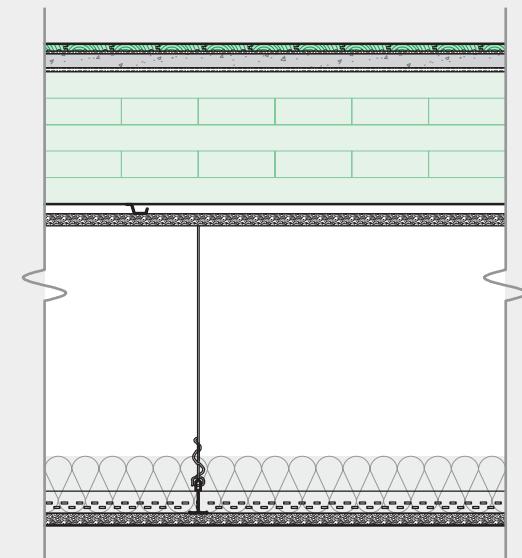
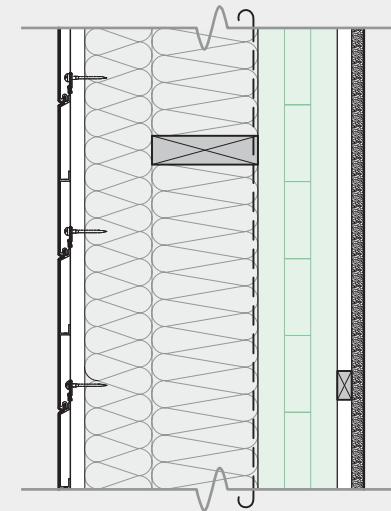
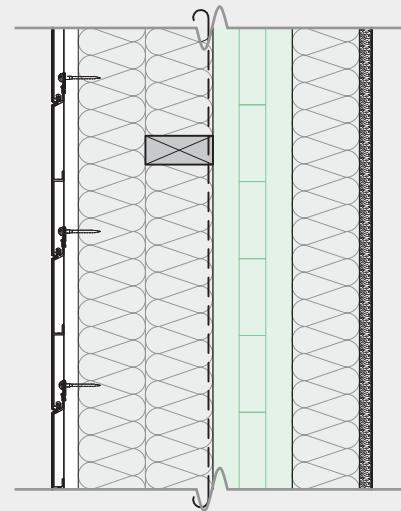


# NORDIC

Mass Timber Construction

## ARCHITECTURAL DETAILS

DETAILS  
NORDIC LAM+ NORDIC X-LAM  
NS-DA2   
ENGLISH  
VERSION  
2022-02-01



**NORDIC**  
STRUCTURES

## ABOUT NORDIC

# NORDIC STRUCTURES

Nordic Structures is the leading innovator in mass timber construction. Its resource comes from responsibly managed lands within the regional boreal forest. Vertical integration, from forest to structure, bolstered by Nordic's experienced design and development team, ensures consistent quality and unparalleled level of service.

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1 866 817-3418

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## TABLE OF CONTENTS

- ii General Notes
- v List of Details
- viii Nordic X-Lam (CLT)
- ix Nordic Lam+ (glulam)

### EXTERIOR WALL

1

### PARTITION

2

### FLOOR

3

### ROOF

4

## GENERAL NOTES

### 1.0 General

- 1.1 This document supersedes all previous versions. For the latest version, consult [nordic.ca](http://nordic.ca) or contact Nordic Structures.
- 1.2 The information contained in this document is provided for information purposes only. This information should not be used for any application without examination and verification of its accuracy, suitability and applicability by a licensed engineer, architect or other professional. Nordic Structures does not guarantee that the information is suitable for any general or particular use, and assumes no responsibility for the use, application of and/or reference to the information.
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- 1.4 For more information, consult [nordic.ca](http://nordic.ca) or contact Nordic Structures.

### 2.0 Fire Safety

- 2.1 The fire resistance rating (FRR) is determined using the design methodology specified in Annex B of CSA O86-14, Engineering design in wood. The fire resistance rating may also be determined on the basis of the results of tests conducted in conformance with CAN/ULC-S101, Fire Endurance Tests of Building Construction and Materials.
- 2.2 To determine the fire resistance of an element or assembly according to other assumptions than those specified in this document, consult the Nordic X-Lam technical guide or use Nordic Sizer software.
- 2.3 The fire performance criteria for evaluating the separating function of building elements shall be considered when required by the applicable building code.
- 2.4 For this purpose, among other requirements, many firestop systems suitable for mass timber are available. For more details, consult the product suppliers.
- 2.5 Additional references: [Fire-Resistance-Tested Mass Timber Assemblies and Penetrations](#).

## GENERAL NOTES (CONTINUED)

### 3.0 Envelope

- 3.1 Good thermal insulation is never arbitrary and must always be chosen according to location, area and climate.
- 3.2 The total thermal resistance of an assembly is calculated according to the values of thermal conductivity,  $\lambda$ , and thermal resistance, RSI, indicated in the following table.
- 3.3 To convert the thermal resistance of the International System (RSI) [ $m^2K/W$ ] to the R-value [ $ft^2Fh/BTU$ ], divide the RSI value by 0.1761.
- 3.4 As stated in technical note NS-NT602-CA-en, Nordic X-Lam cross-laminated timber acts as a vapor barrier.
- 3.5 The use of closed cell spray polyurethane is not recommended for exterior wall assemblies made of cross-laminated timber because of its low permeability.
- 3.6 The study of the building envelope, including the control of condensation, the transfers of heat, air, moisture and sound, as well as the details of joining and fixing of the coverings, shall be carried out in accordance with the applicable building code.

### Thermal Resistance of Materials

Product	t (mm)	$\lambda$ (W/mK)	RSI ( $m^2K/W$ )
Nordic Lam	25	0.13	0.19
Nordic X-Lam	25	0.13	0.19
Sawn lumber	25	0.12	0.21
Spray polyurethane (BASF)	50	0.02	2.50
Stone wool (Rockwool ComfortBatt R24)	139.7	0.033	4.23
Gypsum board	12.7	0.159	0.08
Polyisocyanurate (SOPRA-ISO)	-	0.025	-
Air cavity – Wall	13-20	-	0.16
Air cavity – Ceiling	13-40	-	0.15
	40-90	-	0.16
Interior air film – Wall	-	-	0.12
Interior air film – Ceiling	-	-	0.11
Exterior air film	-	-	0.03

References: Test Report AT-00205 (AIR-INS inc.), Wood Handbook (FPL, 2010), Evaluation Listing CCMC 13588-L (2011), Technical Data Sheet (Rockwool, 2017), Technical Data Sheet 190304SCANE (Soprema, 2019) and Table A-9.36.2.4.1.1)-D of NBC 2015.

## GENERAL NOTES (CONTINUED)

### 4.0 Acoustics

- 4.1 The Sound Transmission Class (STC) rating describes the performance of the separating wall or floor/ceiling assembly, whereas the Apparent Sound Transmission Class (ASTC) takes into consideration the performance of the separating element as well as the flanking transmission paths. Moreover, building professionals should ensure that floors are designed to minimize impact transmission. For more details, see Appendix Note A-9.11. of the NBC 2015.
- 4.2 The following pages present separating assemblies that may comply with the applicable building code. However, selecting an appropriate separating assembly is only one part of the solution for reducing airborne sound transmission between adjoining spaces: to fully address the sound performance of the whole system, flanking assemblies must be connected to the separating assembly. For more details, see Appendix Note A-9.11.1.4. of the NBC 2015.
- 4.3 Unless otherwise noted, concrete topping and prefabricated concrete topping used in assemblies have a density of 2 710 kg/m<sup>3</sup>.
- 4.4 The use of prefabricated concrete topping in floor assemblies is only required by the acoustical testing procedure.
- 4.5 The use of an acoustic membrane under a floor covering is recommended, especially when it is a hard surface coating (e.g. ceramic).
- 4.6 Unless otherwise noted, the acoustic performance values are derived from test results from a certified laboratory. Test reports are available upon request.
- 4.7 Additional references:
  - [WoodWorks – Acoustics and Mass Timber: Room-to-Room Noise Control](#)
  - [WoodWorks – Acoustically-Tested Mass Timber Assemblies](#)
  - [University of Oregon – Acoustic Lab Testing of Typical Multi-Family Residential Wall and Floor Assemblies](#)

## LIST OF DETAILS

### Exterior Wall

Detail	Product	Fire-resistance rating FRR	Thermal resistance		STC	Acoustic ratings			Drawing	Date	Page
			RSI	R		ASTC	IIC	AIIC			
E1	Nordic X-Lam 105-3s	1.0 h	6.7	3.8	n.a.	n.a.	n.a.	n.a.	NS-DA2000	2022-02-01	1.1
E2	Nordic X-Lam 105-3s	0.5 h	4.8	27	n.a.	n.a.	n.a.	n.a.	NS-DA2001	2022-02-01	1.2
E3	Nordic X-Lam 105-3s	1.0 h	5.0	28	n.a.	n.a.	n.a.	n.a.	NS-DA2002	2022-02-01	1.3
E4	Nordic X-Lam 105-3s	0.5 h	3.7	21	n.a.	n.a.	n.a.	n.a.	NS-DA2003	2022-02-01	1.4
E5	Nordic X-Lam 105-3s	1.0 h	4.0	22	n.a.	n.a.	n.a.	n.a.	NS-DA2004	2022-02-01	1.5
E6	Nordic X-Lam 105-3s	0.5 h	2.9	16	n.a.	n.a.	n.a.	n.a.	NS-DA2005	2022-02-01	1.6
E7	Nordic X-Lam 105-3s	1.0 h	3.1	18	n.a.	n.a.	n.a.	n.a.	NS-DA2006	2022-02-01	1.7
E8	Nordic X-Lam 105-3s	0.5 h	3.4	20	n.a.	n.a.	n.a.	n.a.	NS-DA2007	2022-02-01	1.8
E9	Nordic X-Lam 105-3s	1.0 h	3.7	21	n.a.	n.a.	n.a.	n.a.	NS-DA2008	2022-02-01	1.9
E10	Nordic X-Lam 105-3s	0.5 h	5.8	33	n.a.	n.a.	n.a.	n.a.	NS-DA2009	2022-02-01	1.10
E11	Nordic X-Lam 105-3s	1.0 h	6.1	35	n.a.	n.a.	n.a.	n.a.	NS-DA2010	2022-02-01	1.11

### Partition

Detail	Product	Fire-resistance rating FRR	Thermal resistance		STC	Acoustic ratings			Drawing	Date	Page
			RSI	R		ASTC	IIC	AIIC			
P1	Nordic X-Lam 105-3s	0.5 h	0.5 h	n.a.	n.a.	33	n.a.	n.a.	NS-DA2100	2022-02-01	2.1
P2	Nordic X-Lam 105-3s	1.0 h	1.0 h	n.a.	n.a.	58	n.a.	n.a.	NS-DA2101	2022-02-01	2.2
P3	Nordic X-Lam 105-3s	1.0 h	1.0 h	n.a.	n.a.	53	n.a.	n.a.	NS-DA2102	2022-02-01	2.3
P4	Nordic X-Lam 105-3s	1.0 h	1.0 h	n.a.	n.a.	37	n.a.	n.a.	NS-DA2103	2022-02-01	2.4
P5	Nordic X-Lam 105-3s	0.5 h	1.0 h	n.a.	n.a.	37	n.a.	n.a.	NS-DA2104	2022-02-01	2.5
P6	Nordic X-Lam 105-3s	0.5 h	1.0 h	n.a.	n.a.	n.a.	47	n.a.	NS-DA2105	2022-02-01	2.6
P7	Nordic X-Lam 105-3s	1.0 h	1.0 h	n.a.	n.a.	n.a.	50	n.a.	NS-DA2106	2022-02-01	2.7
P8	Nordic X-Lam 105-3s	1.0 h	1.0 h	n.a.	n.a.	n.a.	54	n.a.	NS-DA2107	2022-02-01	2.8
P9	Nordic X-Lam 175-5s	1.5 h	1.5 h	n.a.	n.a.	37	n.a.	n.a.	NS-DA2108	2022-02-01	2.9
P10	Nordic X-Lam 175-5s	1.5 h	2.5 h	n.a.	n.a.	53	n.a.	n.a.	NS-DA2109	2022-02-01	2.10
P11	Nordic X-Lam 175-5s	2.5 h	2.5 h	n.a.	n.a.	71	n.a.	n.a.	NS-DA2110	2022-02-01	2.11
P12	Nordic X-Lam 175-5s	2.5 h	2.5 h	n.a.	n.a.	53	n.a.	n.a.	NS-DA2111	2022-02-01	2.12
P13	Nordic X-Lam 175-5s	2.5 h	2.5 h	n.a.	n.a.	53	n.a.	n.a.	NS-DA2112	2022-02-01	2.13
P14	Nordic X-Lam 175-5s	2.5 h	2.5 h	n.a.	n.a.	65	n.a.	n.a.	NS-DA2113	2022-02-01	2.14
P15	Nordic X-Lam 175-5s	2.5 h	1.5 h	n.a.	n.a.	62	n.a.	n.a.	NS-DA2114	2022-02-01	2.15
P16	Nordic X-Lam 175-5s	2.5 h	2.5 h	n.a.	n.a.	61	n.a.	n.a.	NS-DA2115	2022-02-01	2.16

## LIST OF DETAILS (CONTINUED)

### Floor

Detail	Product	Fire-resistance rating FRR	Thermal resistance		STC	Acoustic ratings			Drawing	Date	Page
			RSI	R		ASTC	IIC	AIIC			
F1	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	39	n.a.	27	n.a.	NS-DA2200	2022-02-01	3.1
F2	Nordic X-Lam 175-5s	2.5 h	n.a.	n.a.	64	n.a.	59	n.a.	NS-DA2201	2022-02-01	3.2
F3	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	n.a.	n.a.	54	n.a.	NS-DA2202	2022-02-01	3.3
F4	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	n.a.	47	n.a.	46	NS-DA2203	2022-02-01	3.4
F5	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	n.a.	59	n.a.	61	NS-DA2204	2022-02-01	3.5
F6	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	n.a.	58	n.a.	60	NS-DA2205	2022-02-01	3.6
F7	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	n.a.	54	n.a.	56	NS-DA2206	2022-02-01	3.7
F8	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	n.a.	53	n.a.	52	NS-DA2207	2022-02-01	3.8
F9	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	62	n.a.	59	n.a.	NS-DA2208	2022-02-01	3.9
F10	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	n.a.	61	n.a.	50	NS-DA2209	2022-02-01	3.10
F11	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	55	n.a.	51	n.a.	NS-DA2210	2022-02-01	3.11
F12	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	70	n.a.	56	n.a.	NS-DA2211	2022-02-01	3.12
F13	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	69	n.a.	54	n.a.	NS-DA2212	2022-02-01	3.13
F14	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	69	n.a.	58	n.a.	NS-DA2213	2022-02-01	3.14
F15	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	72	n.a.	65	n.a.	NS-DA2214	2022-02-01	3.15
F16	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	73	n.a.	66	n.a.	NS-DA2215	2022-02-01	3.16
F17	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	72	n.a.	62	n.a.	NS-DA2216	2022-02-01	3.17
F18	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	75	n.a.	66	n.a.	NS-DA2217	2022-02-01	3.18
F19	Nordic Lam 89 mm	1.0 h	n.a.	n.a.	52	n.a.	51	n.a.	NS-DA2218	2022-02-01	3.19
F20	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	61	n.a.	55	n.a.	NS-DA2219	2022-02-01	3.20
F21	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	58	n.a.	58	n.a.	NS-DA2220	2022-02-01	3.21
F22	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	57	n.a.	54	n.a.	NS-DA2221	2022-02-01	3.22
F23	Nordic X-Lam 175-5s	2.5 h	n.a.	n.a.	54	n.a.	53	n.a.	NS-DA2222	2022-02-01	3.23
F24	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	62	n.a.	59	n.a.	NS-DA2223	2022-02-01	3.24
F25	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	n.a.	>50	n.a.	>50	NS-DA2224	2022-02-01	3.25
F26	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	n.a.	>50	n.a.	>50	NS-DA2225	2022-02-01	3.26
F27	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	n.a.	>45	n.a.	>45	NS-DA2226	2022-02-01	3.27
F28	Nordic X-Lam 175-5s	2.0 h	n.a.	n.a.	n.a.	>45	n.a.	>45	NS-DA2227	2022-02-01	3.28
F29	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	64	n.a.	53	n.a.	NS-DA2228	2022-02-01	3.29
F30	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	66	n.a.	60	n.a.	NS-DA2229	2022-02-01	3.30
F31	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	59	n.a.	53	n.a.	NS-DA2230	2022-02-01	3.31
F32	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	56	n.a.	50	n.a.	NS-DA2231	2022-02-01	3.32
F33	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	59	n.a.	54	n.a.	NS-DA2232	2022-02-01	3.33
F34	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	60	n.a.	54	n.a.	NS-DA2233	2022-02-01	3.34
F35	Nordic Lam 89 mm	1.0 h	n.a.	n.a.	65	n.a.	59	n.a.	NS-DA2234	2022-02-01	3.35
F36	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	56	n.a.	52	n.a.	NS-DA2235	2022-02-01	3.36
F37	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	57	n.a.	51	n.a.	NS-DA2236	2022-02-01	3.37
F38	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	57	n.a.	51	n.a.	NS-DA2237	2022-02-01	3.38
F39	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	57	n.a.	51	n.a.	NS-DA2238	2022-02-01	3.39
F40	Nordic X-Lam 175-5s	1.5 h	n.a.	n.a.	60	n.a.	58	n.a.	NS-DA2239	2022-02-01	3.40
F41	Nordic Lam 89 mm	1.0 h	n.a.	n.a.	65	n.a.	62	n.a.	NS-DA2240	2022-02-01	3.41

## LIST OF DETAILS (CONTINUED)

### Roof

Detail	Product	Fire-resistance rating		Thermal resistance		STC	Acoustic ratings			Drawing	Date	Page
		FRR		RSI	R		ASTC	IIC	AIIC			
R1	Nordic X-Lam 105-3s	1.0 h		7.9	45	n.a.	n.a.	n.a.	n.a.	NS-DA2300	2022-02-01	4.1
R2	Nordic X-Lam 105-3s	1.5 h		8.2	47	n.a.	n.a.	n.a.	n.a.	NS-DA2301	2022-02-01	4.2
R3	Nordic X-Lam 105-3s	1.0 h		7.9	45	n.a.	n.a.	n.a.	n.a.	NS-DA2302	2022-02-01	4.3
R4	Nordic X-Lam 105-3s	1.5 h		8.2	47	n.a.	n.a.	n.a.	n.a.	NS-DA2303	2022-02-01	4.4
R5	Nordic X-Lam 175-5s	1.5 h		7.5	43	n.a.	n.a.	n.a.	n.a.	NS-DA2304	2022-02-01	4.5
R6	Nordic X-Lam 175-5s	2.0 h		7.7	44	n.a.	n.a.	n.a.	n.a.	NS-DA2305	2022-02-01	4.6
R7	Nordic X-Lam 175-5s	2.0 h		7.7	44	n.a.	n.a.	n.a.	n.a.	NS-DA2306	2022-02-01	4.7
R8	Nordic X-Lam 175-5s	1.5 h		7.5	43	n.a.	n.a.	n.a.	n.a.	NS-DA2307	2022-02-01	4.8
R9	Nordic X-Lam 175-5s	2.0 h		7.7	44	n.a.	n.a.	n.a.	n.a.	NS-DA2308	2022-02-01	4.9
R10	Nordic Lam 89 mm	1.0 h		7.8	44	n.a.	n.a.	n.a.	n.a.	NS-DA2309	2022-02-01	4.10

CLT



## NORDIC X-LAM CROSS-LAMINATED TIMBER

Nordic X-Lam cross-laminated timber is made of at least three orthogonal layers of graded sawn lumber that are laminated by gluing with structural adhesives.

### SLABS AND PANELS

#### Layup combinations

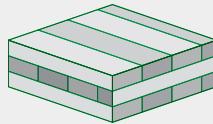
89-3s, 105-3s,  
143-5s, 175-5s,  
197-7s, 213-7l, 245-7s, 245-7l  
and 267-9l

#### Maximum sizes

2.70 × 19.5 m (106-1/4 in. × 64 ft)

#### Stress grade

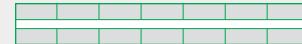
E1 (L 1950Fb and T No. 3/Stud)



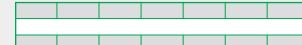
### NORDIC X-LAM LAYUP COMBINATIONS

3 LAYERS

89-3s

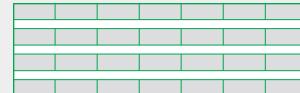


105-3s

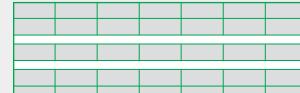


7 LAYERS

197-7s

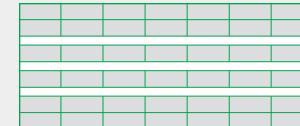


213-7l



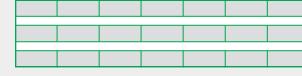
9 LAYERS

267-9l

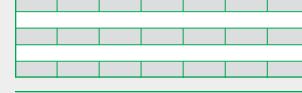


5 LAYERS

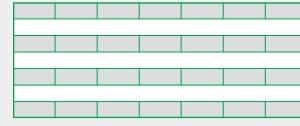
143-5s



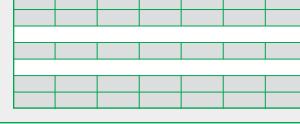
175-5s



245-7s



245-7l



## GLULAM



### NORDIC LAM+ GLUED-LAMINATED TIMBER

Nordic Lam+ glued-laminated timber of architectural appearance grade consists of small wood laminations bonded together in parallel using structural adhesives.

#### BEAMS AND COLUMNS

##### Widths\*

38, 86, 137, 184, 215, 241, 292,  
346, 395, 448, 502, 552 and 603 mm  
(1-1/2, 3-3/8, 5-3/8, 7-1/4, 8-1/2, 9-1/2, 11-1/2,  
13-5/8, 15-1/2, 17-5/8, 19-3/4, 21-3/4 and 23-3/4 in.)

##### Depths\*

From 67 to 2435 mm  
(2-5/8 to 95-7/8 in.)

##### Lengths\*

Up to 24.4 m (80 ft)

##### Stress grade

24F-ES/NPG



\* Larger sizes available upon request

#### DECKING

##### Thicknesses\*

38, 44, 54 and 89 mm  
(1-1/2, 1-3/4, 2-1/8 and 3-1/2 in.)

##### Widths

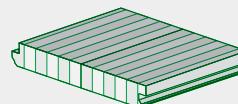
203, 305 and 406 mm  
(8, 12 and 16 in.)

##### Lengths

Up to 18.9 m (62 ft)

##### Stress grades

ES11, except 89 mm thickness in 20F-ES/CPG



\* Larger sizes available upon request



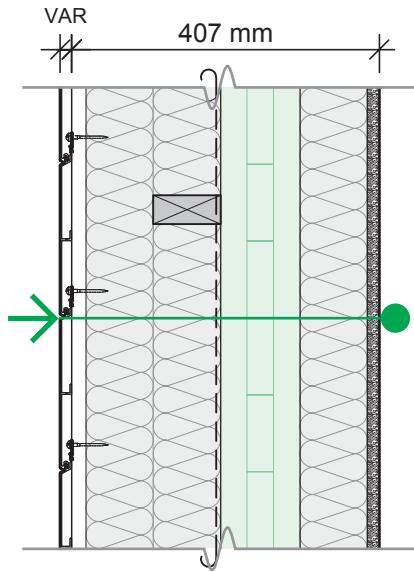
# NORDIC

DETAILS  
NORDIC LAM+ NORDIC X-LAM  
NS-DA2   
ENGLISH  
VERSION  
2022-02-01

EXTERIOR WALL

1

**NORDIC**  
STRUCTURES

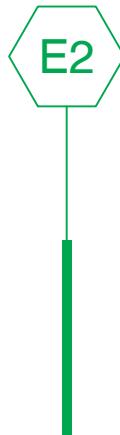
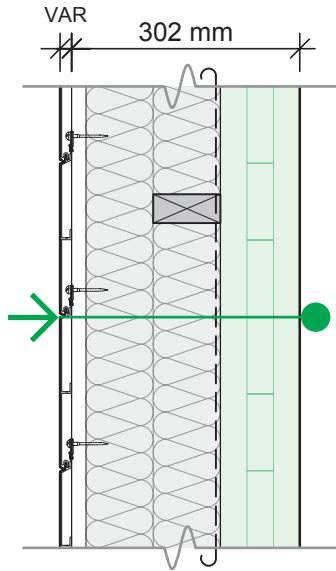


E1

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	6.7 / 38
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

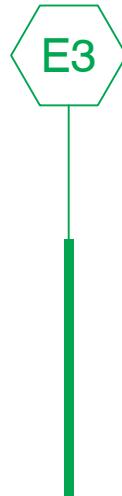
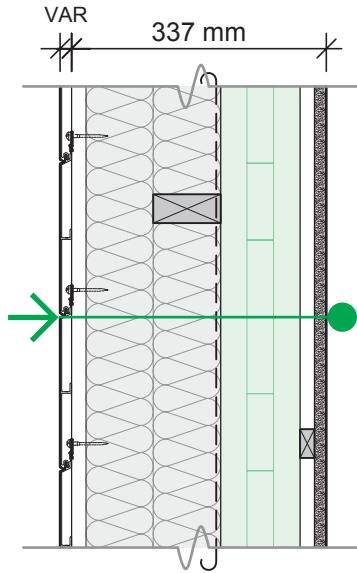
- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- WOOD FURRING 38 mm X 89 mm @ 610 mm O.C.
- 2 ROWS OF STONE WOOL INSULATION 89 mm EA.
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- 1 ROW OF STONE WOOL INSULATION 89 mm
- 1 TYPE X GYPSUM BOARD 15.9 mm



Fire-resistance rating	FRR <sup>(a)</sup>	30 min
Thermal resistance	RSI / R	4.8 / 27
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

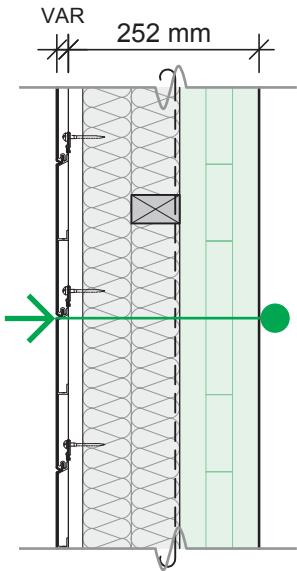
- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- WOOD FURRING 38 mm X 89 mm @ 610 mm O.C.
- 2 ROWS OF STONE WOOL INSULATION 89 mm EA.
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm



Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	5.0 / 28
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- WOOD FURRING 38 mm X 89 mm @ 610 mm O.C.
- 2 ROWS OF STONE WOOL INSULATION 89 mm EA.
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm
- WOOD FURRING 19 mm @ 610 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

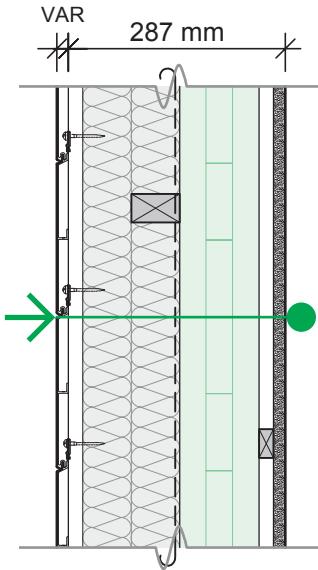


**E4**

Fire-resistance rating	FRR <sup>(a)</sup>	30 min
Thermal resistance	RSI / R	3.7 / 21
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 64 mm @ 610 mm O.C.
- WOOD FURRING 38 mm X 64 mm @ 610 mm O.C.
- 2 ROWS OF STONE WOOL INSULATION 64 mm EA.
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm

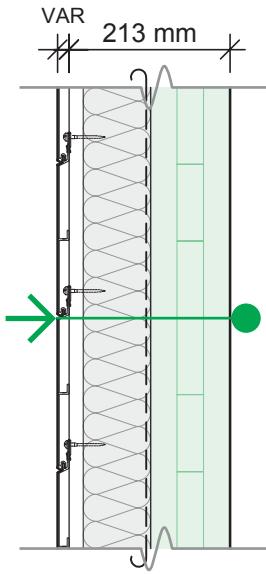


E5

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	4.0 / 22
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 64 mm @ 610 mm O.C.
- WOOD FURRING 38 mm X 64 mm @ 610 mm O.C.
- 2 ROWS OF STONE WOOL INSULATION 64 mm EA.
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm
- WOOD FURRING 19 mm @ 610 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

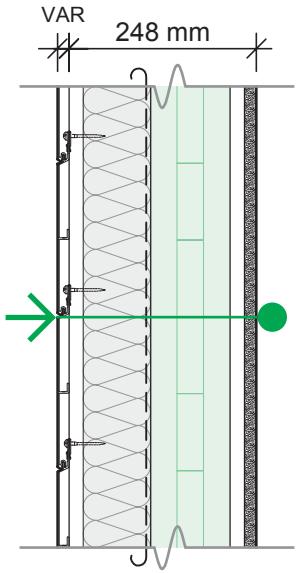


**E6**

Fire-resistance rating	FRR <sup>(a)</sup>	30 min
Thermal resistance	RSI / R	2.9 / 16
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- 1 ROW OF STONE WOOL INSULATION 89 mm
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm

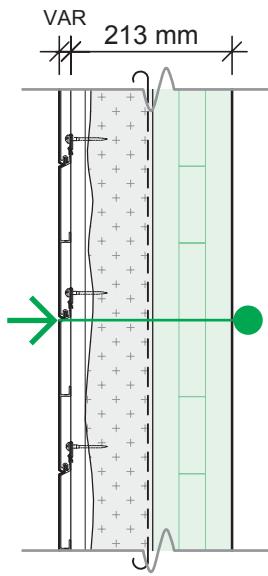


E7

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	3.1 / 18
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- 1 ROW OF STONE WOOL INSULATION 89 mm
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm
- WOOD FURRING 19 mm @ 610 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

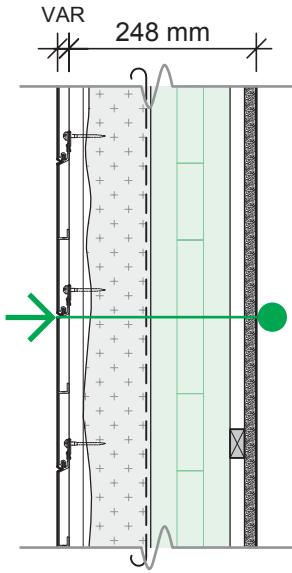


**E8**

Fire-resistance rating	FRR <sup>(a)</sup>	30 min
Thermal resistance	RSI / R	3.4 / 20
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- SPRAYED POLYURETHANE FOAM 89 mm
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm

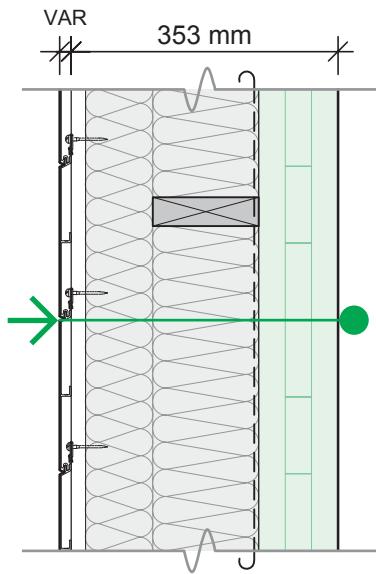


**E9**

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	3.7 / 21
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- SPRAYED POLYURETHANE FOAM 89 mm
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm
- WOOD FURRING 19 mm @ 610 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

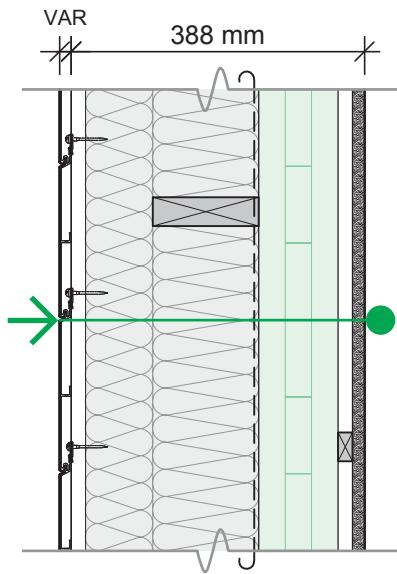


**E10**

Fire-resistance rating	FRR <sup>(a)</sup>	30 min
Thermal resistance	RSI / R	5.8 / 33
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- WOOD FURRING 38 mm X 140 mm @ 610 mm O.C.
- 1 ROW OF STONE WOOL INSULATION 89 mm
- 1 ROW OF STONE WOOL INSULATION 140 mm
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm



**E11**

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	6.1 / 35
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- CLADDING (UP TO THE DESIGNER)
- AIR GAP 19 mm
- WOOD STUDS 38 mm X 89 mm @ 610 mm O.C.
- WOOD FURRING 38 mm X 140 mm @ 610 mm O.C.
- 1 ROW OF STONE WOOL INSULATION 89 mm
- 1 ROW OF STONE WOOL INSULATION 140 mm
- AIR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm
- WOOD FURRING 19 mm @ 610 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

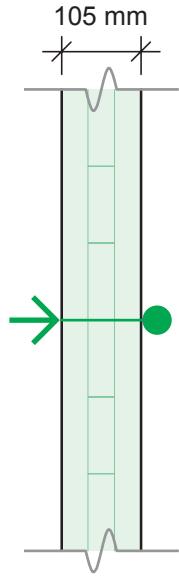
# NORDIC

DETAILS  
NORDIC LAM+ NORDIC X-LAM  
NS-DA2   
ENGLISH  
VERSION  
2022-02-01

PARTITION

2

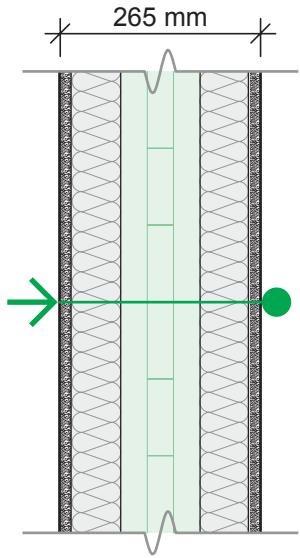
**NORDIC**  
STRUCTURES



P1

Fire-resistance rating	FRR <sup>(a)</sup>	30 min / 30 min
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	33 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

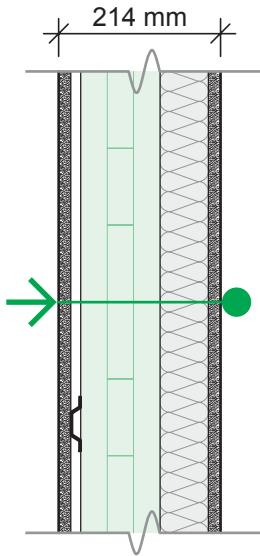
- a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.
- b) Composition and acoustic performance taken from the CLT Handbook – Canadian Edition (FPInnovations, 2011). Acoustic performance based on a CLT thickness of 95-115 mm.
  - NORDIC X-LAM 105 mm



P2

Fire-resistance rating	FRR <sup>(a)</sup>	1 h / 1 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	58 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

- a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.
- b) Composition and acoustic performance taken from the CLT Handbook – Canadian Edition (FPInnovations, 2011). Acoustic performance based on a CLT thickness of 95-115 mm.
- 1 TYPE X GYPSUM BOARD 15.9 mm
  - 1 ROW OF MINERAL WOOL INSULATION 64 mm
  - WOOD STUDS 38 mm X 64 mm @ 610 mm O.C.
  - NORDIC X-LAM 105 mm
  - WOOD STUDS 38 mm X 64 mm @ 610 mm O.C. OFF-CENTERED FROM THE OTHER ROW OF WOOD STUDS
  - 1 ROW OF MINERAL WOOL INSULATION 64 mm
  - 1 TYPE X GYPSUM BOARD 15.9 mm

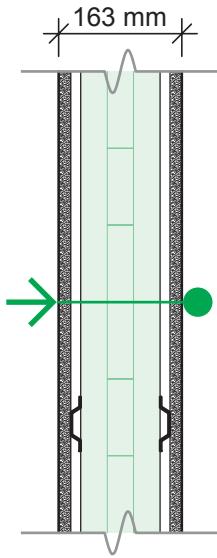


P3

Fire-resistance rating	FRR <sup>(a)</sup>	1 h / 1 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	53 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

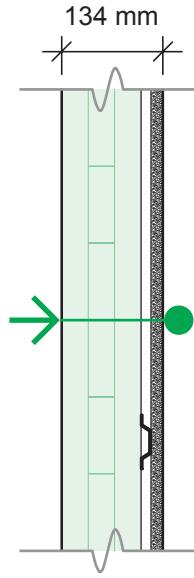
- 1 TYPE X GYPSUM BOARD 15.9 mm
- RESILIENT CHANNELS 12.7 mm @ 406 mm O.C. INSTALLED HORIZONTALLY
- NORDIC X-LAM 105 mm
- WOOD STUDS 38 mm X 64 mm @ 610 mm O.C.
- 1 ROW OF MINERAL WOOL INSULATION 64 mm
- 1 TYPE X GYPSUM BOARD 15.9 mm



P4

Fire-resistance rating	FRR <sup>(a)</sup>	1 h / 1 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	37 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

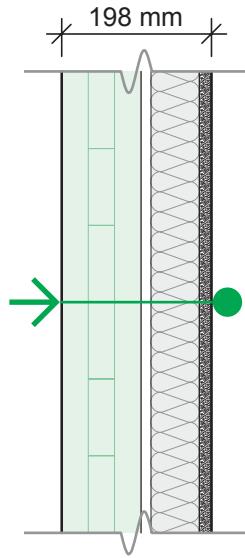
- a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.
- b) Composition and acoustic performance taken from the CLT Handbook – Canadian Edition (FPInnovations, 2011). Acoustic performance based on a CLT thickness of 95-115 mm.
- 1 TYPE X GYPSUM BOARD 15.9 mm
  - RESILIENT CHANNELS 12.7 mm @ 406 mm O.C. INSTALLED HORIZONTALLY
  - NORDIC X-LAM 105 mm
  - RESILIENT CHANNELS 12.7 mm @ 406 mm O.C. INSTALLED HORIZONTALLY
  - 1 TYPE X GYPSUM BOARD 15.9 mm



P5

Fire-resistance rating	FRR <sup>(a)</sup>	30 min / 1 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	37 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

- a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.
- b) Composition and acoustic performance taken from the CLT Handbook – Canadian Edition (FPInnovations, 2011). Acoustic performance based on a CLT thickness of 95-115 mm.
  - NORDIC X-LAM 105 mm
  - RESILIENT CHANNELS 12.7 mm @ 406 mm O.C. INSTALLED HORIZONTALLY
  - 1 TYPE X GYPSUM BOARD 15.9 mm

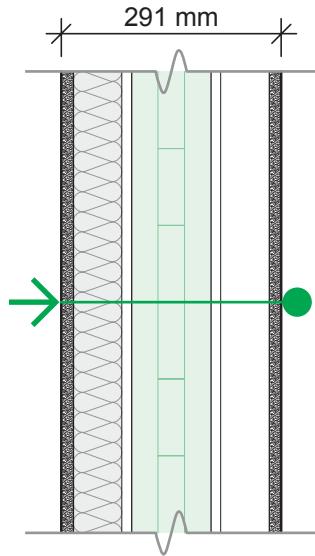


P6

Fire-resistance rating	FRR <sup>(a)</sup>	30 min / 1 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	n.a. / 47
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- NORDIC X-LAM 105 mm
- AIR GAP 12.7 mm
- WOOD STUDS 38 mm X 64 mm @ 406 mm O.C.
- 1 ROW OF MINERAL WOOL INSULATION 64 mm
- 1 TYPE X GYPSUM BOARD 15.9 mm

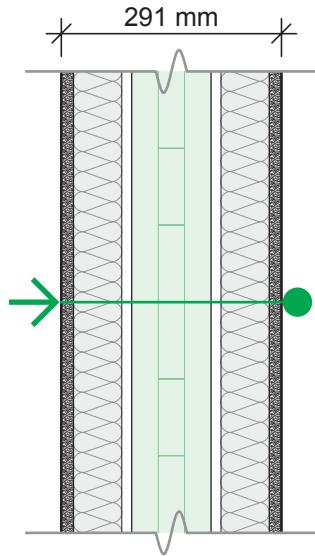


P7

Fire-resistance rating	FRR <sup>(a)</sup>	1 h	/	1 h
Thermal resistance	RSI / R	n.a.	/	n.a.
	STC / ASTC	n.a.	/	50
Acoustic ratings	IIC / AIIC	n.a.	/	n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

- 1 TYPE X GYPSUM BOARD 15.9 mm
- 1 ROW OF MINERAL WOOL INSULATION 64 mm
- WOOD STUDS 38 mm X 64 mm @ 406 mm O.C.
- AIR GAP 12.7 mm
- NORDIC X-LAM 105 mm
- AIR GAP 12.7 mm
- WOOD STUDS 38 mm X 64 mm @ 406 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

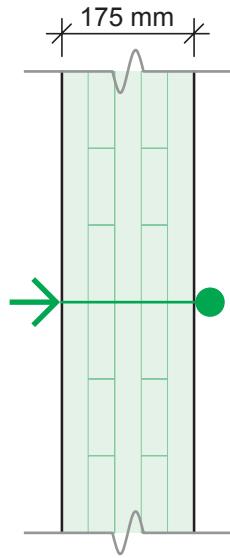


P8

Fire-resistance rating	FRR <sup>(a)</sup>	1 h	/	1 h
Thermal resistance	RSI / R	n.a.	/	n.a.
	STC / ASTC	n.a.	/	54
Acoustic ratings	IIC / AIIC	n.a.	/	n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 300 kN/m.

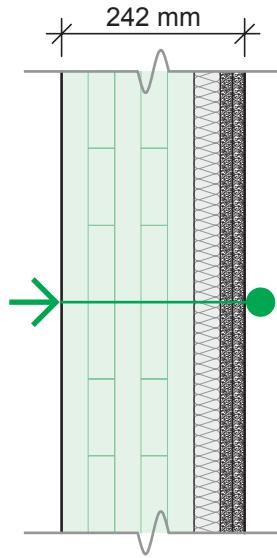
- 1 TYPE X GYPSUM BOARD 15.9 mm
- 1 ROW OF MINERAL WOOL INSULATION 64 mm
- WOOD STUDS 38 mm X 64 mm @ 406 mm O.C.
- AIR GAP 12.7 mm
- NORDIC X-LAM 105 mm
- AIR GAP 12.7 mm
- WOOD STUDS 38 mm X 64 mm @ 406 mm O.C.
- 1 ROW OF MINERAL WOOL INSULATION 64 mm
- 1 TYPE X GYPSUM BOARD 15.9 mm



P9

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h / 1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	37 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 800 kN/m.  
– NORDIC X-LAM 175 mm

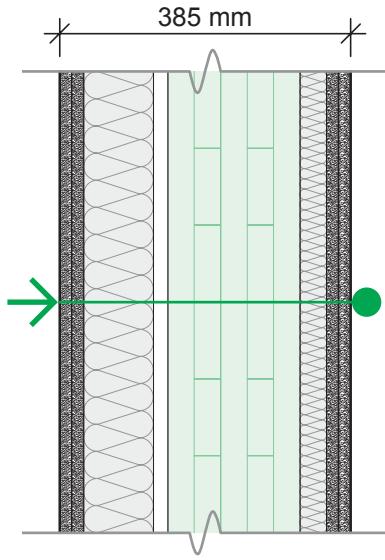


P10

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h / 2.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	53 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 800 kN/m.

- NORDIC X-LAM 175 mm
- Z-CHANNELS (26 GAUGE) 35 mm @ 406 mm O.C.  
INSTALLED VERTICALLY
- 1 ROW OF FIBREGLASS INSULATION OF TYPE  
"ROSE FIBERGLAS ECOTOUCH" 38 mm
- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.

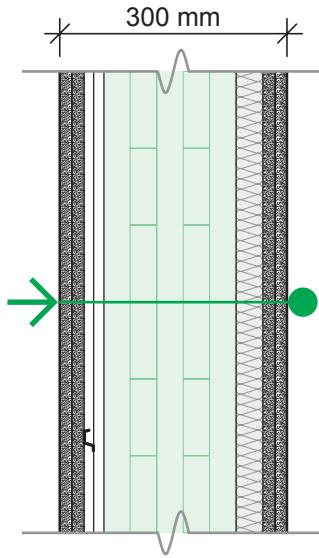


P11

Fire-resistance rating	FRR <sup>(a)</sup>	2.5 h / 2.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	71 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 800 kN/m.

- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.
- METAL STUDS (26 GAUGE) 31 mm X 92 mm @ 406 mm O.C.
- 1 ROW OF FIBREGLASS INSULATION OF TYPE "ROSE FIBERGLAS ECOTOUCH" 92 mm
- AIR GAP 19 mm
- NORDIC X-LAM 175 mm
- Z-CHANNELS (26 GAUGE) 35 mm @ 406 mm O.C. INSTALLED VERTICALLY
- 1 ROW OF FIBREGLASS INSULATION OF TYPE "ROSE FIBERGLAS ECOTOUCH" 38 mm
- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.

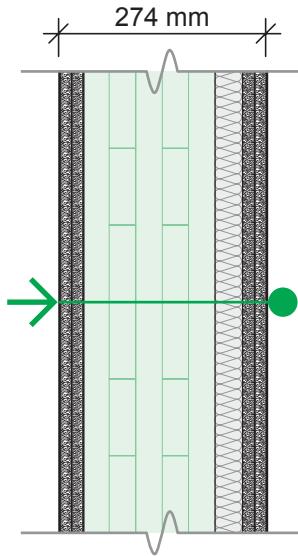


P12

Fire-resistance rating	FRR <sup>(a)</sup>	2.5 h / 2.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	53 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 800 kN/m.

- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.
- RESILIENT CHANNELS 12.7 mm @ 406 mm O.C.  
INSTALLED HORIZONTALLY
- PLYWOOD STRIPS 12.7 mm @ 406 mm O.C.
- NORDIC X-LAM 175 mm
- Z-CHANNELS (26 GAUGE) 35 mm @ 406 mm O.C.  
INSTALLED VERTICALLY
- 1 ROW OF FIBREGLASS INSULATION OF TYPE  
"ROSE FIBERGLAS ECOTOUCH" 38 mm
- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.

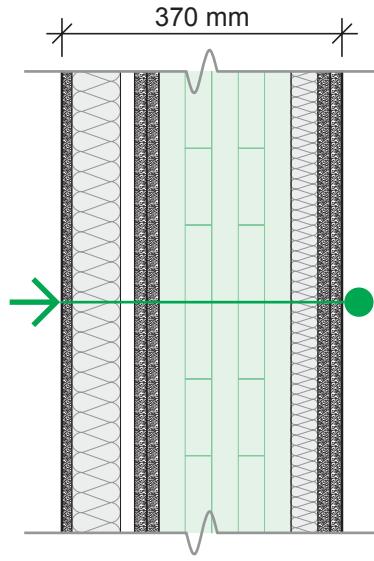


P13

Fire-resistance rating	FRR <sup>(a)</sup>	2.5 h / 2.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	53 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 800 kN/m.

- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.
- NORDIC X-LAM 175 mm
- Z-CHANNELS (26 GAUGE) 35 mm @ 406 mm O.C.  
INSTALLED VERTICALLY
- 1 ROW OF FIBREGLASS INSULATION OF TYPE  
"ROSE FIBERGLAS ECOTOUCH" 38 mm
- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.

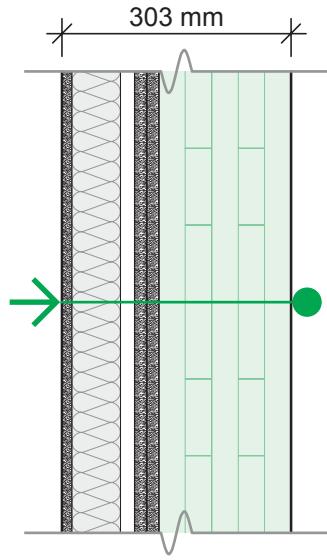


P14

Fire-resistance rating	FRR <sup>(a)</sup>	2.5 h / 2.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	65 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 800 kN/m.

- 1 TYPE C GYPSUM BOARD 12.7 mm
- METAL STUDS (26 GAUGE) 31 mm X 64 mm @ 406 mm O.C.
- 1 ROW OF STONE WOOL INSULATION OF TYPE "ROXUL AFB" 64 mm
- AIR GAP 19 mm
- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.
- NORDIC X-LAM 175 mm
- Z-CHANNELS (26 GAUGE) 35 mm @ 406 mm O.C.  
INSTALLED VERTICALLY
- 1 ROW OF FIBREGLASS INSULATION OF TYPE  
"ROSE FIBERGLAS ECOTOUCH" 38 mm
- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.

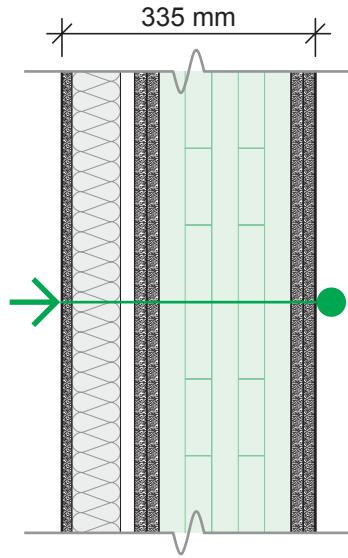


P15

Fire-resistance rating	FRR <sup>(a)</sup>	2.5 h / 1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	62 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 800 kN/m.

- 1 TYPE C GYPSUM BOARD 12.7 mm
- METAL STUDS (26 GAUGE) 31 mm X 64 mm @ 406 mm O.C.
- 1 ROW OF STONE WOOL INSULATION OF TYPE "ROXUL AFB" 64 mm
- AIR GAP 19 mm
- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.
- NORDIC X-LAM 175 mm



P16

Fire-resistance rating	FRR <sup>(a)</sup>	2.5 h / 2.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	61 / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance ratings on each side of the partition are based on an effective length of 3 m and on a concentric specified uniform load of 800 kN/m.

- 1 TYPE C GYPSUM BOARD 12.7 mm
- METAL STUDS (26 GAUGE) 31 mm X 64 mm @ 406 mm O.C.
- 1 ROW OF STONE WOOL INSULATION OF TYPE "ROXUL AFB" 64 mm
- AIR GAP 19 mm
- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.
- NORDIC X-LAM 175 mm
- 2 TYPE X GYPSUM BOARDS 15.9 mm EA.

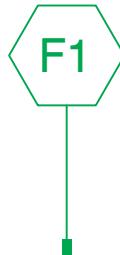
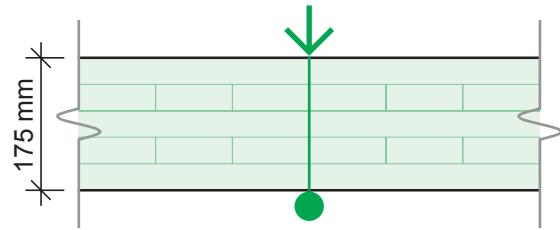
# NORDIC

DETAILS  
NORDIC LAM+ NORDIC X-LAM  
NS-DA2   
ENGLISH  
VERSION  
2022-02-01

FLOOR

3

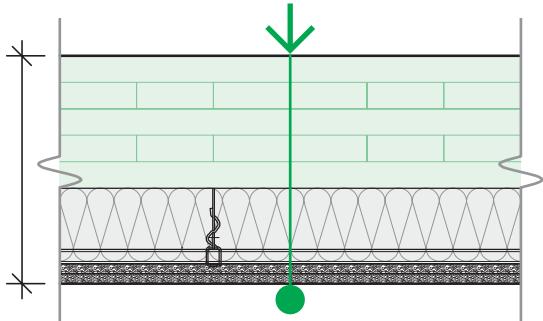
**NORDIC**  
STRUCTURES



Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	39 / n.a.
Acoustic ratings	IIC / AIIC	27 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

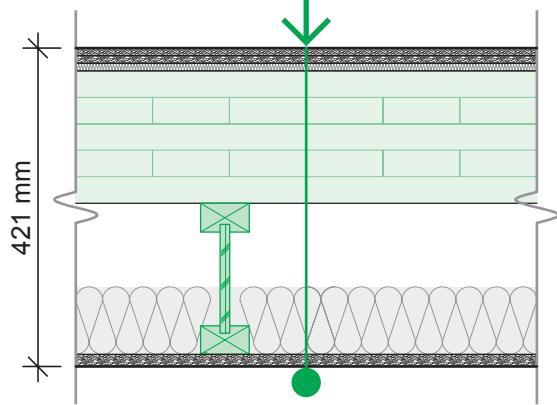
– NORDIC X-LAM 175 mm



F2

Fire-resistance rating	FRR <sup>(a)</sup>	2.5 h
Thermal resistance	RSI / R	n.a. / n.a.
Acoustic ratings	STC <sup>(b)</sup> / ASTC IIC <sup>(b)</sup> / AIIC	64 / n.a. 59 / n.a.

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.
- b) Composition and acoustic performance taken from the CLT Handbook – Canadian Edition (FPInnovations, 2011). Acoustic performance based on a CLT thickness of 146 mm.
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - RESILIENT METALLIC HANGERS 100 mm
  - METAL TRACKS @ 406 mm O.C. MIN
  - SOUNDPROOFING MATERIAL 100 mm
  - 2 TYPE X GYPSUM BOARDS 12.7 mm EA.

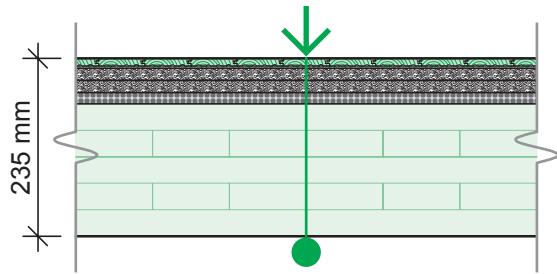


**F3**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- UNDERLAY OF TYPE "FERMACELL 2E32" 30 mm OR "PERMABASE" WITH "SONOPAN"
- NORDIC X-LAM 175 mm
- NORDIC JOIST 200 mm @ 610 mm O.C.
- SOUNDPROOFING MATERIAL 89 mm
- 1 TYPE X GYPSUM BOARD 15.9 mm

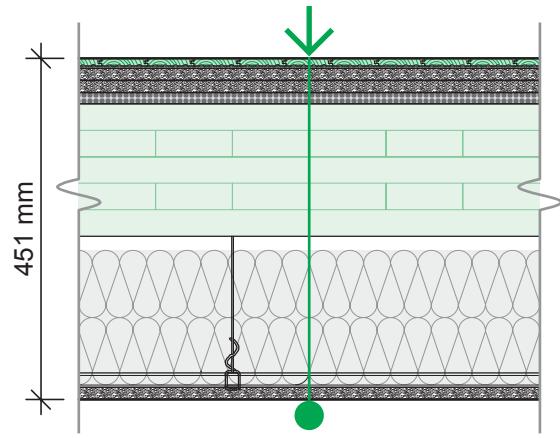


**F4**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	n.a. / 47
Acoustic ratings	IIC / AIIC	n.a. / 46

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- FLOATING FLOOR 10 mm
- UNDERLAY OF TYPE "INSONOBOIS" 3 mm
- 2 UNDERLAYS OF TYPE "FIBEROCK" 15.9 mm EA.
- UNDERLAY OF TYPE "INSONOMAT" 15 mm
- NORDIC X-LAM 175 mm

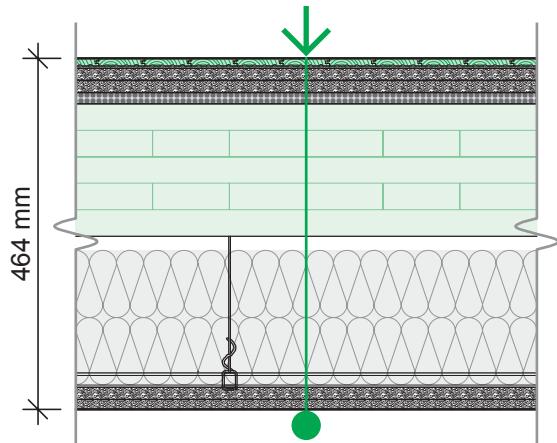


**F5**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	n.a. / 59
Acoustic ratings	IIC / AIIC	n.a. / 61

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- FLOATING FLOOR 10 mm
- UNDERLAY OF TYPE "INSONOBOIS" 3 mm
- 2 UNDERLAYS OF TYPE "FIBEROCK" 15.9 mm EA.
- UNDERLAY OF TYPE "INSONOMAT" 15 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - RESILIENT METALLIC HANGERS 200 mm @ 1200 mm O.C.
  - METAL TRACKS @ 600 mm O.C.
  - 2 ROWS OF STONE WOOL INSULATION OF TYPE "ROXUL" (40 kg/m³) 89 mm EA.
  - 1 TYPE X GYPSUM BOARD 15.9 mm

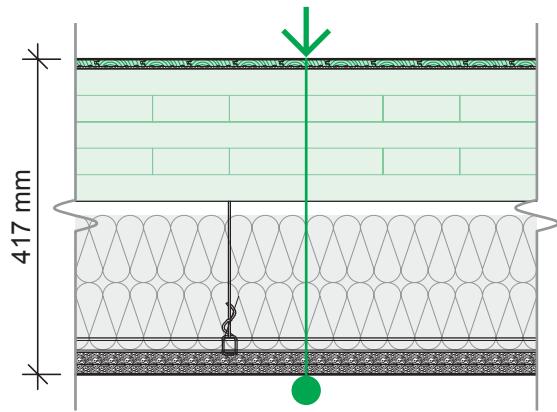


**F6**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	n.a. / 58
Acoustic ratings	IIC / AIIC	n.a. / 60

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- FLOATING FLOOR 10 mm
- UNDERLAY OF TYPE "INSONOBOIS" 3 mm
- 2 UNDERLAYS OF TYPE "FIBEROCK" 15.9 mm EA.
- UNDERLAY OF TYPE "INSONOMAT" 15 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - RESILIENT METALLIC HANGERS 200 mm @ 1200 mm O.C.
  - METAL TRACKS @ 600 mm O.C.
  - 2 ROWS OF STONE WOOL INSULATION OF TYPE "ROXUL" (40 kg/m<sup>3</sup>) 89 mm EA.
- 1 TYPE X GYPSUM BOARD 15.9 mm
- 1 REGULAR GYPSUM BOARD 12.7 mm

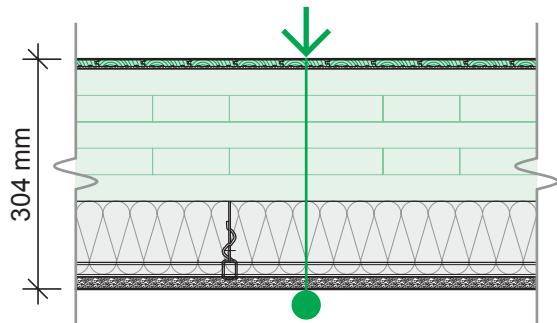


**F7**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	n.a. / 54
Acoustic ratings	IIC / AIIC	n.a. / 56

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- FLOATING FLOOR 10 mm
- UNDERLAY OF TYPE "INSONOBOIS" 3 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - RESILIENT METALLIC HANGERS 200 mm @ 1200 mm O.C.
  - METAL TRACKS @ 600 mm O.C.
  - 2 ROWS OF STONE WOOL INSULATION OF TYPE "ROXUL" (40 kg/m<sup>3</sup>) 89 mm EA.
- 1 TYPE X GYPSUM BOARD 15.9 mm
- 1 REGULAR GYPSUM BOARD 12.7 mm

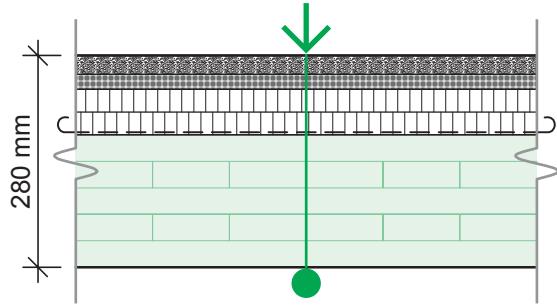


**F8**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	n.a. / 53
Acoustic ratings	IIC / AIIC	n.a. / 52

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- FLOATING FLOOR 10 mm
- UNDERLAY OF TYPE "INSONOBOIS" 3 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - RESILIENT METALLIC HANGERS 100 mm @ 1200 mm O.C.
  - METAL TRACKS @ 600 mm O.C.
  - 1 ROW OF STONE WOOL INSULATION OF TYPE "ROXUL"  
(40 kg/m<sup>3</sup>) 89 mm EA.
  - 1 TYPE X GYPSUM BOARD 15.9 mm



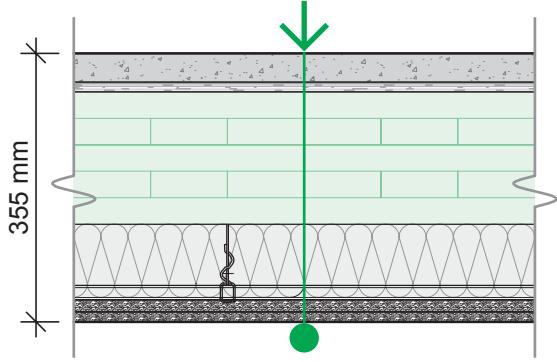
**F9**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	62 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	59 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

b) Composition and acoustic performance taken from the CLT Handbook – U.S. Edition (FPIInnovations, 2013). Acoustic performance based on a CLT thickness of 135 mm.

- GYPSUM FIBREBOARD OF TYPE "FERMACELL" 25 mm
- UNDERLAY OF TYPE "ISOVER EP3" 20 mm
- 2 LAYERS OF PELLETS AND HONEYCOMB CORE OF TYPE "FERMACELL" 30 mm EA.
- KRAFT PAPER UNDERLAY
- NORDIC X-LAM 175 mm

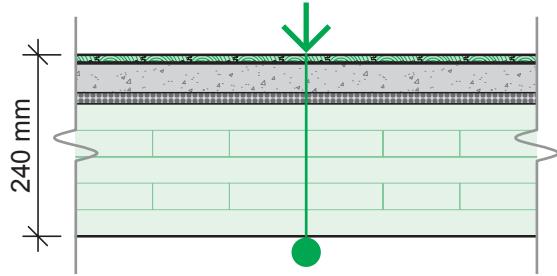


**F10**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	n.a. / 61
Acoustic ratings	IIC / AIIC	n.a. / 50

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- CONCRETE TOPPING (2000 kg/m<sup>3</sup>) 38 mm
- WOOD FIBRE ACOUSTIC PANEL OF TYPE "BP ECO-LOGICAL" 12.7 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - RESILIENT METALLIC HANGERS 100 mm @ 1200 mm O.C.
  - METAL TRACKS @ 600 mm O.C.
  - 1 ROW OF STONE WOOL INSULATION OF TYPE "ROXUL" (40 kg/m<sup>3</sup>) 89 mm
  - 1 TYPE X GYPSUM BOARD 15.9 mm
  - 1 REGULAR GYPSUM BOARD 12.7 mm

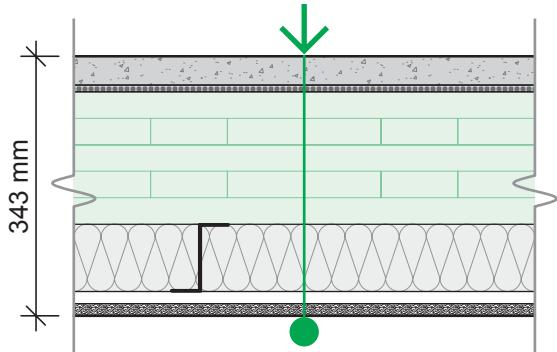


**F11**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	55 / n.a.
Acoustic ratings	IIC / AIIC	51 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- ENGINEERED WOOD FLOOR 10 mm
- UNDERLAY OF TYPE "ROBERTS SOFT STRIDE" 2 mm
- CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "INSONOMAT" 15 mm
- NORDIC X-LAM 175 mm

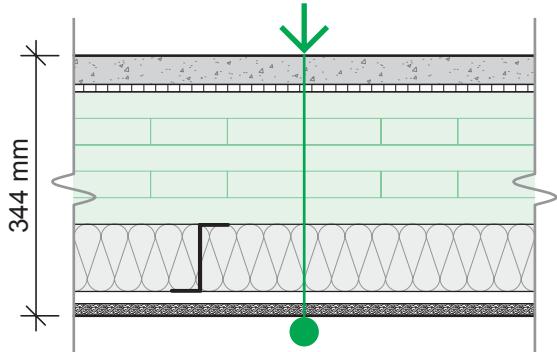


**F12**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	70 / n.a.
Acoustic ratings	IIC / AIIC	56 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "OWENS CORNING QUIÉTUDE" 9 mm
- NORDIC X-LAM 175 mm
- Z-CHANNELS (26 GAUGE) 90 mm @ 610 mm O.C.
- 1 ROW OF FIBREGLASS INSULATION OF TYPE "ROSE FIBERGLAS ECOTOUCH" 92 mm
- FURRING CHANNELS 16 mm @ 406 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

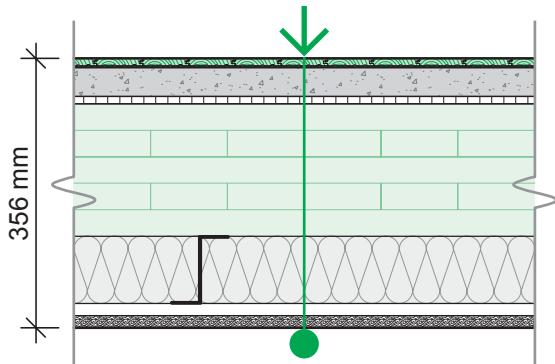


**F13**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	69 / n.a.
Acoustic ratings	IIC / AIIC	54 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- CONCRETE TOPPING 38 mm
- TAR FIBREBOARD 10 mm
- NORDIC X-LAM 175 mm
- Z-CHANNELS (26 GAUGE) 90 mm @ 610 mm O.C.
- 1 ROW OF FIBREGLASS INSULATION OF TYPE "ROSE FIBERGLAS ECOTOUCH" 92 mm
- FURRING CHANNELS 16 mm @ 406 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

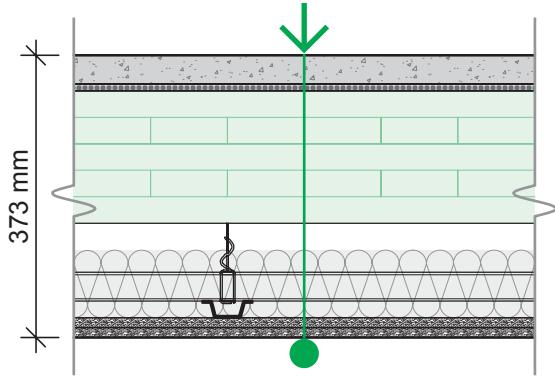


**F14**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	69 / n.a.
Acoustic ratings	IIC / AIIC	58 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- ENGINEERED WOOD FLOOR 10 mm
- UNDERLAY OF TYPE "ROBERTS SOFT STRIDE" 2 mm
- CONCRETE TOPPING 38 mm
- TAR FIBREBOARD 10 mm
- NORDIC X-LAM 175 mm
- Z-CHANNELS (26 GAUGE) 90 mm @ 610 mm O.C.
- 1 ROW OF FIBREGLASS INSULATION OF TYPE "ROSE FIBERGLAS ECOTOUCH" 92 mm
- FURRING CHANNELS 16 mm @ 406 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

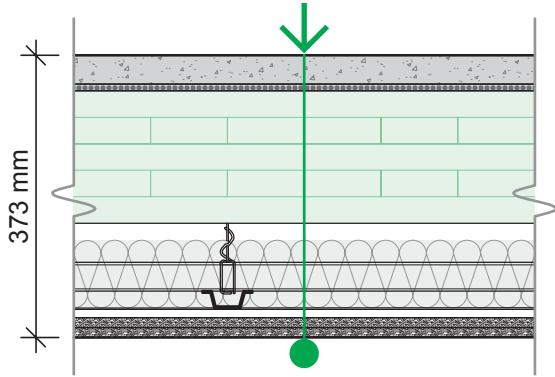


**F15**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	72 / n.a.
Acoustic ratings	IIC / AIIC	65 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "OWENS CORNING QUIÉTUDE" 9 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - METALLIC HANGERS 65 mm
  - CHANNEL IRONS 38 mm @ 1220 mm O.C.
  - FURRING CHANNELS 22 mm @ 406 mm O.C.
  - 1 ROW OF FIBREGLASS INSULATION OF TYPE "ROSE FIBERGLAS ECOTOUCH" 92 mm
  - 2 TYPE C GYPSUM BOARDS 12.7 mm EA.

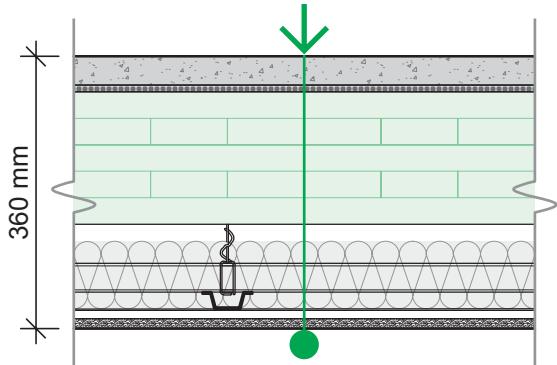


**F16**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	73 / n.a.
Acoustic ratings	IIC / AIIC	66 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "OWENS CORNING QUIÉTUDE" 9 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - METALLIC HANGERS 52 mm
  - CHANNEL IRONS 38 mm @ 1220 mm O.C.
  - FURRING CHANNELS 22 mm @ 406 mm O.C.
  - 1 ROW OF FIBREGLASS INSULATION OF TYPE "ROSE FIBERGLAS ECOTOUCH" 92 mm
- RESILIENT CHANNELS 13 mm @ 610 mm O.C.
- 2 TYPE C GYPSUM BOARDS 12.7 mm EA.

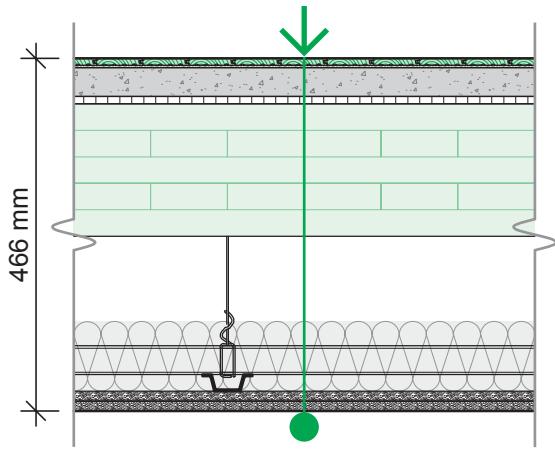


F17

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	72 / n.a.
Acoustic ratings	IIC / AIIC	62 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "OWENS CORNING QUIÉTUDE" 9 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - METALLIC HANGERS 52 mm
  - CHANNEL IRONS 38 mm @ 1220 mm O.C.
  - FURRING CHANNELS 22 mm @ 406 mm O.C.
  - 1 ROW OF FIBREGLASS INSULATION OF TYPE "ROSE FIBERGLAS ECOTOUCH" 92 mm
- RESILIENT CHANNELS 13 mm @ 610 mm O.C.
- 1 TYPE C GYPSUM BOARD 12.7 mm

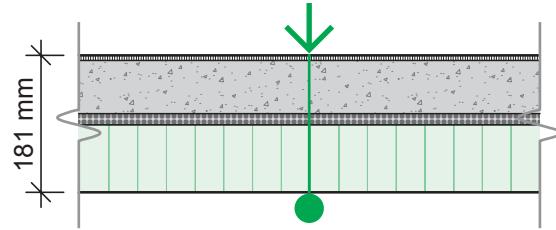


**F18**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	75 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	66 / n.a.

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.
- b) Acoustic performance based on a CLT thickness of 131 mm.

- FLOATING FLOOR 9 mm
- UNDERLAY OF TYPE "ACOUSTITECH PREMIUM" 3 mm
- PREFABRICATED CONCRETE TOPPING 38 mm
- TAR FIBREBOARD 10 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - METALLIC HANGERS 145 mm
  - CHANNEL IRONS 38 mm @ 1220 mm O.C.
  - FURRING CHANNELS 22 mm @ 406 mm O.C.
  - 1 ROW OF FIBREGLASS INSULATION OF TYPE "ROSE FIBERGLAS ECOTOUCH" 92 mm
  - 2 TYPE C GYPSUM BOARDS 12.7 mm EA.

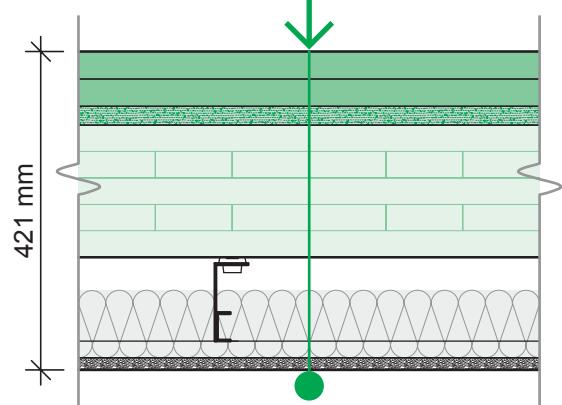


**F19**

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	52 / n.a.
Acoustic ratings	IIC / AIIC	51 / n.a.

a) The fire-resistance rating is based on a span of 4 m and on a specified uniform load of 4.75 kPa.

- CARPET TILES 7 mm
- PREFABRICATED CONCRETE TOPPING (2310 kg/m<sup>3</sup>) 70 mm
- UNDERLAY OF TYPE "INSONOMAT" 15 mm
- NORDIC LAM DECKING 89 mm

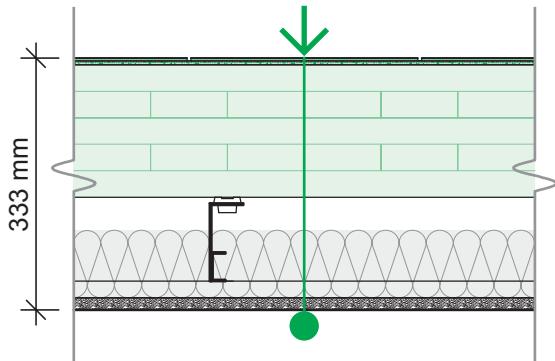


**F20**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	61 / n.a.
Acoustic ratings	IIC / AIIC	55 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- 2 ROWS OF PANELS OF TYPE "HUBER ENGINEERED WOOD ADVANTECH" 36 mm EA.
- UNDERLAY OF TYPE "GENIEMAT FF" 25 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - BRACKETS OF TYPE "GENIECLIP LB" 111 mm
  - CHANNEL IRONS 38 mm @ 1220 mm O.C. FIXED AT THE BOTTOM OF THE BRACKETS
  - FURRING CHANNELS 22 mm @ 610 mm O.C.
  - 1 ROW FIBREGLASS INSULATION OF TYPE "JOHNS MANVILLE UNFACED BATTs R13" 89 mm
  - 1 TYPE X GYPSUM BOARD 15.9 mm

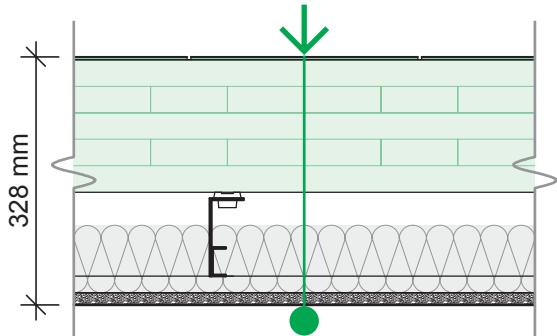


F21

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	58 / n.a.
Acoustic ratings	IIC / AIIC	58 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- VINYL TILES FLOORING 4 mm
- UNDERLAY OF TYPE "GENIEMAT RST05" 5 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - BRACKETS OF TYPE "GENIECLIP LB" 111 mm
  - CHANNEL IRONS 38 mm @ 1220 mm O.C. FIXED AT THE BOTTOM OF THE BRACKETS
  - FURRING CHANNELS 22 mm @ 610 mm O.C.
  - 1 ROW OF FIBREGLASS INSULATION OF TYPE "JOHNS MANVILLE UNFACED BATTs R13" 89 mm
  - 1 TYPE X GYPSUM BOARD 15.9 mm

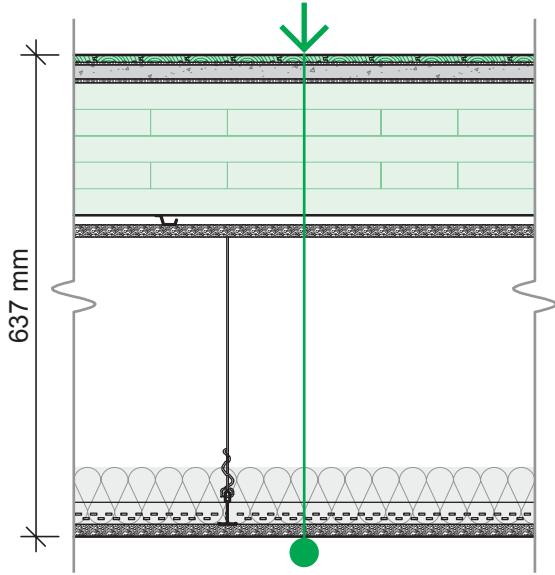


F22

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	57 / n.a.
Acoustic ratings	IIC / AIIC	54 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

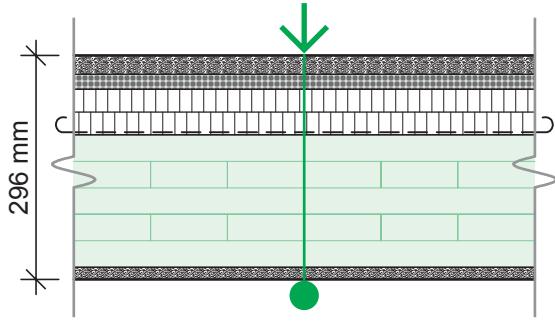
- VINYL TILES FLOORING 4 mm
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - BRACKETS OF TYPE "GENIECLIP LB" 111 mm
  - CHANNEL IRONS 38 mm @ 1220 mm O.C. FIXED AT THE BOTTOM OF THE BRACKETS
  - FURRING CHANNELS 22 mm @ 610 mm O.C.
  - 1 ROW OF FIBREGLASS INSULATION OF TYPE "JOHNS MANVILLE UNFACED Batts R13" 89 mm
  - 1 TYPE X GYPSUM BOARD 15.9 mm



Fire-resistance rating	FRR <sup>(a)</sup>	2.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	n.a. / 54
Acoustic ratings	IIC / AIIC	n.a. / 53

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- FLOATING FLOOR 10 mm
- UNDERLAY OF TYPE "INSONOBOIS" 3.5 mm
- TOPPING OF TYPE "MAXXON GYP-CRETE" (2050 kg/m<sup>3</sup>) 19 mm
- ENTANGLED FILAMENT MAT OF TYPE "MAXXON ACOUSTI-MAT 1" 5 mm
- NORDIC X-LAM 175 mm
- RESILIENT CHANNELS 13 mm @ 610 mm O.C.
- 1 TYPE X GYPSUM BOARD OF TYPE "QUIETROCK" 15.9 mm
- SUSPENDED DRYWALL GRID SYSTEM OF TYPE "ARMSTRONG":
  - METALLIC HANGERS 380 mm
  - T-CHANNELS 43 mm @ 1220 mm O.C.
  - 1 ROW OF STONE WOOL INSULATION OF TYPE "ROXUL" (40 kg/m<sup>3</sup>) 75 mm
  - 1 TYPE X GYPSUM BOARD 15.9 mm

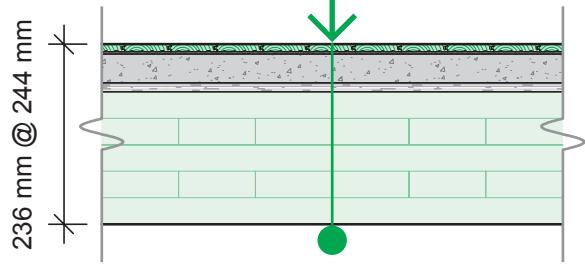


F24

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
Acoustic ratings	STC <sup>(b)</sup> / ASTC IIC <sup>(b)</sup> / AIIC	62 / n.a. 59 / n.a.

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.
- b) Composition and acoustic performance taken from the CLT Handbook – U.S. Edition (FPIInnovations, 2013). Acoustic performance based on a CLT thickness of 135 mm.

- GYPSUM FIBERBOARD OF TYPE "FERMACELL" 25 mm
- UNDERLAY OF TYPE "ISOVER EP3" 20 mm
- 2 LAYERS OF PELLETS AND HONEYCOMB CORE OF TYPE "FERMACELL" 30 mm EA.
- KRAFT PAPER UNDERLAY
- NORDIC X-LAM 175 mm
- 1 TYPE X GYPSUM BOARD 15.9 mm



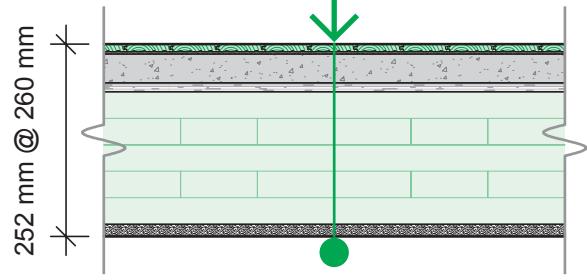
F25

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC <sup>(b)</sup>	n.a. / > 50
Acoustic ratings	IIC / AIIC <sup>(b)</sup>	n.a. / > 50

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

b) Composition and acoustic performance taken from the CLT Handbook – U.S. Edition (FPIInnovations, 2013). Acoustic performance based on a CLT thickness of 135 mm.

- CARPET OR FLOATING FLOOR 10 mm
- RESILIENT UNDERLAY (RUBBER OR FELT) 3 mm
- TOPPING, AT LEAST 76 kg/m<sup>2</sup> (I.E. CONCRETE OR OF TYPE "MAXXON GYP-CRETE")
- RESILIENT UNDERLAY (RUBBER 10 mm, FELT 18 mm, OR WOOD FIBERBOARD 12 mm)
- NORDIC X-LAM 175 mm

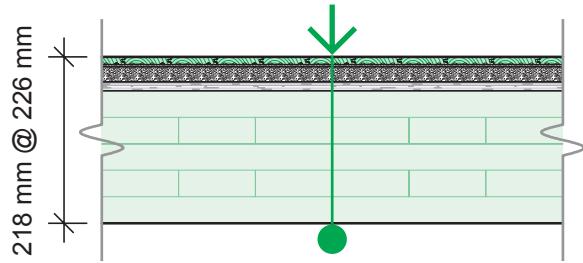


F26

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC <sup>(b)</sup>	n.a. / > 50
Acoustic ratings	IIC / AIIC <sup>(b)</sup>	n.a. / > 50

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.  
 b) Composition and acoustic performance taken from the CLT Handbook – U.S. Edition (FPInnovations, 2013). Acoustic performance based on a CLT thickness of 135 mm.

- CARPET OR FLOATING FLOOR 10 mm
- RESILIENT UNDERLAY (RUBBER OR FELT) 3 mm
- TOPPING, AT LEAST 76 kg/m<sup>2</sup> (I.E. CONCRETE OR OF TYPE "MAXXON GYP-CRETE")
- RESILIENT UNDERLAY (RUBBER 10 mm, FELT 18 mm, OR WOOD FIBERBOARD 12 mm)
- NORDIC X-LAM 175 mm
- 1 TYPE X GYPSUM BOARD 15.9 mm



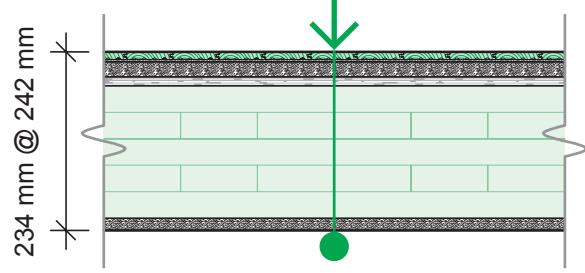
F27

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC <sup>(b)</sup>	n.a. / > 45
Acoustic ratings	IIC / AIIC <sup>(b)</sup>	n.a. / > 45

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

b) Composition and acoustic performance taken from the CLT Handbook – U.S. Edition (FPInnovations, 2013). Acoustic performance based on a CLT thickness of 135 mm.

- CARPET OR FLOATING FLOOR 10 mm
- RESILIENT UNDERLAY (RUBBER OR FELT) 3 mm
- PREFABRICATED TOPPING, AT LEAST 25 kg/m<sup>2</sup> (20 mm OF TYPE "FERMACELL" OR OF TYPE "FIBREROCK")
- RESILIENT UNDERLAY (RUBBER 10 mm, FELT 18 mm, OR WOOD FIBERBOARD 12 mm)
- NORDIC X-LAM 175 mm



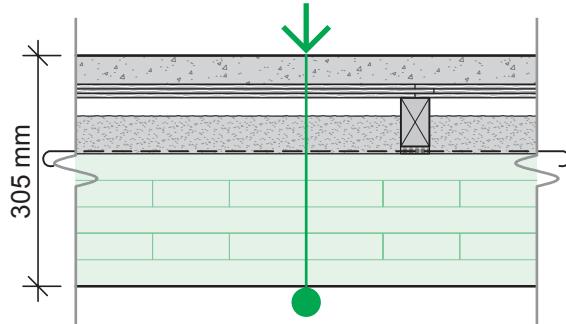
**F28**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC <sup>(b)</sup>	n.a. / > 45
Acoustic ratings	IIC / AIIC <sup>(b)</sup>	n.a. / > 45

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

b) Composition and acoustic performance taken from the CLT Handbook – U.S. Edition (FPInnovations, 2013). Acoustic performance based on a CLT thickness of 135 mm.

- CARPET OR FLOATING FLOOR 10 mm
- RESILIENT UNDERLAY (RUBBER OR FELT) 3 mm
- PREFABRICATED TOPPING, AT LEAST 25 kg/m<sup>2</sup> (20 mm OF TYPE "FERMACELL" OR OF TYPE "FIBREROCK")
- RESILIENT UNDERLAY (RUBBER 10 mm, FELT 18 mm, OR WOOD FIBERBOARD 12 mm)
- NORDIC X-LAM 175 mm
- 1 TYPE X GYPSUM BOARD 15.9 mm

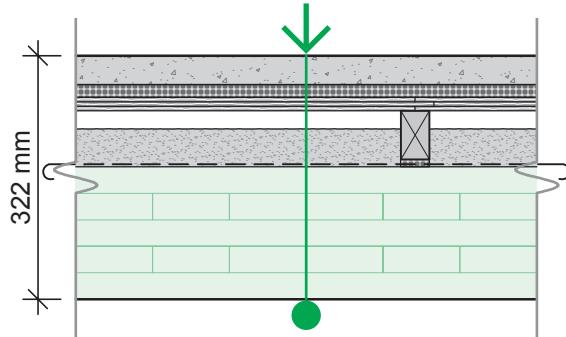


F29

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
Acoustic ratings	STC <sup>(b)</sup> / ASTC IIC <sup>(b)</sup> / AIIC	64 / n.a. 53 / n.a.

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.
- b) Acoustic performance based on a CLT thickness of 131 mm.

- PREFABRICATED CONCRETE TOPPING 38 mm
- TONGUE AND GROOVE OSB SHEATHING 18 mm
- WOOD RAFTERS 38 mm X 64 mm @ 610 mm O.C.
- SILICA SAND (#71) 50 mm
- RUBBER MEMBRANE BANDS 10 mm UNDER RAFTERS
- POLYETHYLENE SHEETING 6 mil
- NORDIC X-LAM 175 mm

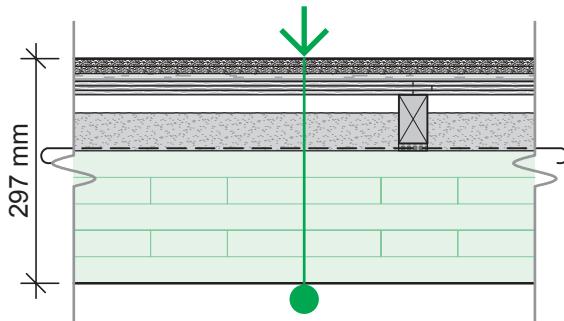


**F30**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	66 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	60 / n.a.

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.
- b) Acoustic performance based on a CLT thickness of 131 mm.

- PREFABRICATED CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "REGUPOL SONUS WAVE" 17 mm
- TONGUE AND GROOVE OSB SHEATHING 18 mm
- WOOD RAFTERS 38 mm X 64 mm @ 610 mm O.C.
- SILICA SAND (#71) 50 mm
- RUBBER MEMBRANE BANDS 10 mm UNDER RAFTERS
- POLYETHYLENE SHEETING 6 mil
- NORDIC X-LAM 175 mm



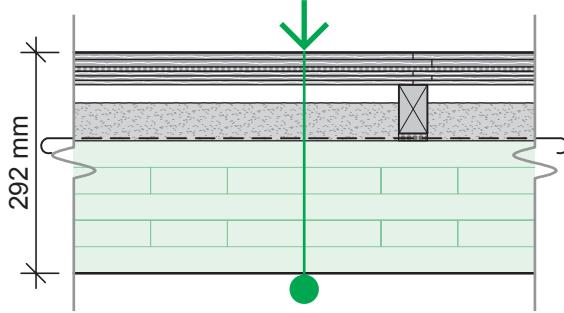
**F31**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
Acoustic ratings	STC <sup>(b)</sup> / ASTC IIC <sup>(b)</sup> / AIIC	59 / n.a. 53 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

b) Acoustic performance based on a CLT thickness of 131 mm.

- UNDERLAY OF TYPE "FERMACELL 2E31" 30 mm
- TONGUE AND GROOVE OSB SHEATHING 18 mm
- WOOD RAFTERS 38 mm X 64 mm @ 610 mm O.C.
- SILICA SAND (#71) 50 mm
- RUBBER MEMBRANE BANDS 10 mm UNDER RAFTERS
- POLYETHYLENE SHEETING 6 mil
- NORDIC X-LAM 175 mm

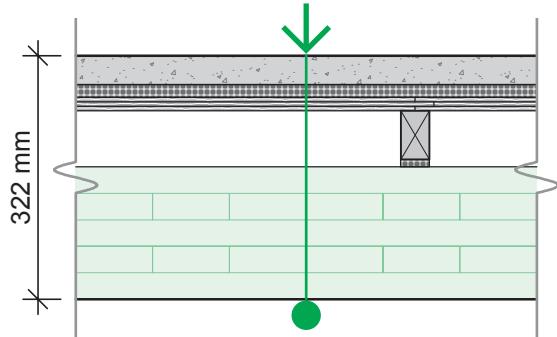


F32

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	56 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	50 / n.a.

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.
- b) Acoustic performance based on a CLT thickness of 131 mm.

- UNDERLAY OF TYPE "SONODECK INSULFLOOR" 25 mm
- TONGUE AND GROOVE OSB SHEATHING 18 mm
- WOOD RAFTERS 38 mm X 64 mm @ 610 mm O.C.
- SILICA SAND (#71) 50 mm
- RUBBER MEMBRANE BANDS 10 mm UNDER RAFTERS
- POLYETHYLENE SHEETING 6 mil
- NORDIC X-LAM 175 mm



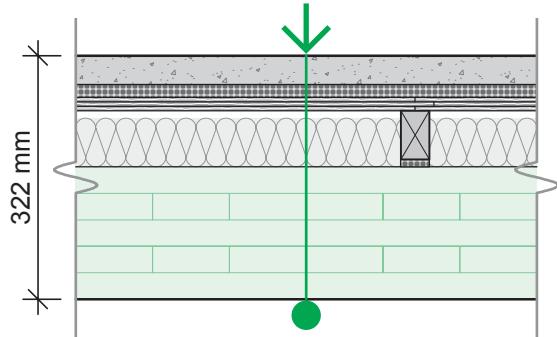
**F33**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	59 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	54 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

b) Acoustic performance based on a CLT thickness of 131 mm.

- PREFABRICATED CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "REGUPOL SONUS WAVE" 17 mm
- TONGUE AND GROOVE OSB SHEATHING 18 mm
- WOOD RAFTERS 38 mm X 64 mm @ 610 mm O.C.
- RUBBER MEMBRANE BANDS 10 mm UNDER RAFTERS
- NORDIC X-LAM 175 mm



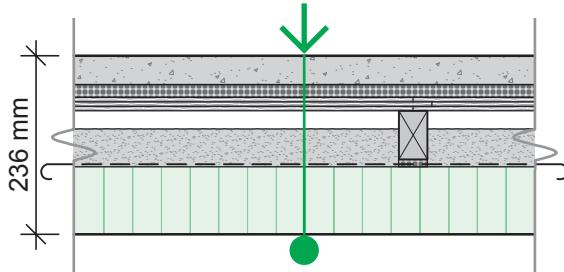
**F34**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	60 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	54 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

b) Acoustic performance based on a CLT thickness of 131 mm.

- PREFABRICATED CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "REGUPOL SONUS WAVE" 17 mm
- TONGUE AND GROOVE OSB SHEATHING 18 mm
- WOOD RAFTERS 38 mm X 64 mm @ 610 mm O.C.
- 1 ROW OF FIBERGLASS INSULATION 65 mm
- RUBBER MEMBRANE BANDS 10 mm UNDER RAFTERS
- NORDIC X-LAM 175 mm

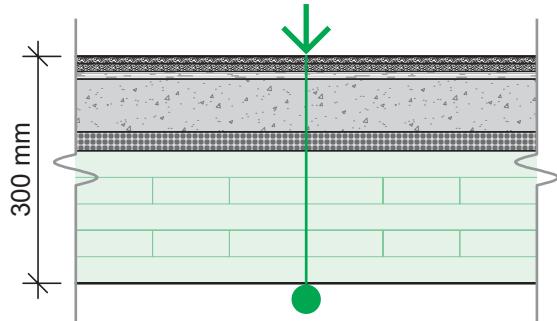


**F35**

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	65 / n.a.
Acoustic ratings	IIC / AIIC	59 / n.a.

a) The fire-resistance rating is based on a span of 4 m and on a specified uniform load of 4.75 kPa.

- PREFABRICATED CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "REGUPOL SONUS WAVE" 17 mm
- TONGUE AND GROOVE OSB SHEATHING 18 mm
- WOOD RAFTERS 38 mm X 64 mm @ 610 mm O.C.
- SILICA SAND (#71) 50 mm
- RUBBER MEMBRANE BANDS 10 mm UNDER RAFTERS
- POLYETHYLENE SHEETING 6 mil
- NORDIC LAM DECKING 89 mm



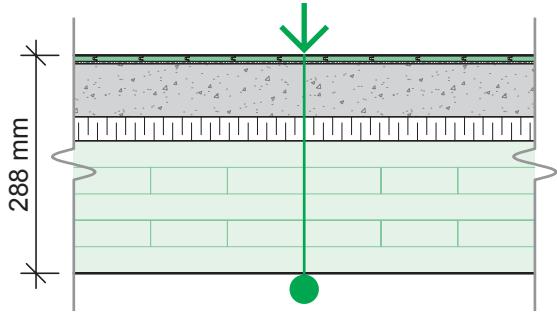
**F36**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	56 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	52 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

b) Acoustic performance based on a CLT thickness of 131 mm.

- UNDERLAY OF TYPE "FERMACELL 2E31" 30 mm
- PREFABRICATED CONCRETE TOPPING (2350 kg/m<sup>3</sup>) 70 mm
- UNDERLAY OF TYPE "REGUPOL SONUS WAVE" 25 mm
- NORDIC X-LAM 175 mm

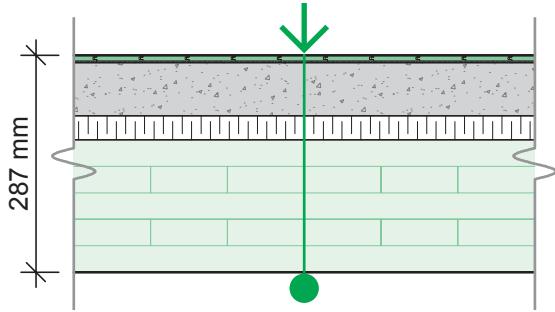


**F37**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	57 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	51 / n.a.

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.
- b) Acoustic performance based on a CLT thickness of 131 mm.

- LAMINATED FLOORING 8 mm
- UNDERLAY OF TYPE "ACOUSTITECH PREMIUM" 3 mm
- PREFABRICATED CONCRETE TOPPING (2350 kg/m<sup>3</sup>) 70 mm
- RIGID SHEATHING BOARD OF TYPE "ROXUL COMFORTBOARD IS" 32 mm
- NORDIC X-LAM 175 mm

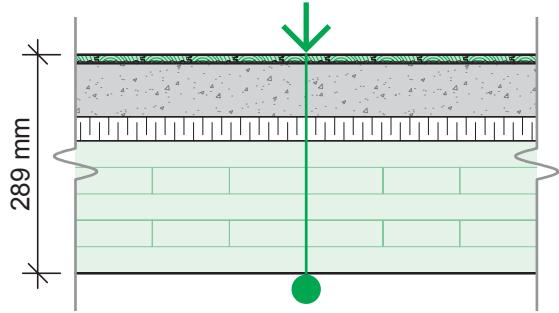


**F38**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	57 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	51 / n.a.

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.
- b) Acoustic performance based on a CLT thickness of 131 mm.

- LAMINATED FLOORING 8 mm
- UNDERLAY OF TYPE "ROBERTS SOFT STRIDE" 2 mm
- PREFABRICATED CONCRETE TOPPING (2350 kg/m<sup>3</sup>) 70 mm
- RIGID SHEATHING BOARD OF TYPE "ROXUL COMFORTBOARD IS" 32 mm
- NORDIC X-LAM 175 mm

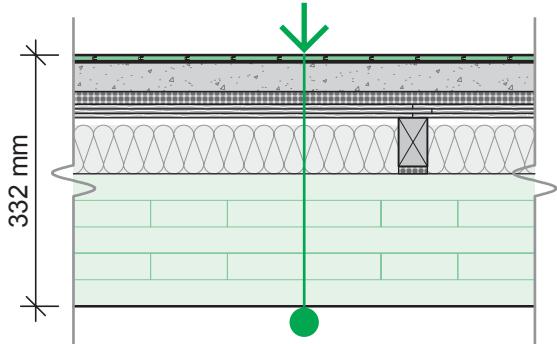


**F39**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	57 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	51 / n.a.

- a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.
- b) Acoustic performance based on a CLT thickness of 131 mm.

- HARDWOOD FLOORING OF TYPE "TORLYS EVEREST PREMIER" 10 mm
- UNDERLAY OF TYPE "ROBERT'S SOFT STRIDE" 2 mm
- PREFABRICATED CONCRETE TOPPING (2350 kg/m<sup>3</sup>) 70 mm
- RIGID SHEATHING BOARD OF TYPE "ROXUL COMFORTBOARD IS" 32 mm
- NORDIC X-LAM 175 mm



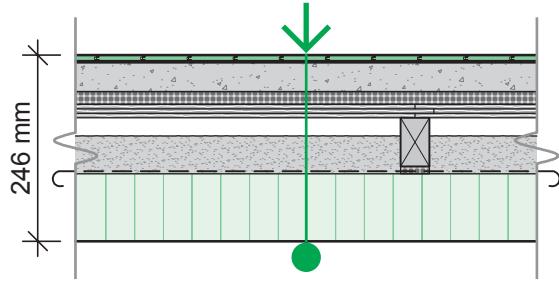
**F40**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC <sup>(b)</sup> / ASTC	60 / n.a.
Acoustic ratings	IIC <sup>(b)</sup> / AIIC	58 / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

b) Acoustic performance based on a CLT thickness of 131 mm.

- LAMINATED FLOORING 8 mm
- UNDERLAY OF TYPE "ROBERTS SOFT STRIDE" 2 mm
- PREFABRICATED CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "REGUPOL SONUS WAVE" 17 mm
- TONGUE AND GROOVE OSB SHEATHING 18 mm
- WOOD RAFTERS 38 mm X 64 mm @ 610 mm O.C.
- 1 ROW OF FIBERGLASS INSULATION 65 mm
- RUBBER MEMBRANE BANDS 10 mm UNDER RAFTERS
- NORDIC X-LAM 175 mm



**F41**

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	n.a. / n.a.
	STC / ASTC	65 / n.a.
Acoustic ratings	IIC / AIIC	62 / n.a.

a) The fire-resistance rating is based on a span of 4 m and on a specified uniform load of 4.75 kPa.

- LAMINATED FLOORING 8 mm
- UNDERLAY OF TYPE "ROBERTS SOFT STRIDE" 2 mm
- PREFABRICATED CONCRETE TOPPING 38 mm
- UNDERLAY OF TYPE "REGUPOL SONUS WAVE" 17 mm
- TONGUE AND GROOVE OSB SHEATHING 18 mm
- WOOD RAFTERS 38 mm X 64 mm @ 610 mm O.C.
- SILICA SAND (#71) 50 mm
- RUBBER MEMBRANE BANDS 10 mm UNDER RAFTERS
- POLYETHYLENE SHEETING 6 mil
- NORDIC LAM DECKING 89 mm

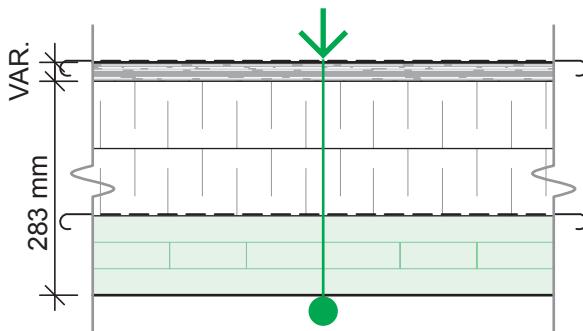
# NORDIC

DETAILS  
NORDIC LAM+ NORDIC X-LAM  
NS-DA2   
ENGLISH  
VERSION  
2022-02-01

ROOF

4

**NORDIC**  
STRUCTURES

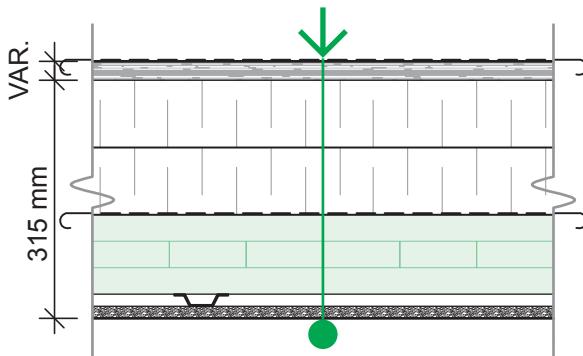


**R1**

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	7.9 / 45
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 3.5 m and on a specified uniform load of 4.5 kPa.

- TWO-LAYER ELASTOMERIC MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 89 mm EA.
- VAPOUR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm

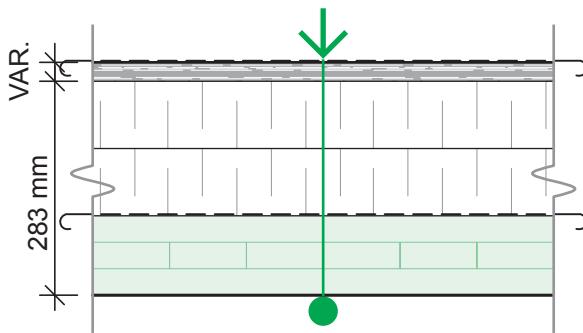


**R2**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	8.2 / 47
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 3.5 m and on a specified uniform load of 4.5 kPa.

- TWO-LAYER ELASTOMERIC MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 89 mm EA.
- VAPOUR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm
- FURRING CHANNELS 16 mm @ 406 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

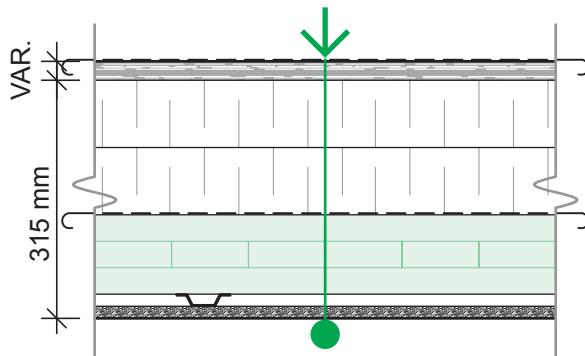


**R3**

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	7.9 / 45
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 3.5 m and on a specified uniform load of 4.5 kPa.

- THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 89 mm EA.
- VAPOUR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm

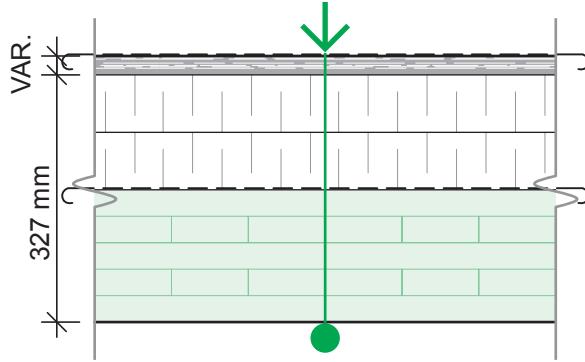


**R4**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	8.2 / 47
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 3.5 m and on a specified uniform load of 4.5 kPa.

- THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 89 mm EA.
- VAPOUR BARRIER MEMBRANE
- NORDIC X-LAM 105 mm
- FURRING CHANNELS 16 mm @ 406 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

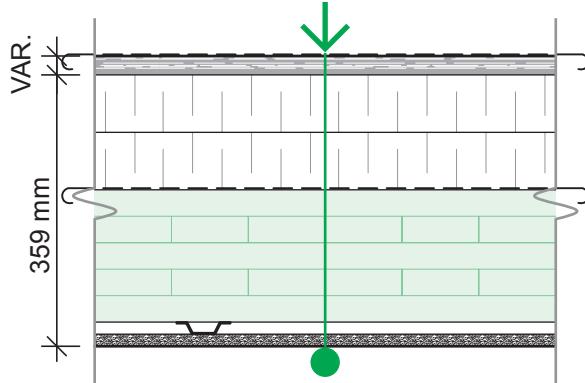


**R5**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	7.5 / 43
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- TWO-LAYER ELASTOMERIC MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 76 mm EA.
- VAPOUR BARRIER MEMBRANE
- NORDIC X-LAM 175 mm

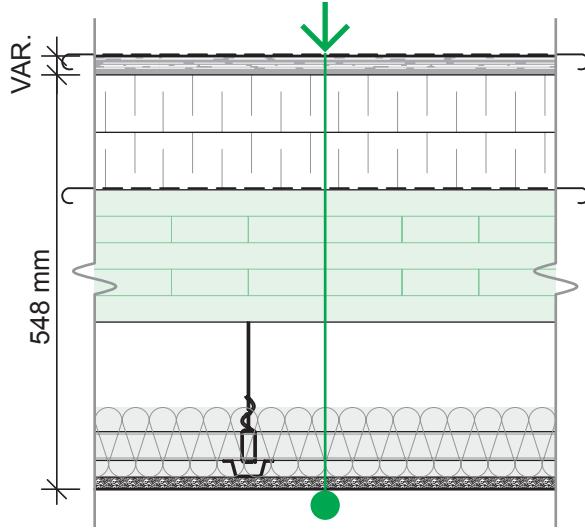


**R6**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	7.7 / 44
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- TWO-LAYER ELASTOMERIC MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 76 mm EA.
- VAPOUR BARRIER MEMBRANE
- NORDIC X-LAM 175 mm
- FURRING CHANNELS 16 mm @ 406 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm

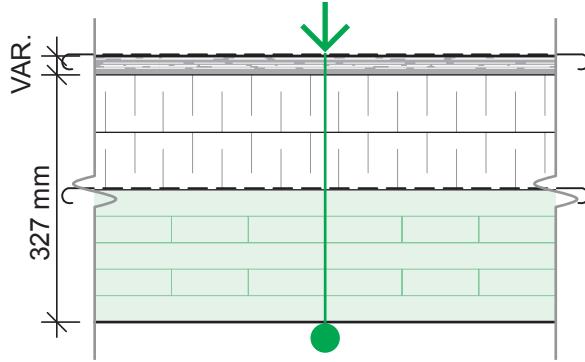


**R7**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	7.7 / 44
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- TWO-LAYER ELASTOMERIC MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 76 mm EA.
- VAPOUR BARRIER MEMBRANE
- NORDIC X-LAM 175 mm
- SUSPENDED CEILING:
  - METALLIC HANGERS 145 mm
  - CHANNEL IRONS 38 mm @ 1220 mm O.C.
  - FURRING CHANNELS 22 mm @ 406 mm O.C.
  - SOUNDPOROFING MATERIAL 92 mm
- 1 TYPE X GYPSUM BOARD 15.9 mm

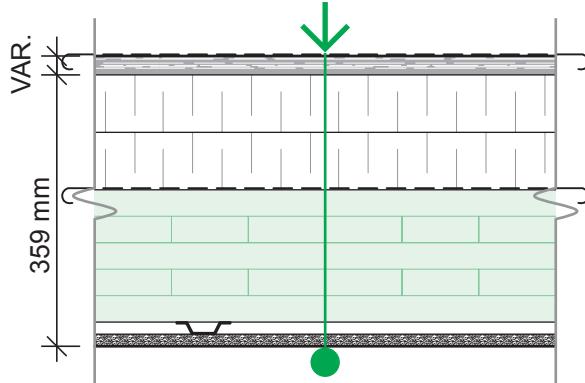


**R8**

Fire-resistance rating	FRR <sup>(a)</sup>	1.5 h
Thermal resistance	RSI / R	7.5 / 43
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 76 mm EA.
- VAPOUR BARRIER MEMBRANE
- NORDIC X-LAM 175 mm

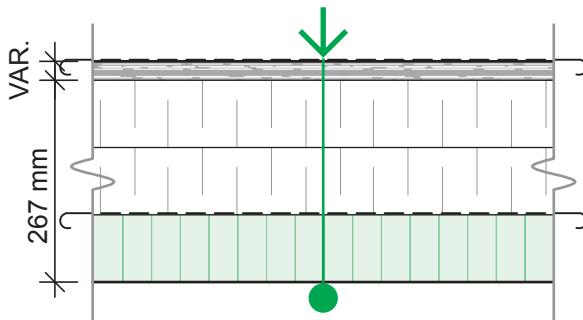


**R9**

Fire-resistance rating	FRR <sup>(a)</sup>	2 h
Thermal resistance	RSI / R	7.7 / 44
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 5.75 m and on a specified uniform load of 4.75 kPa.

- THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 76 mm EA.
- VAPOUR BARRIER MEMBRANE
- NORDIC X-LAM 175 mm
- FURRING CHANNELS 16 mm @ 406 mm O.C.
- 1 TYPE X GYPSUM BOARD 15.9 mm



**R10**

Fire-resistance rating	FRR <sup>(a)</sup>	1 h
Thermal resistance	RSI / R	7.8 / 44
	STC / ASTC	n.a. / n.a.
Acoustic ratings	IIC / AIIC	n.a. / n.a.

a) The fire-resistance rating is based on a span of 4 m and on a specified uniform load of 4.75 kPa.

- TWO-LAYER ELASTOMERIC MEMBRANE ROOFING
- ROOFING UNDERLAY (UP TO THE DESIGNER)
- 2 ROWS OF POLYISOCYANURATE INSULATION 89 mm EA.
- VAPOUR BARRIER MEMBRANE
- PLYWOOD 12.7 mm
- NORDIC LAM DECKING 89 mm



nordic.ca