

TMI-1/2019

CERTIFICATE

of

FIRE PREVENTION CONFORMITY

of uninsulated roofslab enclosure structures assembled using Lindab steel sheet products (LTP20, LTP35, LTP45) and of uninsulated wall structures assembled using Lindab steel sheet products (LVP20, LVP35, LVP45) manufactured according to the harmonized product standard
MSZ EN 14782:2006

Name of the building structure:

Uninsulated roofslab enclosure structures assembled using Lindab steel sheet products (LTP20, LTP35, LTP45) and uninsulated wall structures assembled using Lindab steel sheet products (LVP20, LVP35, LVP45).

Applicant and holder of the Certificate of Fire Prevention Conformity (TMI):

Lindab Kft.
2051 Biatorbágy, Állomás u. 1/a.

Manufacturers:

Lindab Kft.
2051 Biatorbágy, Állomás u. 1/a.

Distributor:

Lindab Kft.
2051 Biatorbágy, Állomás u. 1/a.

This certificate is issued by ÉMI Non-Profit LLC., based on the evaluation of the test results detailed in the Post Check Subtest report **A-2157/2009** and in the Initial Type Test report **M-3092/2012** and in the Research report **K-9/1/2008**, furthermore according to data, terms and conditions as well as regulations recorded on the reverse side (and on supplementary sheet(s)).


Field of application of the building structure:

Uninsulated roofslab enclosure structures and uninsulated wall structures of buildings (can also be applied as smoke barriers)

This Certificate of Fire Prevention Conformity is valid until **30th April 2024**.

Szentendre, 23rd April 2019




Péter Tóth
Technical Director

This Certificate of Fire Prevention Conformity consists of 13 pages and – attachment forming the part of this document.

The English translation was issued on the 22nd May 2019 under project number DK-T257N-17806-2019. In case of doubt the Hungarian version is authoritative.

Name of the testing unit:

Fire Testing Laboratory of Central Testing Laboratory of ÉMI Non-Profit LLC.* (2000 Szentendre, Dózsa György út 26.)

* The Fire Testing Laboratory is a full right member of EGOLF (European Group of Organizations for Fire Testing; Inspection and Certification).

Laws, standards and regulations taken into account during the tests of the building structure:

MSZ EN 1364-1:2016, MSZ EN 1365-2:2015, MSZ EN 13501-1:2007+A1:2010, MSZ EN 13501-2:2016, MSZ EN 13501-5:2016, as well as Part five of the National Fire Code (OTSZ) issued with BM decree 28/2011. (IX. 6.) and the National Fire Code (OTSZ) issued with BM decree 54/2014. (XII. 5.).

Short description and technical data of the building structure:**Uninsulated roofslab enclosure structures assembled using Lindab steel sheet products (LTP20, LTP35, LTP45 – layers from top to bottom):**

- 1 layer of uncoated or polyester coated trapezoidal steel sheet type LTP20-35-45/0,5-0,6-0,7 **
- purlins with spans according to Table 2 ***

Uninsulated wall structures assembled using Lindab steel sheet products (LVP20, LVP35, LVP45 – layers from outside to inside):

- 1 layer of uncoated or polyester coated trapezoidal steel sheet type LVP20-35-45/0,5-0,6-0,7*
- purlins and wall skeleton beams with spans according to Table 3***

* Neighboring trapezoidal sheets have to be attached to each other with self-drilling screws in every 200 mm at the most and TBA self-adhesive sealing tape has to be applied between sheets in overlaps. Fastening of trapezoidal sheets is necessary in both valleys beside the joints of sheets while in other areas in each second valley with self-drilling screws to purlins.

** Neighboring trapezoidal sheets have to be attached to each other with self-drilling screws in every 200 mm at the most and TBA self-adhesive sealing tape has to be applied between sheets in overlaps. Fastening of trapezoidal sheets is necessary in each valley with self-drilling screws to purlins.

*** Purlins, wall skeleton beams used in wall structures and purlins used in roofslab enclosure structures have to comply with fire resistance and reaction to fire class requirements of the National Fire Code (OTSZ) separately (as load bearing structural components) which apply for the building.

Lindab steel sheet products

Table 1.

Type	Steel quality	Height [mm]	Useful cover width [mm]	Surface coating	Reaction to fire class	Sheet thickness [mm]	Dead weight [kg/m ²]
LTP20	S250GD+Z275 S250GD+Z200 S350GD+Z275	17,4	1028	Hot dip galvanized	A1	0,50 0,60 0,70	4,70 5,64 6,57
				Classic PE coating	A2-s1, d0		
				Premium PE coating	A1		
				Elite PE coating	A2-s2, d0		
				Underlayer Anticondensation felt	A2-s1, d0		
LTP35	S250GD+Z275 S250GD+Z200 S350GD+Z275	33	954	Hot dip galvanized	A1	0,50 0,60 0,70	5,06 6,07 7,08
				Classic PE coating	A2-s1, d0		
				Premium PE coating	A1		
				Elite PE coating	A2-s2, d0		
				Underlayer Anticondensation felt	A2-s1, d0		
LTP45	S250GD+Z275 S250GD+Z200 S350GD+Z275	43	900	Hot dip galvanized	A1	0,50 0,60 0,70	5,36 6,44 7,51
				Classic PE coating	A2-s1, d0		
				Premium PE coating	A1		
				Elite PE coating	A2-s2, d0		
				Underlayer Anticondensation felt	A2-s1, d0		
LVP20	S250GD+Z275 S250GD+Z200 S350GD+Z275	17,4	1028	Hot dip galvanized	A1	0,50 0,60 0,70	4,70 5,64 6,57
				Classic PE coating	A2-s1, d0		
				Premium PE coating	A1		
				Elite PE coating	A2-s2, d0		
				Underlayer Anticondensation felt	A2-s1, d0		
LVP35	S250GD+Z275 S250GD+Z200 S350GD+Z275	33	954	Hot dip galvanized	A1	0,50 0,60 0,70	5,06 6,07 7,08
				Classic PE coating	A2-s1, d0		
				Premium PE coating	A1		
				Elite PE coating	A2-s2, d0		
				Underlayer Anticondensation felt	A2-s1, d0		
LVP45	S250GD+Z275 S250GD+Z200 S350GD+Z275	43	900	Hot dip galvanized	A1	0,50 0,60 0,70	5,36 6,44 7,51
				Classic PE coating	A2-s1, d0		
				Premium PE coating	A1		
				Elite PE coating	A2-s2, d0		
				Underlayer Anticondensation felt	A2-s1, d0		

Design / conformity certification / type test values

Table 2

Characteristics of the building structure (and their units)	Value/data	Test/assessment method
Roofslab enclosure structures group 1		
Uninsulated roofslab enclosure structures assembled using Lindab steel sheet products (LTP20)		
Fire resistance (minute)	RE 15 ^{[1] [2]}	MSZ EN 1365-2:2015 MSZ EN 13501-2:2016
Reaction to fire class (-) <ul style="list-style-type: none"> Hot dip galvanized sheet Classic PE coating Premium PE coating Elite PE coating Underlayer anticondensation felt 	A1 A2-s1, d0 A1 A2-s2, d0 A2-s1, d0	MSZ EN 13501-1:2007+A1:2010
Fire propagation on roof (-)	B _{roof} (t1)	MSZ EN 13501-5:2016
static model: four or more support		
LTP20		span 'L' (m)
t (mm)	g* (kg/m ²)	0,75 1,00 1,25 1,50 1,75 2,00 2,25 2,50
surplus load above the dead weight simultaneous with the fire effect (kN/m ²)		
0,50	4,70	1,15 0,70 0,42 0,29 0,20 - - -
0,60	5,64	1,70 0,95 0,60 0,40 0,25 0,20 - -
0,70	6,57	2,60 1,50 1,00 0,65 0,45 0,35 0,25 -
* nominal dead weight of the trapezoidal sheet		
Roofslab enclosure structures group 2		
Uninsulated roofslab enclosure structures assembled using Lindab steel sheet products (LTP35)		
Fire resistance (minute)	RE 15 ^{[1] [2]}	MSZ EN 1365-2:2015 MSZ EN 13501-2:2016
Reaction to fire class (-) <ul style="list-style-type: none"> Hot dip galvanized sheet Classic PE coating Premium PE coating Elite PE coating Underlayer anticondensation felt 	A1 A2-s1, d0 A1 A2-s2, d0 A2-s1, d0	MSZ EN 13501-1:2007+A1:2010
Fire propagation on roof (-)	B _{roof} (t1)	MSZ EN 13501-5:2016
static model: four or more support		
LTP35		span 'L' (m)
t (mm)	g* (kg/m ²)	1,00 1,25 1,50 1,75 2,00 2,25 2,50 2,75
surplus load above the dead weight simultaneous with the fire effect (kN/m ²)		
0,50	5,06	0,85 0,60 0,42 0,32 0,25 0,20 - -
0,60	6,07	1,24 0,84 0,60 0,45 0,35 0,28 0,22 -
0,70	7,08	1,95 1,40 1,00 0,75 0,60 0,45 0,38 0,32
* nominal dead weight of the trapezoidal sheet		

(Table 2 continues)

(table 2 continues)

Characteristics of the building structure (and their units)	Value/data	Test/assessment method
Roofslab enclosure structures group 3		
Uninsulated roofslab enclosure structures assembled using Lindab steel sheet products (LTP45)		
Fire resistance (minute)	RE 15 ^[1] ^[2]	MSZ EN 1365-2:2015 MSZ EN 13501-2:2016
Reaction to fire class (-) <ul style="list-style-type: none"> Hot dip galvanized sheet Classic PE coating Premium PE coating Elite PE coating Underlayer anticondensation felt 	A1 A2-s1, d0 A1 A2-s2, d0 A2-s1, d0	MSZ EN 13501-1:2007+A1:2010
Fire propagation on roof (-)	B _{roof} (t1)	MSZ EN 13501-5:2016
static model: four or more support		
LTP45		span 'L' (m)
t (mm)	g* (kg/m ²)	1,00 1,25 1,50 1,75 2,00 2,25 2,50 2,75
		surplus load above the dead weight simultaneous with the fire effect (kN/m ²)
0,50	5,36	0,95 0,65 0,48 0,38 0,28 0,23 - -
0,60	6,44	1,34 0,94 0,70 0,54 0,40 0,32 0,26 0,22
0,70	7,51	2,05 1,50 1,10 0,83 0,65 0,53 0,45 0,37

* nominal dead weight of the trapezoidal sheet

* nominal dead weight of the trapezoidal sheet

^[1] Neighboring trapezoidal sheets have to be attached to each other with self-drilling screws in every 200 mm at the most and TBA self-adhesive sealing tape has to be applied between sheets in overlaps. Fastening of trapezoidal sheets is necessary in each valley with self-drilling screws to purlins.

^[2] Purlins used (as load bearing structural components) in roofslab enclosure structures have to comply with fire resistance and reaction to fire class requirements of the National Fire Code (OTSZ) separately.

Table 3

Characteristics of the building structure (and their units)	Value/data	Test/assessment method														
Wall structures group 1																
Uninsulated wall structures assembled using Lindab steel sheet products (LVP20)																
Fire resistance (minute)	E 15 ^[1] ^[2]	MSZ EN 1365-2:2015 MSZ EN 13501-2:2016														
Reaction to fire class (-) <ul style="list-style-type: none"> Hot dip galvanized sheet Classic PE coating Premium PE coating Elite PE coating Underlayer anticondensation felt 	A1 A2-s1, d0 A1 A2-s2, d0 A2-s1, d0	MSZ EN 13501-1:2007+A1:2010														
static model: three or more support																
<table border="1"> <thead> <tr> <th colspan="2">LVP20</th><th rowspan="2">max. span 'L' (m)</th></tr> <tr> <th>t (mm)</th><th>g* (kg/m²)</th></tr> </thead> <tbody> <tr> <td>0,50</td><td>4,70</td><td>1,50</td></tr> <tr> <td>0,60</td><td>5,64</td><td>1,75</td></tr> <tr> <td>0,70</td><td>6,57</td><td>2,20</td></tr> </tbody> </table>		LVP20		max. span 'L' (m)	t (mm)	g* (kg/m ²)	0,50	4,70	1,50	0,60	5,64	1,75	0,70	6,57	2,20	
LVP20		max. span 'L' (m)														
t (mm)	g* (kg/m ²)															
0,50	4,70	1,50														
0,60	5,64	1,75														
0,70	6,57	2,20														

* nominal dead weight of the trapezoidal sheet

(Table 3 continues)

Characteristics of the building structure (and their units)	Value/data	Test/assessment method														
Wall structures group 2																
Uninsulated wall structures assembled using Lindab steel sheet products (LVP35)																
Fire resistance (minute)	E 15 ^[1] ^[2]	MSZ EN 1365-2:2015 MSZ EN 13501-2:2016														
Reaction to fire class (-) <ul style="list-style-type: none"> Hot dip galvanized sheet Classic PE coating Premium PE coating Elite PE coating Underlayer anticondensation felt 	A1 A2-s1, d0 A1 A2-s2, d0 A2-s1, d0	MSZ EN 13501-1:2007+A1:2010														
static model: three or more support																
<table border="1"> <thead> <tr> <th colspan="2">LVP35</th><th rowspan="2">max. span 'L' (m)</th></tr> <tr> <th>t (mm)</th><th>g* (kg/m²)</th></tr> </thead> <tbody> <tr> <td>0,50</td><td>5,06</td><td>1,90</td></tr> <tr> <td>0,60</td><td>6,07</td><td>2,30</td></tr> <tr> <td>0,70</td><td>7,08</td><td>3,00</td></tr> </tbody> </table>			LVP35		max. span 'L' (m)	t (mm)	g* (kg/m ²)	0,50	5,06	1,90	0,60	6,07	2,30	0,70	7,08	3,00
LVP35		max. span 'L' (m)														
t (mm)	g* (kg/m ²)															
0,50	5,06	1,90														
0,60	6,07	2,30														
0,70	7,08	3,00														
* nominal dead weight of the trapezoidal sheet																
Wall structures group 3																
Uninsulated wall structures assembled using Lindab steel sheet products (LVP45)																
Fire resistance (minute)	E 15 ^[1] ^[2]	MSZ EN 1365-2:2015 MSZ EN 13501-2:2016														
Reaction to fire class (-) <ul style="list-style-type: none"> Hot dip galvanized sheet Classic PE coating Premium PE coating Elite PE coating Underlayer anticondensation felt 	A1 A2-s1, d0 A1 A2-s2, d0 A2-s1, d0	MSZ EN 13501-1:2007+A1:2010														
static model: three or more support																
<table border="1"> <thead> <tr> <th colspan="2">LVP45</th><th rowspan="2">max. span 'L' (m)</th></tr> <tr> <th>t (mm)</th><th>g* (kg/m²)</th></tr> </thead> <tbody> <tr> <td>0,50</td><td>5,36</td><td>2,00</td></tr> <tr> <td>0,60</td><td>6,44</td><td>2,50</td></tr> <tr> <td>0,70</td><td>7,51</td><td>3,50</td></tr> </tbody> </table>			LVP45		max. span 'L' (m)	t (mm)	g* (kg/m ²)	0,50	5,36	2,00	0,60	6,44	2,50	0,70	7,51	3,50
LVP45		max. span 'L' (m)														
t (mm)	g* (kg/m ²)															
0,50	5,36	2,00														
0,60	6,44	2,50														
0,70	7,51	3,50														
* nominal dead weight of the trapezoidal sheet																

^[1] Neighboring trapezoidal sheets have to be attached to each other with self-drilling screws in every 200 mm at the most and TBA self-adhesive sealing tape has to be applied between sheets in overlaps. Fastening of trapezoidal sheets is necessary in both valleys beside the joints of sheets while in other areas in each second valley with self-drilling screws to purlins.

^[2] Purlins and wall skeleton beams used in wall boundary structures have to comply with fire resistance and reaction to fire class requirements of the National Fire Code (OTSZ) separately (as load bearing structural components).

Conditions under which the building structure is suitable for its intended use:

Taking the RE 15 and E 15 fire resistance performance verified for the aforementioned building structures in Table 2 and Table 3 of this Certificate of Fire Prevention Conformity into account, provisions of the National Fire Code (OTSZ) in force at all times shall be followed during construction.

Conditions of application based on the National Fire Code (OTSZ) issued with BM decree 28/2011 (IX. 6.):**Roof boundary structures**

- Roofslab enclosure structures group 1
 - Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP20) coated over hot dip galvanization or with Premium PE coating (RE 15; A1) can be applied in hall buildings of fire resistance grade IV-V also taking the data indicated in Table 2 into consideration.
 - Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP20) with Classic PE coating and with underlayer anticondensation felt or with Premium PE coating and with underlayer anticondensation felt (RE 15; A2-s1, d0) can be applied in hall buildings of fire resistance grade IV-V also taking the data indicated in Table 2 into consideration.
 - Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP20) with Elite PE coating and with underlayer anticondensation felt (RE 15; A2-s2, d0) can be applied in hall buildings of fire resistance grade IV-V also taking the data indicated in Table 2 into consideration.
- Roofslab enclosure structures group 2
 - Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP35) coated over hot dip galvanization or with Premium PE coating (RE 15; A1) can be applied in in hall buildings of fire resistance grade IV-V also taking the data indicated in Table 2 into consideration.
 - Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP35) with Classic PE coating and with underlayer anticondensation felt or with Premium PE coating and with underlayer anticondensation felt (RE 15; A2-s1, d0) can be applied in hall buildings of fire resistance grade IV-V also taking the data indicated in Table 2 into consideration.
 - Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP35) with Elite PE coating and with underlayer anticondensation felt (RE 15; A2-s2, d0) can be applied in hall buildings of fire resistance grade IV-V also taking the data indicated in Table 2 into consideration.
- Roofslab enclosure structures group 3
 - Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP45) coated over hot dip galvanization or with Premium PE coating (RE 15; A1) can be applied in hall buildings of fire resistance grade IV-V also taking the data indicated in Table 2 into consideration.
 - Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP45) with Classic PE coating and with underlayer anticondensation felt or with Premium PE coating and with underlayer anticondensation felt (RE 15; A2-s1, d0) can be applied in hall buildings of fire resistance grade IV-V also taking the data indicated in Table 2 into consideration.

- Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP45) with Elite PE coating and with underlayer anticondensation felt (RE 15; A2-s2, d0) can be applied in hall buildings of fire resistance grade IV-V also taking the data indicated in Table 2 into consideration.

Wall structures

– Wall structures group 1

- Wall structures assembled using Lindab steel sheets (LVP20) coated over hot dip galvanization or with Premium PE coating (E 15; A1) can be applied as
 - infill walls (external facade walls) in single-storey unheated buildings of fire resistance grade II-III, or in unheated buildings of fire resistance grade IV with maximum two storeys, or in single-storey unheated buildings of fire resistance grade V, or in single-storey unheated hall buildings of fire resistance grade I-V;
 - wall boundary structures of central corridors and of closed side corridors in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade V;
 - partitions in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade IV-V,

also taking the data indicated in Table 3 into consideration.

- Uninsulated wall structures assembled using Lindab steel sheets (LVP20) with Classic PE coating and with underlayer anticondensation felt or with Premium PE coating and with underlayer anticondensation felt (E 15; A2-s1, d0) can be applied as
 - infill walls (external facade walls) in single-storey unheated buildings of fire resistance grade II-III, or in unheated buildings of fire resistance grade IV with maximum two storeys, or in single-storey unheated buildings of fire resistance grade V, or in single-storey unheated hall buildings of fire resistance grade I-V;
 - wall boundary structures of central corridors and of closed side corridors in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade V;
 - partitions in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade IV-V,

also taking the data indicated in Table 3 into consideration.

- Uninsulated wall structures assembled using Lindab steel sheets (LVP20) with Elite PE coating and with underlayer anticondensation felt (E 15; A2-s2, d0) can be applied as
 - infill walls (external facade walls) in single-storey unheated buildings of fire resistance grade II-III, or in unheated buildings of fire resistance grade IV with maximum two storeys, or in single-storey unheated buildings of fire resistance grade V, or in single-storey unheated hall buildings of fire resistance grade I-V;
 - wall boundary structures of central corridors and of closed side corridors in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade V;
 - partitions in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade IV-V,

also taking the data indicated in Table 3 into consideration.

– Wall structures group 2

- Uninsulated wall structures assembled using Lindab steel sheets (LVP35) coated over hot dip galvanization or with Premium PE coating (E 15; A1) can be applied as
 - infill walls (external facade walls) in single-storey unheated buildings of fire resistance grade II-III, or in unheated buildings of fire resistance grade IV with maximum two storeys, or in single-storey unheated buildings of fire resistance grade V, or in single-storey unheated hall buildings of fire resistance grade I-V;
 - wall boundary structures of central corridors and of closed side corridors in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade V;
 - partitions in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade IV-V,

also taking the data indicated in Table 3 into consideration.

- Uninsulated wall structures assembled using Lindab steel sheets (LVP35) with Classic PE coating and with underlayer anticondensation felt or with Premium PE coating and with underlayer anticondensation felt (E 15; A2-s1, d0) can be applied as
 - infill walls (external facade walls) in single-storey unheated buildings of fire resistance grade II-III, or in unheated buildings of fire resistance grade IV with maximum two storeys, or in single-storey unheated buildings of fire resistance grade V, or in single-storey unheated hall buildings of fire resistance grade I-V;
 - wall boundary structures of central corridors and of closed side corridors in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade V;
 - partitions in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade IV-V,

also taking the data indicated in Table 3 into consideration.

- Uninsulated wall structures assembled using Lindab steel sheets (LVP35) with Elite PE coating and with underlayer anticondensation felt (E 15; A2-s2, d0) can be applied as
 - infill walls (external facade walls) in single-storey unheated buildings of fire resistance grade II-III, or in unheated buildings of fire resistance grade IV with maximum two storeys, or in single-storey unheated buildings of fire resistance grade V, or in single-storey unheated hall buildings of fire resistance grade I-V;
 - wall boundary structures of central corridors and of closed side corridors in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade V;
 - partitions in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade IV-V,

also taking the data indicated in Table 3 into consideration.

– Wall structures group 3

- Uninsulated wall structures assembled using Lindab steel sheets (LVP45) coated over hot dip galvanization or with Premium PE coating (E 15; A1) can be applied as
 - infill walls (external facade walls) in single-storey unheated buildings of fire resistance grade II-III, or in unheated buildings of fire resistance grade IV with maximum two storeys, or in single-storey unheated buildings of fire resistance grade V, or in single-storey unheated hall buildings of fire resistance grade I-V;
 - wall boundary structures of central corridors and of closed side corridors in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade V;
 - partitions in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade IV-V,

also taking the data indicated in Table 3 into consideration.

- Uninsulated wall structures assembled using Lindab steel sheets (LVP45) with Classic PE coating and with underlayer anticondensation felt or with Premium PE coating and with underlayer anticondensation felt (E 15; A2-s1, d0) can be applied as
 - infill walls (external facade walls) in single-storey unheated buildings of fire resistance grade II-III, or in unheated buildings of fire resistance grade IV with maximum two storeys, or in single-storey unheated buildings of fire resistance grade V, or in single-storey unheated hall buildings of fire resistance grade I-V;
 - wall boundary structures of central corridors and of closed side corridors in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade V;
 - partitions in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade IV-V,

also taking the data indicated in Table 3 into consideration.

- Uninsulated wall structures assembled using Lindab steel sheets (LVP45) with Elite PE coating and with underlayer anticondensation felt (E 15; A2-s2, d0) can be applied as
 - infill walls (external facade walls) in single-storey unheated buildings of fire resistance grade II-III, or in unheated buildings of fire resistance grade IV with maximum two storeys, or in single-storey unheated buildings of fire resistance grade V, or in single-storey unheated hall buildings of fire resistance grade I-V;
 - wall boundary structures of central corridors and of closed side corridors in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade V;
 - partitions in single-storey buildings of fire resistance grade V and in hall buildings of fire resistance grade IV-V,

also taking the data indicated in Table 3 into consideration.

Lindab steel sheets type LVP20, LVP35, LVP45 coated over hot dip galvanization or with Premium PE coating (E 15; A1) can be applied as smoke barriers provided that mounting components also belong to A1 reaction to fire class and instructions of Table 3 are also observed during construction.

Additional instructions to be observed during construction of smoke barriers:

- A smoke barrier shall extend into the airspace to an extent as much as possible. Height of a smoke barrier shall correspond with the height of the smoke-free air layer, however, its minimum dimension shall be at least 1,00 m.
- The maximum height permitted for storage can not exceed the altitude of the bottom plane of the smoke barrier.
- Technological equipment (crane track) may limit the extent of a smoke barrier's extension into the airspace which has to be taken into account for the design. If it is not possible to construct a building structure for smoke barrier then the application of a mobile smoke barrier will be necessary.

Lindab steel sheets type LVP20, LVP35, LVP45 with Classic PE or Elite PE coating and with underlayer anticondensation felt cannot be applied as smoke barriers.

Lindab steel sheets (LTP20, LTP35, LTP45, LVP20, LVP35, LVP45) coated over hot dip galvanization or with Classic PE coating or Premium PE coating and with underlayer anticondensation felt can be used as suspended ceilings and claddings for ceilings on escape routes and other areas of buildings without limitation.

Lindab steel sheets (LTP20, LTP35, LTP45, LVP20, LVP35, LVP45) coated with Elite PE coating and with underlayer anticondensation felt cannot be used as suspended ceilings or claddings for ceilings on escape routes of buildings from fire safety aspect. They can be used as suspended ceilings or claddings for ceilings in other areas of buildings of fire resistance grade II-III with maximum three storeys, or of buildings of fire resistance grade IV with maximum two storeys, or of buildings of fire resistance grade V.

During installation the applicable instructions of the manufacturer should be observed.

The Hungarian version of the installation instructions (instruction manual) must be attached to the products.

Conditions of application based on the National Fire Code (OTSZ) issued with BM decree 54/2014. (XII. 5.):

Roofslab enclosure structures

Uninsulated roofslab enclosure structures assembled using Lindab steel sheets (LTP20, LTP35, LTP45) coated over hot dip galvanization or with Premium PE coating or with Classic PE coating or with Elite PE coating and with underlayer anticondensation felt can be applied in buildings listed in Clause 2 of 15 § of the National Fire Code as roof boundary structures without limitation from fire safety aspect.

In other buildings they can be applied only if they satisfy reaction to fire and fire resistance requirements of the National Fire Code.

Wall structures

Wall structures assembled using Lindab steel sheets (LVP20, LVP35, LVP45) coated over hot dip galvanization or with Premium PE coating or with Classic PE coating or with Elite PE coating and with underlayer anticondensation felt can not be applied as load bearing walls, load bearing walls of basements, firewalls, fire resistant partitions, fire resistant walls.

Wall structures assembled using Lindab steel sheets (LVP20, LVP35, LVP45) coated over hot dip galvanization or with Premium PE coating or with Classic PE coating or with Elite PE coating and with underlayer anticondensation felt can be applied in buildings listed in Clause 2 of 15 § of the National Fire Code as wall structures without limitation from fire safety aspect.

There are not any reaction to fire or fire resistance requirements for internal, non-load bearing wall structures in the National Fire Code (OTSZ) issued with BM decree 54/2014. (XII. 5.). Hence, wall structures assembled using Lindab steel sheets (LVP20, LVP35, LVP45) coated over hot dip galvanization or with Premium PE coating or with Classic PE coating or with Elite PE coating and with underlayer anticondensation felt can be applied as internal, non-load bearing wall structures without limitation from fire safety aspect.

There are not any reaction to fire or fire resistance requirements for external, non-load bearing wall structures in the National Fire Code (OTSZ) issued with BM decree 54/2014. (XII. 5.). However, external wall boundary structures have to comply with requirements set for reaction to fire and/or fire propagation on facade, if there is any.

In accordance with the National Fire Code (OTSZ) issued with BM decree 54/2014. (XII. 5.) uninsulated wall structures assembled using Lindab steel sheets (LVP20, LVP35, LVP45) coated over hot dip galvanization or with Premium PE coating (E 15; A1) can be applied as external wall boundary structures – besides taking the data indicated in Table 3 into consideration – where

- the requirement for the reaction to fire class is A1 or lower, and
- when applied as an external wall boundary structure with openings the requirement for fire propagation limit on facade is maximum 15 minutes, and
 - satisfying the criteria for facade fire barrier laid down in the National Fire Code issued with BM decree 54/2014. (XII. 5.) is assured by design, or
 - doors and windows with fire resistance for the same time period as required for fire propagation limit on facade are applied.

In accordance with the National Fire Code (OTSZ) issued with BM decree 54/2014. (XII. 5.) uninsulated wall structures assembled using Lindab steel sheets (LVP20, LVP35, LVP45) coated with Classic PE coating or Premium PE coating and with underlayer anticondensation felt (E 15; A2-s1, d0) can be applied as external wall boundary structures – besides taking the data indicated in Table 3 into consideration – where

- the requirement for the reaction to fire class is A2 or lower, and
- when applied as external wall boundary structure with openings the requirement for fire propagation limit on facade is maximum 15 minutes, and
 - satisfying the criteria for facade fire barrier laid down in the National Fire Code issued with BM decree 54/2014. (XII. 5.) is assured by design, or
 - doors and windows with fire resistance for the same time period as required for fire propagation limit on facade are applied.

In accordance with the National Fire Code (OTSZ) issued with BM decree 54/2014. (XII. 5.) uninsulated wall structures assembled using Lindab steel sheets (LVP20, LVP35, LVP45) coated with Elite PE coating and with underlayer anticondensation felt (E 15; A2-s2, d0) can be applied as external wall boundary structures – besides taking the data indicated in Table 3 into consideration – where

- the requirement for the reaction to fire class is A2 or lower, and
- when applied as external wall boundary structure with openings the requirement for fire propagation limit on facade is maximum 15 minutes, and
 - satisfying the criteria for facade fire barrier laid down in the National Fire Code issued with BM decree 54/2014. (XII. 5.) is assured by design, or
 - doors and windows with fire resistance for the same time period as required for fire propagation limit on facade are applied.

Lindab steel sheets type LVP20, LVP35, LVP45 coated over hot dip galvanization or with Classic PE coating or with Premium PE coating or with Elite PE coating and with underlayer anticondensation felt can be applied as smoke barriers according to Clause 5 of 93 § of the National Fire Code as they satisfy reaction to fire class and fire resistance class requirements of this Clause. Instructions of Table 3 have to be observed during construction.

Lindab steel sheets (LTP20, LTP35, LTP45, LVP20, LVP35, LVP45) coated over hot dip galvanization or with Classic PE coating or Premium PE coating and with underlayer anticondensation felt can be used as suspended ceilings and claddings for ceilings on escape routes and other areas of buildings without limitation.

Lindab steel sheets (LTP20, LTP35, LTP45, LVP20, LVP35, LVP45) coated with Elite PE coating and with underlayer anticondensation felt cannot be used as suspended ceilings or claddings for ceilings on escape routes of buildings from fire safety aspect. They can be used as suspended ceilings or claddings for ceilings in other areas of buildings only if they satisfy respective reaction to fire requirements of the National Fire Code.

During installation the applicable instructions of the manufacturer should be observed.

The Hungarian version of the installation instructions (instruction manual) must be attached to the products.

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