test laboratory 1031.

- Test protocols FIRES-FR-103-12-AUNS, EN 1365-1, issued by SNAS accredited test laboratory 041/S-159.

sample 9 - OSB plate NORDBOARD 18 mm brushed before application fire retardant, retention 1,5 kg/m² of fire retardant ADINA (Pyrochem, s.r.o.)

sample 8 - OSB plate NORDBOARD 18 mm brushed before application fire retardant, retention 1,5 kg/m² of fire retardant Pyroguma (Pyrochem, s.r.o.)

sample 12-12-1-1 particleboard 18 mm brushed before application fire retardant, retention 1,5 kg/m² of fire retardant ADINA (Pyrochem, s.r.o.), with vertical joint width 5 mm - Pyroguma (Pyrochem, s.r.o.) and interior coating HET

sample 12-12-2-1 particleboard 18 mm brushed before application fire retardant, retention 1,5 kg/m² of fire retardant ADINA (Pyrochem, s.r.o.), with vertical joint width 1,4 mm - Pyroguma (Pyrochem, s.r.o.) and interior coating HET

sample 13-12 EKOPANEL VP 01 60 mm – strawboard, with vertical joint width 7 mm - Pyroguma (Pyrochem, s.r.o.)

sample 120/11/1 OSB plate NORDBOARD 18 mm brushed before application fire retardant, retention 1 kg/m² of fire retardant ADINA (Pyrochem, s.r.o.)

sample 120/11/2 OSB plate NORDBOARD 18 mm brushed before application fire retardant, retention 1 kg/m² of fire retardant ADINA (Pyrochem, s.r.o.)

sample 120/11/3 OSB plate NORDBOARD 18 mm brushed

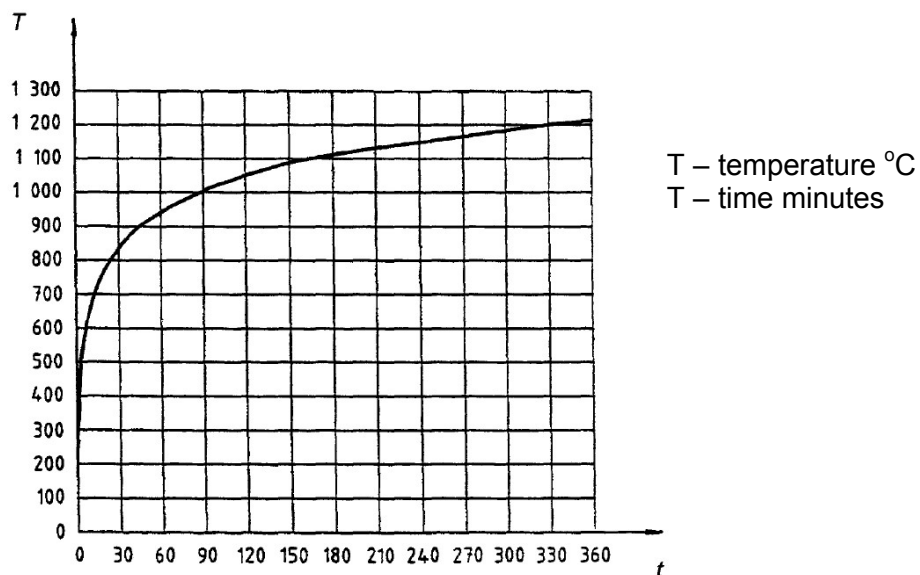
sample REI 30/A OSB plate NORDBOARD 18 mm (interior) brushed before application fire retardant, retention 2 kg/m² of fire retardant ADINA (Pyrochem, s.r.o.), + PENATER transparent (Pyrochem, s.r.o.), hydroizolation AQUAIZOL A (Pyrochem, s.r.o.) 2 kg/m² (inside of panel), connected to wood frame 110 x 60 mm with steel clamp 180/5, wire thickness 1,6, length 50 mm, timber frame under OSB end joint of OSB – PYROGUMA (Pyrochem, s.r.o.), OSB plate NORDBOARD 12 mm (inside of panel) brushed before application fire retardant, connected to wood frame 110 x 60 mm with steel clamp 180/5, wire thickness 1,6, length 50 mm, joint of OSB – AQUAIZOL A (Pyrochem, s.r.o.) hydroizolation AQUAIZOL B (Pyrochem, s.r.o.) 0,7 kg/m² (exterior)

sample REI 30/B OSB plate NORDBOARD 18 mm (interior) brushed before application fire retardant, retention 1,5 kg/m² of fire retardant ADINA (Pyrochem, s.r.o.), + PENATER transparent (Pyrochem, s.r.o.), hydroizolation AQUAIZOL A (Pyrochem, s.r.o.) 2 kg/m² (inside of panel), connected to wood frame 110 x 60 mm with steel clamp 180/5, wire thickness 1,6, length 50 mm, timber frame under OSB end joint of OSB – PYROGUMA (Pyrochem, s.r.o.)

sample REI 45/A OSB plate NORDBOARD 18 mm (interior) brushed before application fire retardant, retention 1,5 kg/m² of fire retardant ADINA (Pyrochem, s.r.o.), + PENATER transparent (Pyrochem, s.r.o.), hydroizolation AQUAIZOL A (Pyrochem, s.r.o.) 2 kg/m² (inside of panel), connected to wood frame 110 x 60 mm with steel clamp 180/5, wire thickness 1,6, length 50 mm, timber frame under OSB end joint of OSB – PYROGUMA (Pyrochem, s.r.o.), OSB plate NORDBOARD 12 mm (inside of panel) brushed before application fire retardant, retention 1,5 kg/m² of fire retardant ADINA (Pyrochem, s.r.o.), connected to wood frame 110 x 60 mm with steel clamp 180/5, wire thickness 1,6, length 50 mm, timber frame under OSB end joint of OSB – AQUAIZOL wood (Pyrochem, s.r.o.), hydroizolation AQUAIZOL A (Pyrochem, s.r.o.) 2 kg/m² (exterior)

sample	ϕ 140°C max 180 °C (min)	burned (min) ϕ °C, max °C	classification
9	51 max 158°C	54 min ϕ 168 °C, max. 215 °C	EI 45 (51)
8	45 max 180°C	52 min ϕ 229 °C, max. 272 °C	EI 45
12-12-1-1	53 max 178°C	61 min ϕ 237 °C, max. 290 °C	EI 45 (53)
12-12-2-1	49 max 179°C	54 min ϕ 184 °C, max. 371 °C	EI 45 (49)
13-12	90 max 113°C	90 min ϕ 89 °C, max. 113 °C test was terminate	90
120-11-1	43 max 171°C	45 min ϕ 170 °C, max. 233 °C	EI 30 (43)
120-11-2	45 max 122°C	57 min ϕ 249 °C, max. 372 °C	EI 45
120-11-3	19 max 148°C	20 min ϕ 177 °C, max. 236 °C	EI 15 (19)
REI 30/A	42 max 68,6°C	42 min ϕ 55,8 °C, max. 68,6 °C	REI 30 (42)
REI 30/B			REI 30 (32)*
REI 45/A			REI 45 (56)*

* test report not finished



Standard curve EN 1363-1

Sample 12-12-1-1, 12-12-2-1 – the test was performed on a DTD as a reference material intended for determining the reaction to fire.

The test was found that the fire resistance of the entire board does not affected by joint 5 mm in width with Pyroguma, gap width only 1 mm, see more influence, in both cases the joint was gap whole, but only ½ thick plates approximately 9 mm, the plate with joint – EI 45.

Foaming of material was partly influenced by the interior coating HET, used interior coating that was used to verify that wet spray process not have affect to fire resistance, the effect was not significant.

Samples REI 30/A, REI 30/B, REI 45/A was testes by EN 1365-1, classification by ČSN EN 13501-2 will be prepared by Fires, s.r.o.

If you have any questions, please, do not hesitate to contact us.

Yours sincerely,



Ing. Petr Ptáček, Ph.D

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