

Statement on ABB AU60.10FR electrical boxes installed into non-loadbearing wall structures

Requested by ABB Oy, Wiring Accessories

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Order October 7, 2020, Emanuel Nylund

Organization undertaking statement

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Task The client asks a statement on fire resistance of non-loadbearing walls in following constructions when electrical boxes ABB AU60.10FR are installed.

Background The statement is based on the following reports:

1. Test report EUFI29-20005219-T1, Fire resistance test on electrical boxes installed into supporting EI60 gypsum wall construction. 18.11.2020.

Test report EUFI29-20005219-T1: Test specimens, electrical boxes all together 5 + 5 pcs were mounted on both sides of the EI60 gypsum wall construction. Electrical boxes were installed on three different heights: 200 mm, 1100 mm and 2900 mm measured from the notional floor level. Test included one type of electrical boxes (ABB AU60.10FR) with different fixing types.

Recess holes cut in double layer of Gyproc GN13 Normal gypsum boards (measured weight per area: 8.42 kg/m²) for electrical boxes were of size Ø 74 mm. Electrical boxes were installed on fire exposed and unexposed sides at the minimum distance of c/c 200 mm from each other. Recess for the electrical boxes was made in Isover Acoustic 66 glass wool insulation. Electrical boxes were mounted to the holes cut in the gypsum boards with beam fixings and board fixings. Flexible plastic PVC pipes (Ø 20 mm, l~300 mm) were mounted on the electrical boxes with the wiring. The size of the construction was b × h = 3000 mm × 3000 mm and element thickness 116 mm.

The test was performed on November 18, 2020 according to standard EN 1364-1:2015 “*Fire resistance tests for non-loadbearing elements - Part 1: Walls*”.and EN 1363-1:2012 “*Fire resistance tests – Part 1: General requirements*”.

The wall with the ABB AU60.10FR electrical boxes met in the fire resistance test the performance criteria imposed by the standards EN 13501-2:2016 complemented with EN 1364-1:2015 and EN 1363-1:2012 as follows:

Integrity E	
-sustained flaming	71 minutes ^{*)}
-cotton pad	71 minutes ^{*)}
-gap gauge test	69 minutes
Insulation I	
-average temperature rise	71 minutes ^{*)}
-maximum temperature rise	71 minutes ^{*)}
*) Test was terminated 71 min 10 s after the start of the test.	

Statement

Based on test report EUFI29-20005219-T1 we state as our opinion that the use of electrical box ABB AU60.10FR do not weaken fire resistance of non-loadbearing walls, which are classified EI 30 or EI 60, when gypsum board covering at the structure is as follows:

Fire class	Gypsum boards	Insulation (minimum requirement)
EI 30	-1 x 13 mm Gyproc GN 13 (N-N)	ISOVER Acoustic 66 glass wool or equal (nominal density $\geq 10 \text{ kg/m}^3$)
EI 30	-1 x 13 mm Gyproc GEK 13 (K-K)	ISOVER Acoustic 66 glass wool or equal (nominal density $\geq 10 \text{ kg/m}^3$)
EI 30	-1 x 13 mm Gyproc GR 13 (R-R)	ISOVER Acoustic 66 glass wool or equal (nominal density $\geq 10 \text{ kg/m}^3$)
EI 30	-1 x 13 mm Gyproc GH 13 (H-H)	ISOVER Acoustic 66 glass wool or equal (nominal density $\geq 10 \text{ kg/m}^3$)

Fire class	Gypsum boards	Insulation (minimum requirement)
EI 60	2 x 13 mm Gyproc GN 13 (NN-NN)	ISOVER Acoustic 66 glass wool or equal (nominal density $\geq 10 \text{ kg/m}^3$)
EI 60	-1 x 13 mm Gyproc GEK 13 -1 x 13 mm Gyproc GN 13 (KN-NK)	ISOVER Acoustic 66 glass wool or equal (nominal density $\geq 10 \text{ kg/m}^3$)
EI 60	-1 x 13 mm Gyproc GR 13 -1 x 13 mm Gyproc GN 13 (RN-NR)	ISOVER Acoustic 66 glass wool or equal (nominal density $\geq 10 \text{ kg/m}^3$)
EI 60	-1 x 13 mm Gyproc GH 13 -1 x 13 mm Gyproc GN 13 (HN-NH)	ISOVER Acoustic 66 glass wool or equal (nominal density $\geq 10 \text{ kg/m}^3$)
EI 60	-1 x 15 mm Gyproc GFL 15 (P-P)	ISOVER Acoustic 66 glass wool or equal (nominal density $\geq 10 \text{ kg/m}^3$)

N = Gyproc GN (Normal)
 K = Gyproc GEK (Robust)
 R = Gyproc GR (Robust)
 H = Gyproc GH, (Habito)
 P = Gyproc GFL 15 (Fireline)

This statement shall be read together with test report EUFI29-20005219-T1 or Letter EUFI29-20005219-T2.

This statement does not represent type approval or certification of the product but it is an assessment on the fire resistance of structures.

The validity period of the statement is five years.

Espoo, December 18, 2020

Signed

Approved

Teemu Vesala
Senior Expert

Matias Huusko
Senior Expert

Appendicies

Distribution

Client	Original (1 pcs)
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