



**ALBUM OF TECHNICAL SOLUTIONS FOR
ARRANGEMENT OF JUNCTIONS IN INSULATED FLAT
ROOFS WITH WATERPROOFING LAYER MADE OF
BITUMEN ROLL MEMBRANES ON CONCRETE BASE
ON OPERATED ROOFS INTENDED FOR VEHICLE
TRAFFIC**

TN_ROOF_BRM_CONCRETE_AUTO_EN

SYMBOLS



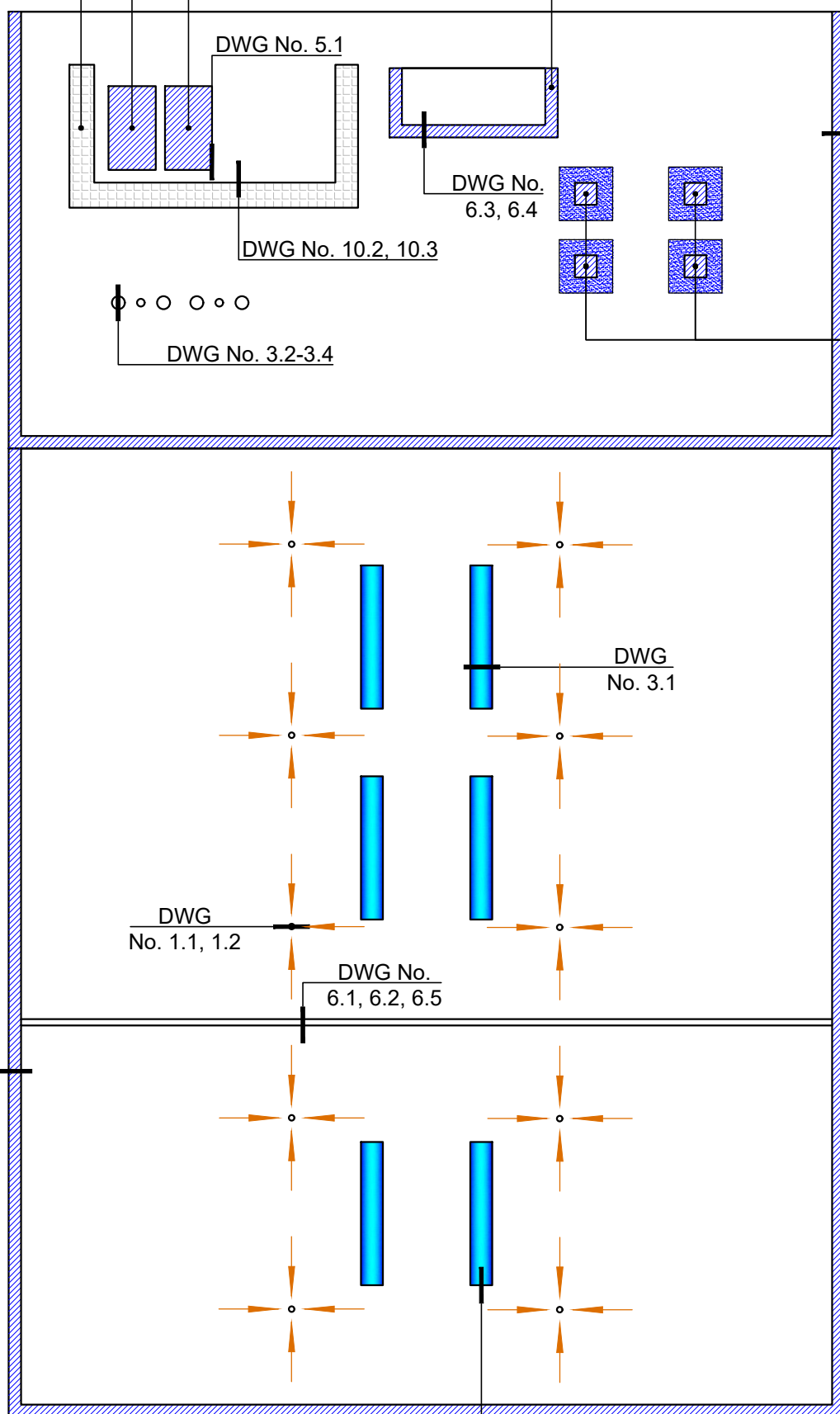
Rough sketch	Description
	Vapor barrier
	Insulation (Stone wool)
	Separation layer (Geotextile)
	Waterproofing (top layer)
	Waterproofing (bottom layer)
	Mastic
	Clamping rail
	Edge rail
	Sealant
	Sandwich panel
	Reinforced concrete structure
	Brick construction (block construction)
	Insulation (PIR)
	Insulation (XPS)
	System (material set)
	Waterproofing (reinforcement layer)

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Symbols	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No.	REV.

Pavement

Metal stand for equipment

Superstructure



DWG No.
2.1-2.7

DWG No.
2.1-2.7

DWG No.
6.3, 6.4

DWG No. 10.2, 10.3

DWG No. 3.2-3.4

DWG No.
7.3, 7.4

DWG
No. 3.1

DWG
No. 1.1, 1.2

DWG No.
6.1, 6.2, 6.5

DWG No. 7.1, 7.2

TN_ROOF_BRM_CONCRETE_AUTO_EN

DESIGN

APPROVED

SCALE

DATE

Scheme of labelling of system details

DWG No.

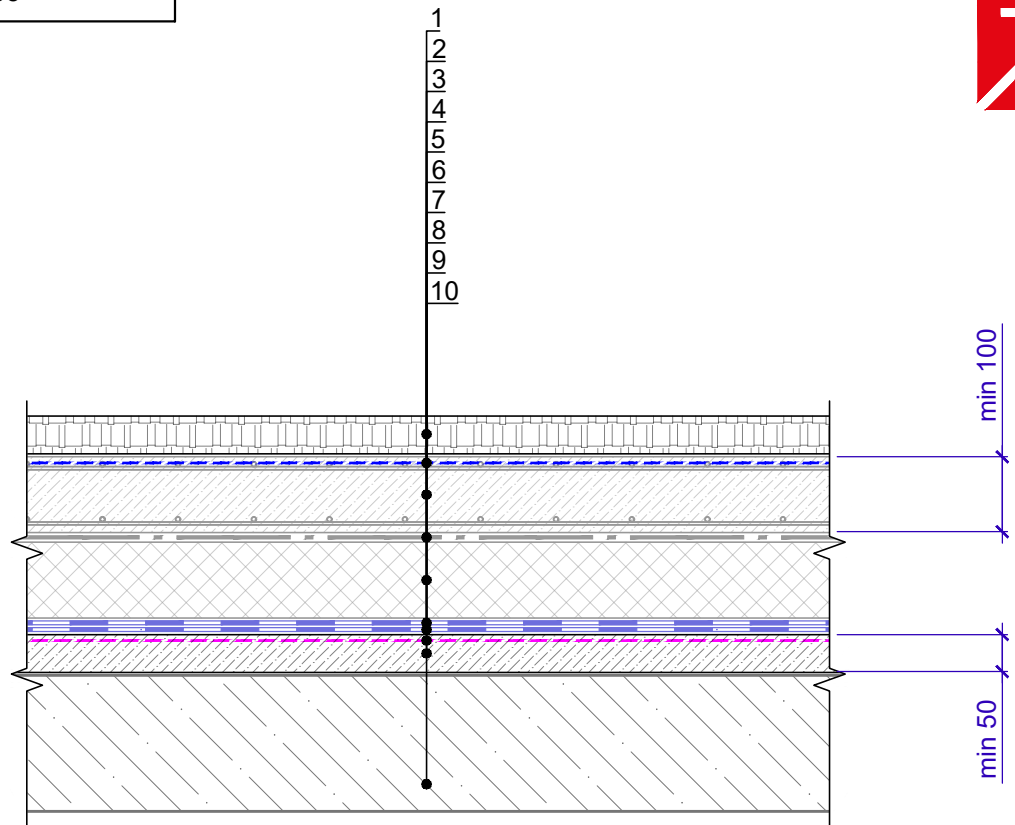
REV.

REV.

DATE

DESCRIPTION

CHECKED



- 1 Asphalt concrete
- 2 Bitumen Road Emulsion
- 3 Reinforced concrete plate min 100 mm
- 4 Needle-punched heat-treated geotextile, 300-500 g/m²
- 5 XPS thermal insulation boards, (XPS) TECHNOMICOL CARBON SOLID 500
- 6 Waterproofing (top layer) - Ultraplast B (APP)
- 7 Waterproofing (bottom layer) - Ultraplast B (APP)
- 8 Bitumen Prime Coating
- 9 Sand cement screed min 50 mm (Slope-forming layer)
- 10 Reinforced concrete base

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Structure of roofing solutions	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No.	REV.

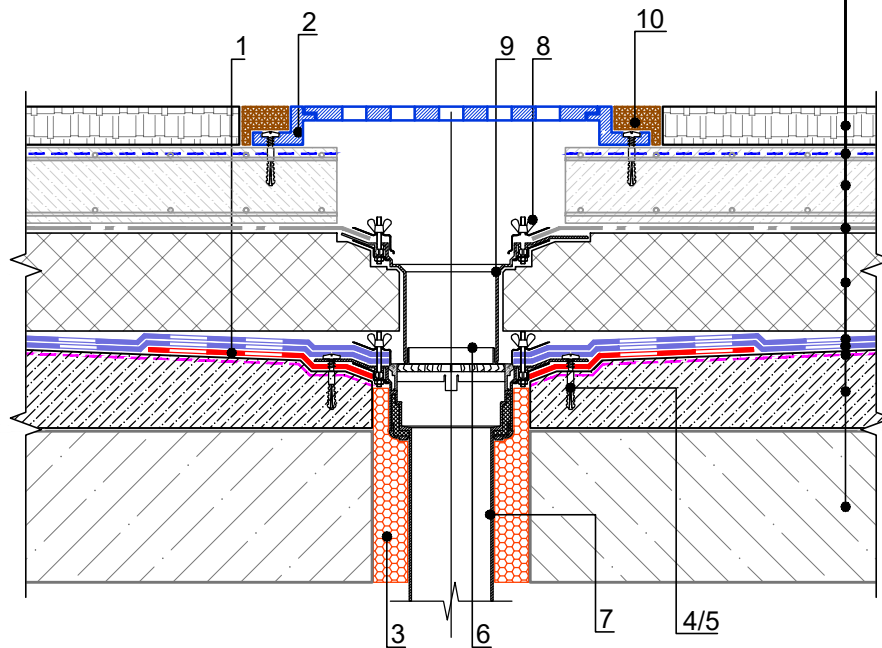


Register of drawings for gutter construction

No	Name	DWG No.
1.1	Inner drain. Water intake funnel	1.1
1.2	Inner drain. Gutter	1.2



Asphalt concrete
Bitumen Road Emulsion
Reinforced concrete plate
Geotextile, 300-500 g/m²
XPS TECHNONICOL CARBON SOLID 500
Ultraplast B (APP)
Ultraplast B (APP)
Bitumen Prime coating
Sand-cement screed
Reinforced concrete base



Specification of detail DWG No. 1.1 - 2021.05

Position	Name	Consumption	Unit	Note
1	Ultraplast B (APP)	upon the project	m ²	reinforcement layer
2	Drainage grate	upon the project	pcs.	
3	Construction foam	upon the project	pcs.	
4	Pointed self-tapping screw 4.8x50	12	pcs.	
5	Anchor element 8x45	12	pcs.	
6	Drain ring D1	1	pcs.	
7	Water intake funnel	1	pcs.	
8	Crimping flange (set with funnel)	1	pcs.	
9	Put-on element	1	pcs.	
10	Polymer-Bitumen Sealant	upon the project	kg	

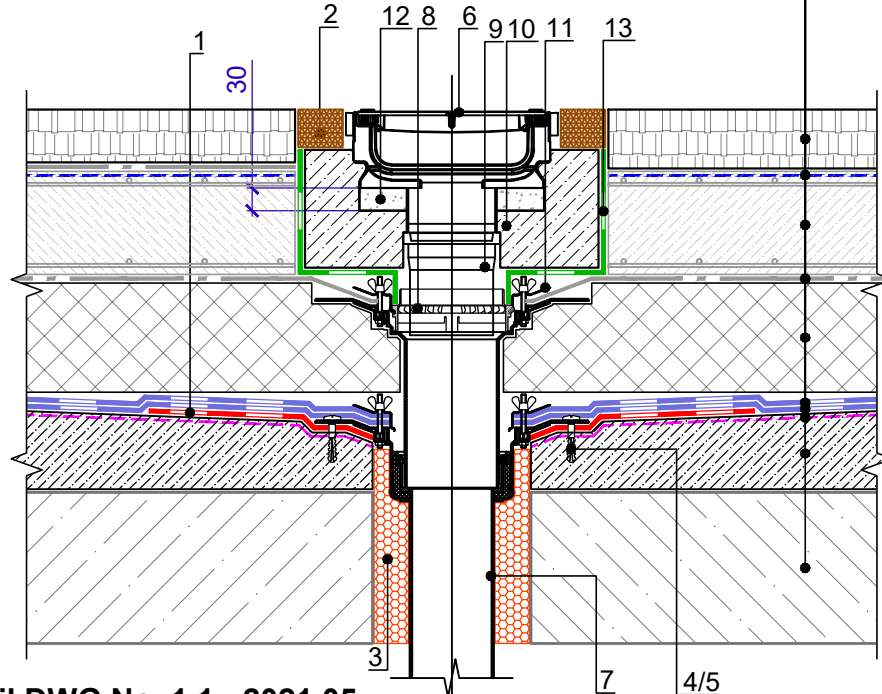
Notes

1. Provide for an increase in the slope at the funnel up to 5% within a radius of at least 500 mm around.
2. It is recommended that the funnel be deepened by 20-30 mm relative to the roof level.
3. Join the put-on element to the lower funnel properly.
4. If necessary, you can install a TECHNONICOL heating water intake funnel (item 7)

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Inner drain. Water intake funnel	DWG No. 1.1 - 2021.05	REV.



Asphalt concrete
Bitumen Road Emulsion
Reinforced concrete plate
Geotextile, 300-500 g/m²
XPS TECHNICONICOL CARBON SOLID 500
Ultraplast B (APP)
Ultraplast B (APP)
Bitumen Prime coating
Sand-cement screed
Reinforced concrete base



Specification of detail DWG No. 1.1 - 2021.05

Position	Name	Consumption	Unit	Note
1	Ultraplast B (APP)	upon the project	m ²	reinforcement layer
2	Polymer-Bitumen Sealant	upon the project	kg	
3	Construction foam	upon the project	pcs.	
4	Pointed self-tapping screw 4.8x50	12	pcs.	
5	Anchor element 8x45	12	pcs.	
6	Finish grout	1	pcs.	
7	Water intake funnel	1	pcs.	
8	Drain ring D2	1	pcs.	
9	Put-on element	1	pcs.	
10	Concrete casing	upon the project	m ³	
11	Crimping flange (set with funnel)	1	pcs.	
12	Cement-sand mortar	upon the project	m ³	
13	Polyethylene film	upon the project	m ²	

Notes

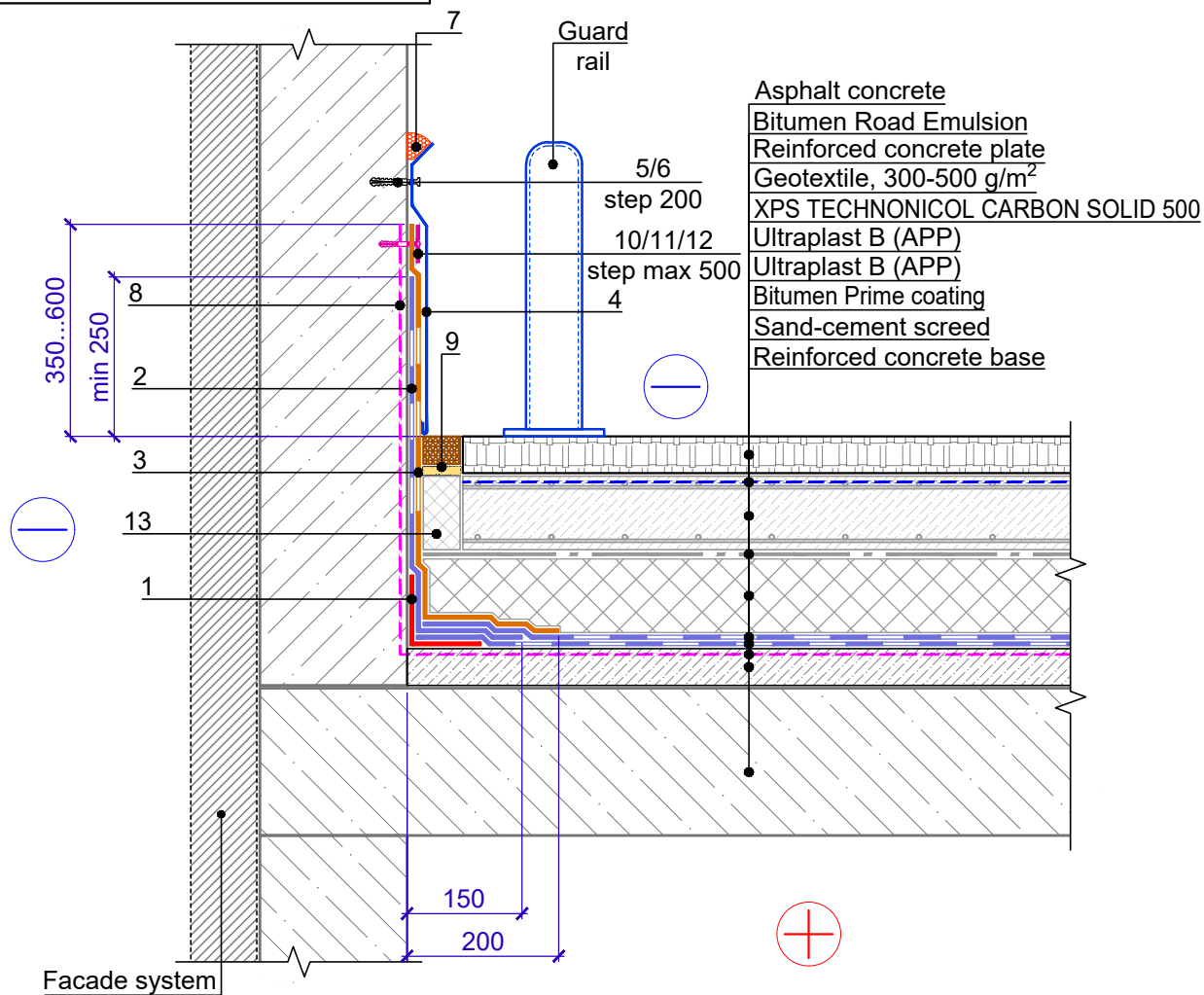
1. Provide for an increase in the slope at the funnel up to 5% within a radius of at least 500 mm around.
2. It is recommended that the funnel be deepened by 20-30 mm relative to the roof level.
3. Join the put-on element to the lower funnel properly.
4. If necessary, you can install a TECHNICONICOL heating water intake funnel (item 7)

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Inner drain. Gutter	DWG No. 1.2 - 2021.05	REV.



Register of drawings for junctions to the vertical surfaces

No	Name	DWG No.
2.1	Junction to vertical surfaces without vertical insulation. For rough surfaces (concrete)	2.1
2.2	Junction to vertical surfaces without vertical insulation. For rough surfaces (concrete)	2.2
2.3	Junction to a parapet no more than 600 mm high with insulation and waterproofing installation on the parapet. Option 1	2.3
2.4	Junction to a parapet no more than 600 mm high with insulation and waterproofing installation on the parapet. Option 2	2.4
2.5	Junction to a parapet 600 mm to 1200 mm high with insulation and waterproofing installation on the parapet. Option 1.	2.5
2.6	Junction to a parapet 600 mm to 1200 mm high with insulation and waterproofing installation on the parapet. Option 1.	2.6
2.7	Junction to a high insulated parapet without waterproofing installation on the parapet	2.7

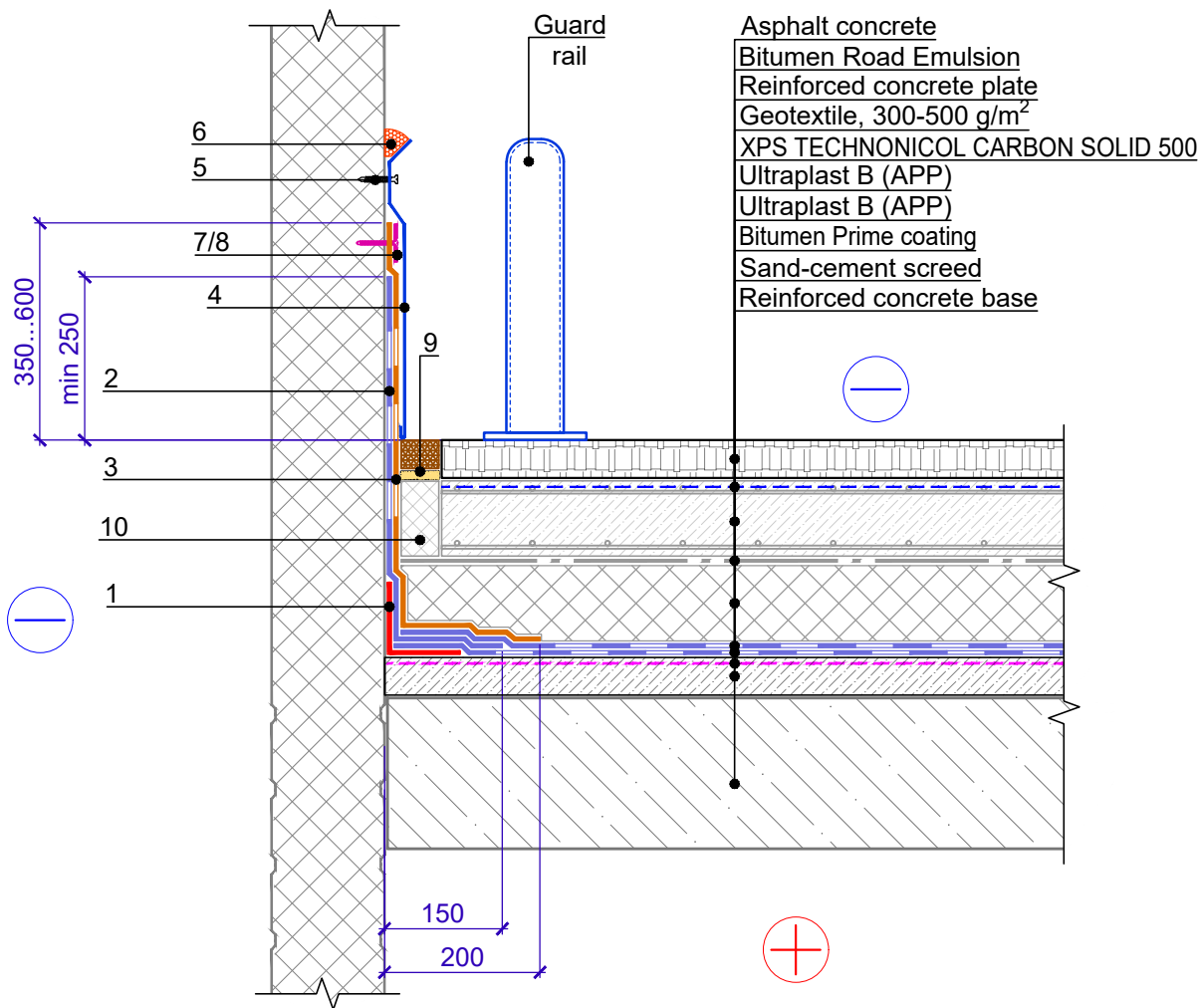


Specification of detail DWG No. 2.1 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B (APP)	0.35	m ²	reinforcement layer
2	Ultraplast B (APP)	upon the project	m ²	
3	Ultraplast B Grey mineral (APP)	upon the project	m ²	
4	Flashing made of galvanized steel	1.00	m	
5	Pointed self-tapping screw 4.8x50	5	pcs.	
6	Anchor element 8x45	5	pcs.	
7	Bitumen-polymer sealing mastic	150	g/m	
8	Bitumen Prime coating	upon the project	l	
9	Polymer-Bitumen Sealant	upon the project	kg	
10	Pointed self-tapping screw 4.8x(L-upon the project)	5	pcs.	
11	Anchor element 8x45	5	pcs.	
12	Washer Ø 50mm	5	pcs.	
13	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	

1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Junction to vertical surfaces without vertical insulation. For rough surfaces (concrete)	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 2.1 - 2021.05	REV.



Specification of detail DWG No. 2.2 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B (APP)	0.35	m ²	reinforcement layer
2	Ultraplast B (APP)	upon the project	m ²	
3	Ultraplast B Grey mineral (APP)	upon the project	m ²	
4	Flashing made of galvanized steel	1.00	m	
5	Pointed self-tapping screw 4.8x50	5	pcs.	
6	Bitumen-polymer sealing mastic	150	g/m	
7	Pointed self-tapping screw 4.8x(L-upon the project)	5	pcs.	
8	Washer Ø 50mm	5	pcs.	
9	Polymer-Bitumen Sealant	upon the project	kg	
10	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	

1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Junction to vertical surfaces without vertical insulation. For smooth surfaces (metal)	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 2.2 - 2021.05	REV.

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B Grey mineral (APP)	upon the project	m ²	
2	Ultraplast B (APP)	upon the project	m ²	
3	Stone wool	upon the project	m ³	
4	Cement bonded particle board	upon the project	m ²	
5	Ultraplast B (APP)	upon the project	m ²	
6	Pointed self-tapping screw 4.8x50	3.40	pcs.	
7	Anchor element 8x45	3.40	pcs.	
8	Fastener (T-shaped support)	1.70	pcs.	
9	Drain element made of galvanized steel (cap)	1.00	m	
10	Ultraplast B (APP)	0.35	m ²	reinforcement layer
11	Polymer-Bitumen Sealant	upon the project	kg	
12	Bitumen Prime Coating	upon the project	l	
13	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
14	Galvanized steel profile	1.00	m	
15	Ultraplast B (APP)	upon the project	m ²	
16	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
17	Anchor element 8x45	upon the project	pcs.	
18	Bitumen Prime Coating	upon the project	l	
19	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	

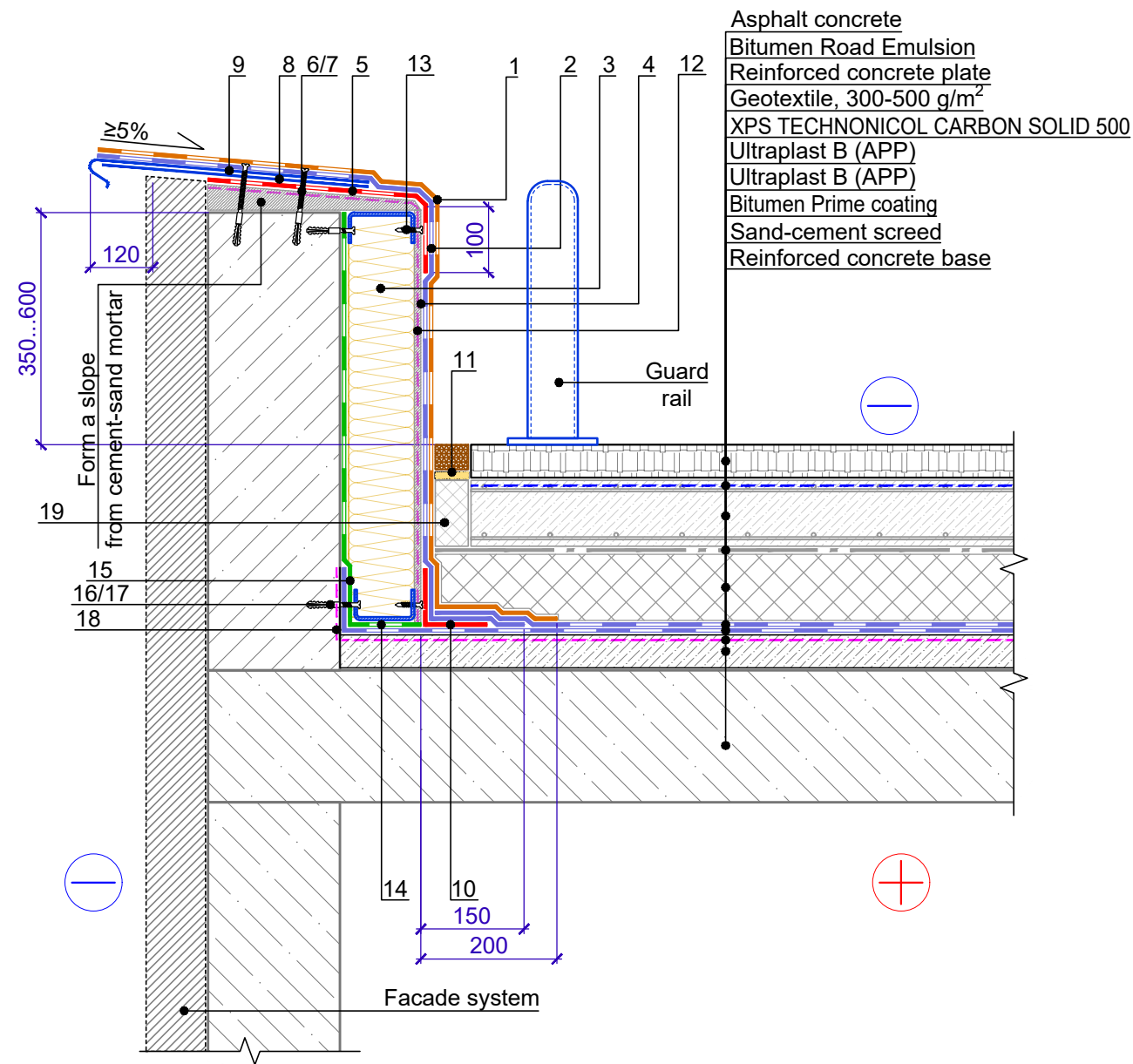


Diagram illustrating a horizontal beam structure. The beam has a total length of 40 units and a height of 100 units. A point is marked on the left end of the beam at time $t=2$. The text "upon the project" is written below the beam.

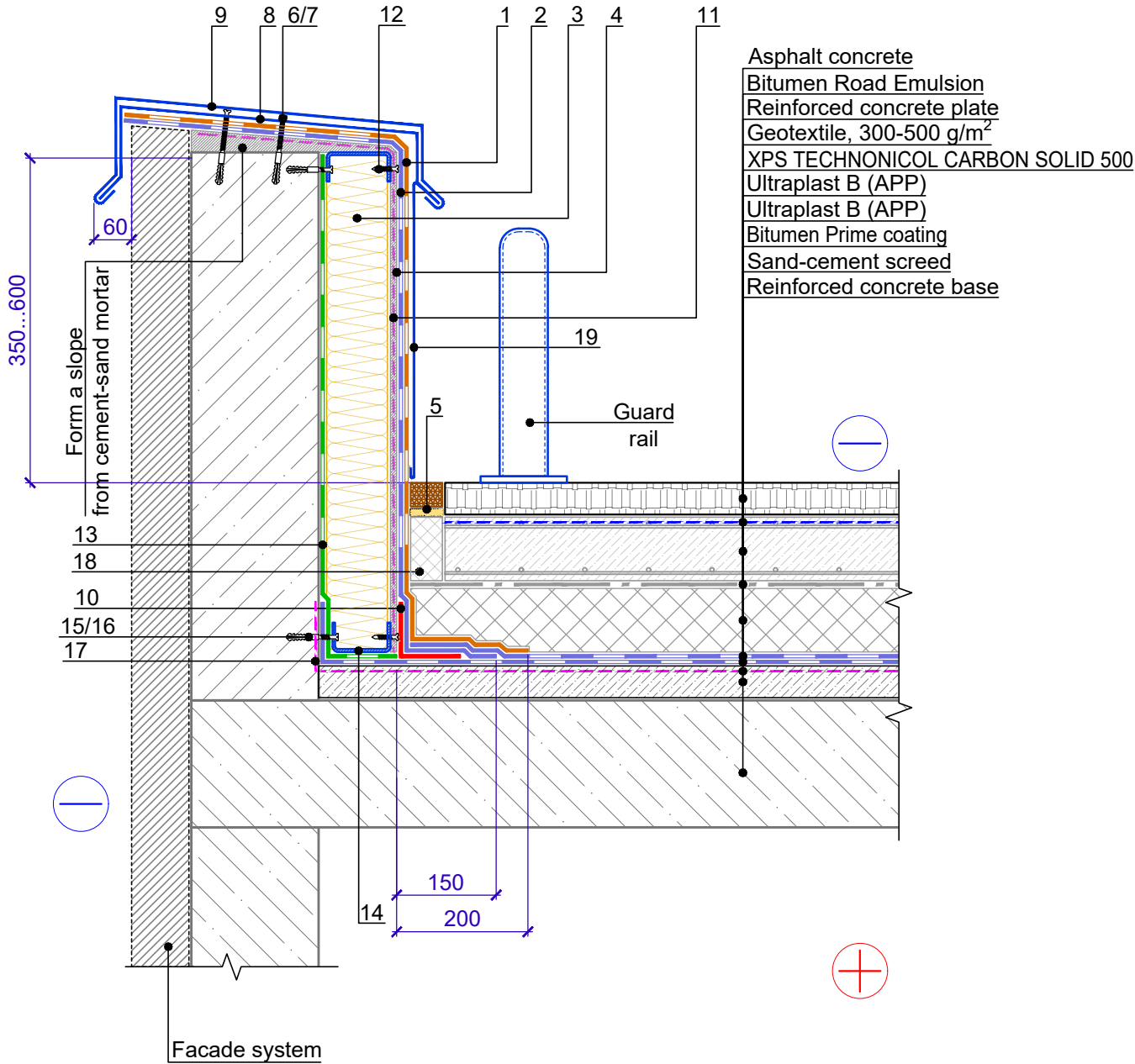
1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Junction to a parapet no more than 600 mm high with insulation and waterproofing installation on the parapet. Option 1.	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 2.3 - 2021.05	REV.

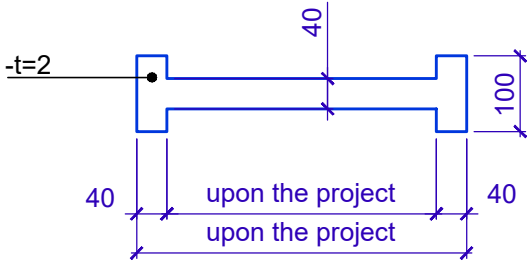


Specification of detail DWG No. 2.4 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B Grey mineral (APP)	upon the project	m ²	
2	Ultraplast B (APP)	upon the project	m ²	
3	Stone wool	upon the project	m ³	
4	Cement bonded particle board	upon the project	m ²	
5	Polymer-Bitumen Sealant	upon the project	kg	
6	Pointed self-tapping screw 4.8x50	3.40	pcs.	
7	Anchor element 8x45	3.40	pcs.	
8	Fastener	1.70	pcs.	
9	Drain element made of galvanized steel (cap)	1.00	m	
10	Ultraplast B (APP)	0.35	m ²	reinforcement layer
11	Bitumen Prime Coating	upon the project	l	
12	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
13	Ultraplast B (APP)	upon the project	m ²	
14	Galvanized steel profile	1.00	m	
15	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
16	Anchor element 8x45	upon the project	pcs.	
17	Bitumen Prime Coating	upon the project	l	
18	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	
19	Flashing made of galvanized steel	1.00	m	



Fastener
Position 8



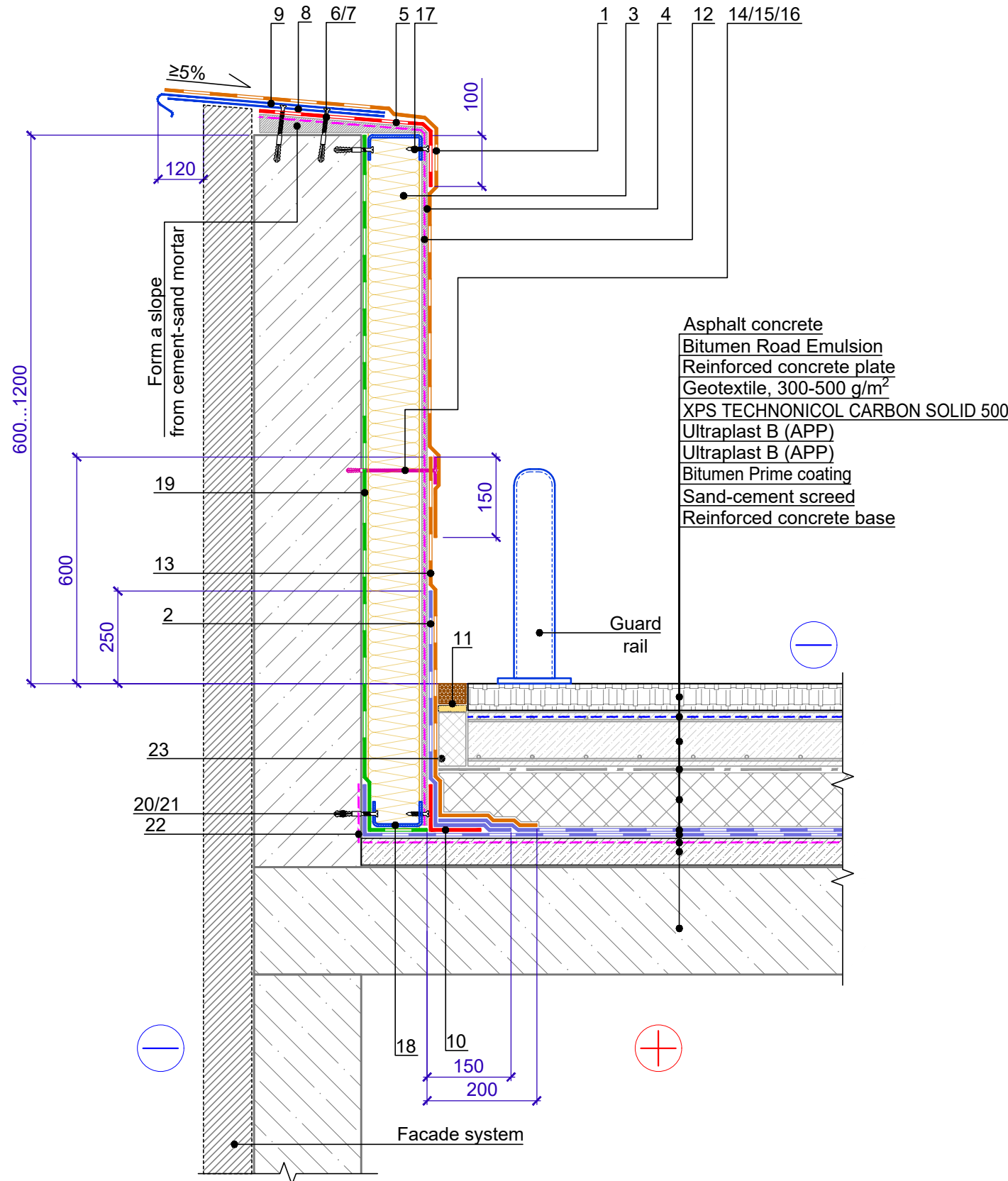
1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Junction to a parapet no more than 600 mm high with insulation and waterproofing installation on the parapet. Option 1.	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 2.4 - 2021.05	REV.

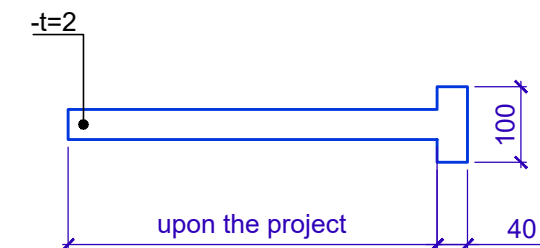


Specification of detail DWG No. 2.5 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B Grey mineral (APP)	upon the project	m ²	
2	Ultraplast B (APP)	upon the project	m ²	
3	Stone wool	upon the project	m ³	
4	Cement bonded particle board	upon the project	m ²	
5	Ultraplast B (APP)	upon the project	m ²	
6	Pointed self-tapping screw 4.8x50	3.40	pcs.	
7	Anchor element 8x45	3.40	pcs.	
8	Fastener (T-shaped support)	1.70	pcs.	
9	Drain element made of galvanized steel (cap)	1.00	m	
10	Ultraplast B (APP)	0.35	m ²	reinforcement layer
11	Polymer-Bitumen Sealant	upon the project	kg	
12	Bitumen Prime Coating	upon the project	l	
13	Bitumen-polymer membrane	upon the project	m ²	
14	Pointed self-tapping screw 4.8x50	5	pcs.	
15	Anchor element 8x45	5	pcs.	
16	Washer Ø 50mm	5	pcs.	
17	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
18	Galvanized steel profile	1.00	m	
19	Ultraplast B (APP)	upon the project	m ²	
20	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
21	Anchor element 8x45	upon the project	pcs.	
22	Bitumen Prime Coating	upon the project	l	
23	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	



Fastener (T-shaped support)
Position 8



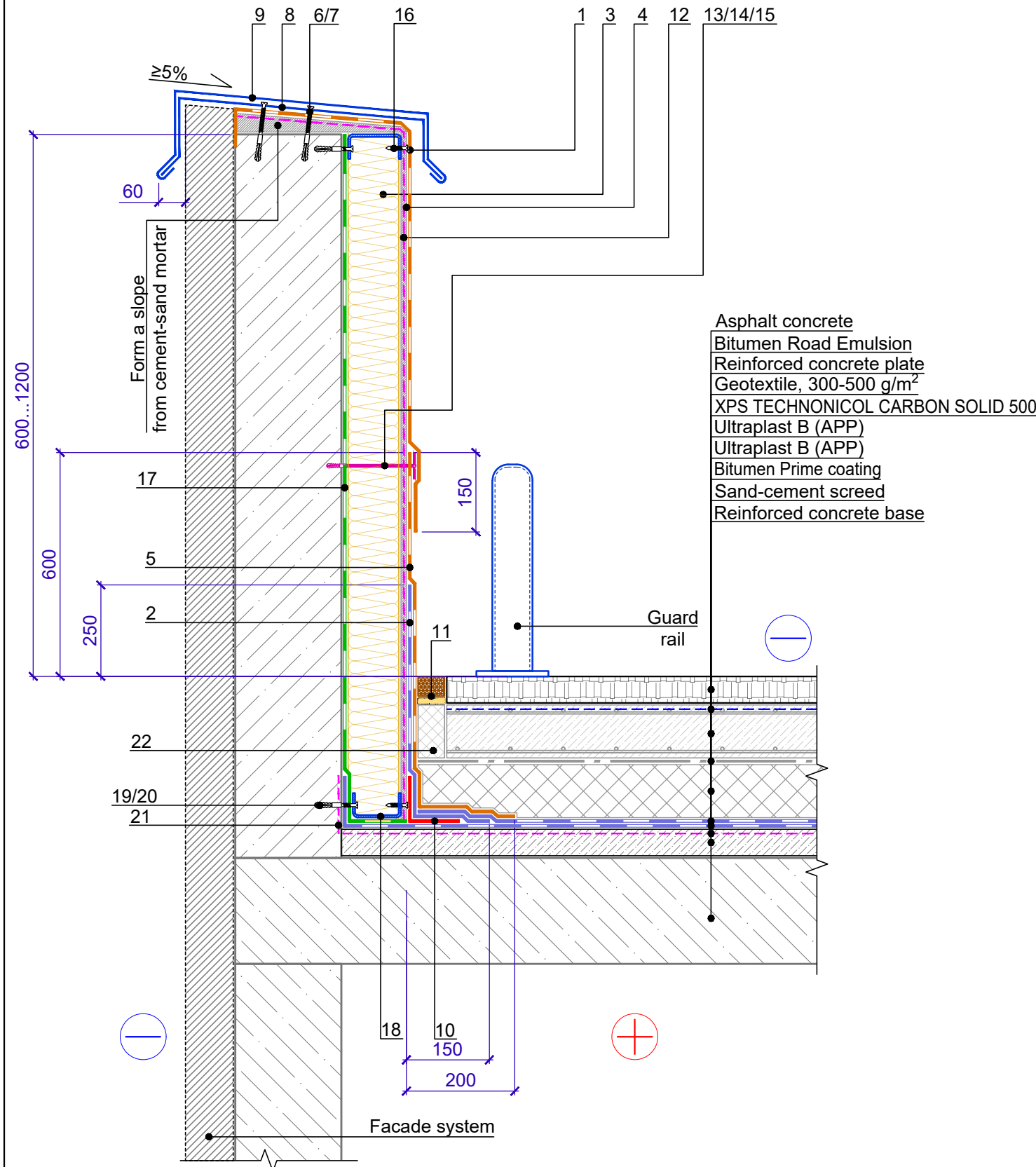
1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Junction to a parapet 600 mm to 1200 mm high with insulation and waterproofing installation on the parapet. Option 1.	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 2.5 - 2021.05	REV.

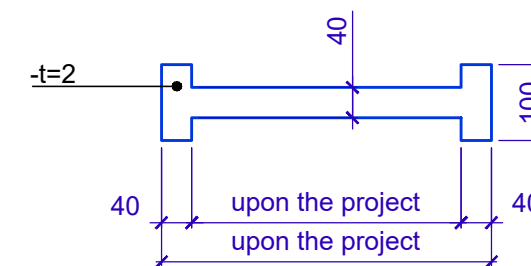


Specification of detail DWG No. 2.6 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B Grey mineral (APP)	upon the project	m ²	
2	Ultraplast B (APP)	upon the project	m ²	
3	Stone wool	upon the project	m ³	
4	Cement bonded particle board	upon the project	m ²	
5	Ultraplast B Grey mineral (APP)	upon the project	m ²	
6	Pointed self-tapping screw 4.8x50	3.40	pcs.	
7	Anchor element 8x45	3.40	pcs.	
8	Fastener	1.70	pcs.	
9	Drain element made of galvanized steel (cap)	1.00	m	
10	Ultraplast B (APP)	0.35	m ²	reinforcement layer
11	Polymer-Bitumen Sealant	upon the project	kg	
12	Bitumen Prime Coating	upon the project	l	
13	Pointed self-tapping screw 4.8x50	5	pcs.	
14	Anchor element 8x45	5	pcs.	
15	Washer Ø 50mm	5	pcs.	
16	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
17	Ultraplast B (APP)	upon the project	m ²	
18	Galvanized steel profile	1.00	m	
19	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
20	Anchor element 8x45	upon the project	pcs.	
21	Bitumen Prime Coating	upon the project	l	
22	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	



Fastener
Position 8



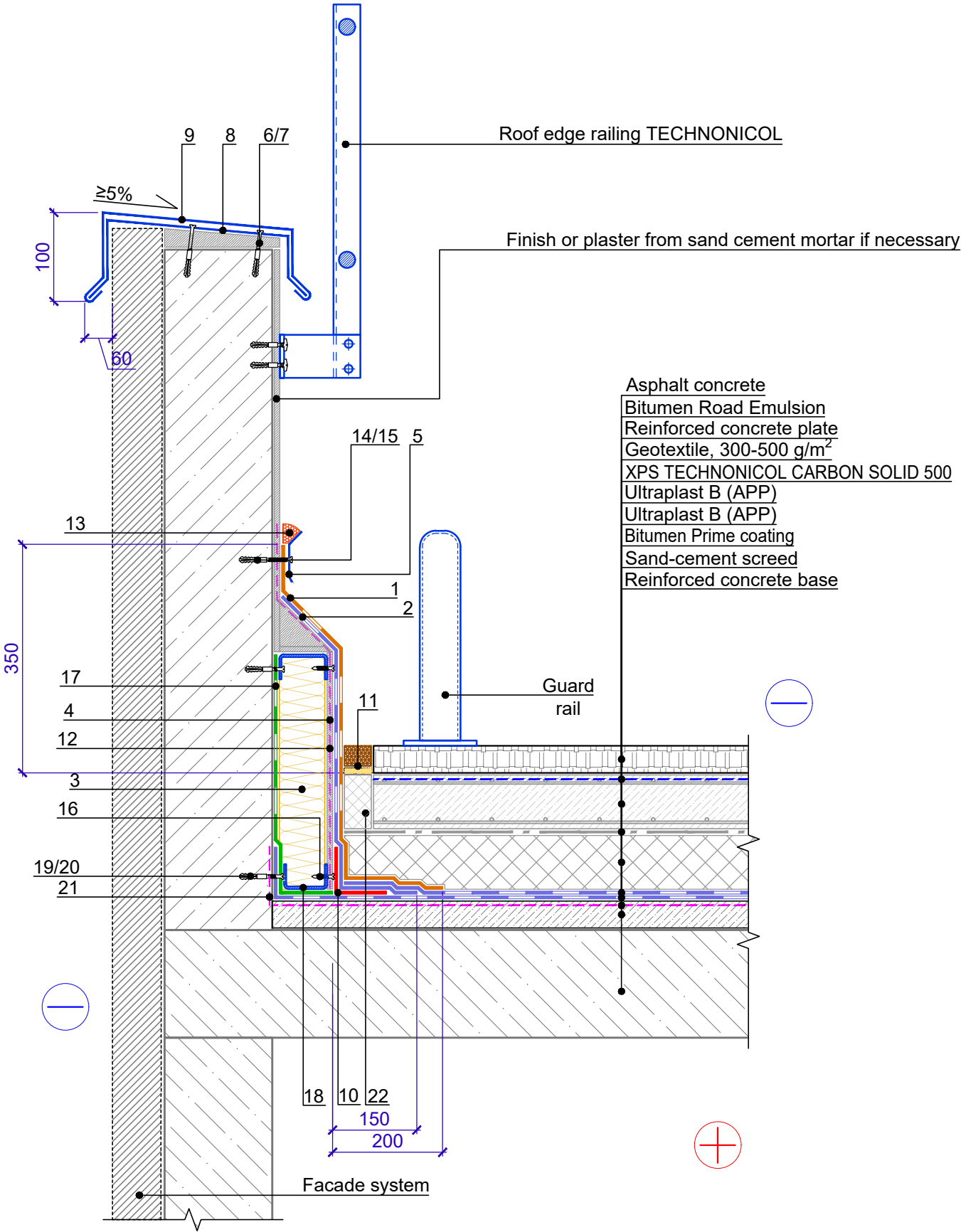
1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Junction to a parapet 600 mm to 1200 mm high with insulation and waterproofing installation on the parapet. Option 2.	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 2.6 - 2021.05	REV.

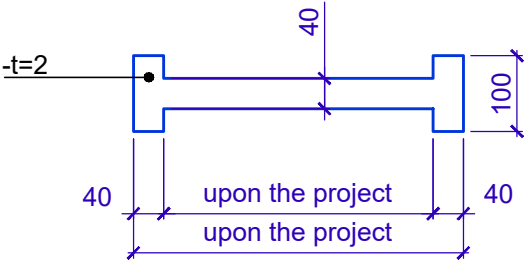


Specification of detail DWG No. 2.7 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B Grey mineral (APP)	upon the project	m ²	
2	Ultraplast B (APP)	upon the project	m ²	
3	Stone wool	upon the project	m ³	
4	Cement bonded particle board	upon the project	m ²	
5	Edge rail	1.00	m	
6	Pointed self-tapping screw 4.8x50	3.40	pcs.	
7	Anchor element 8x45	3.40	pcs.	
8	Fastener	1.70	pcs.	
9	Drain element made of galvanized steel (cap)	1.00	m	
10	Ultraplast B (APP)	0.35	m ²	reinforcement layer
11	Polymer-Bitumen Sealant	upon the project	kg	
12	Bitumen Prime Coating	upon the project	l	
13	Bitumen-polymer sealing mastic	150	g/m	
14	Pointed self-tapping screw 4.8x50	5	pcs.	
15	Anchor element 8x45	5	pcs.	
16	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
17	Ultraplast B (APP)	upon the project	m ²	
18	Galvanized steel profile	1.00	m	
19	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
20	Anchor element 8x45	upon the project	pcs.	
21	Bitumen Prime Coating	upon the project	l	
22	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	



Fastener
Position 8

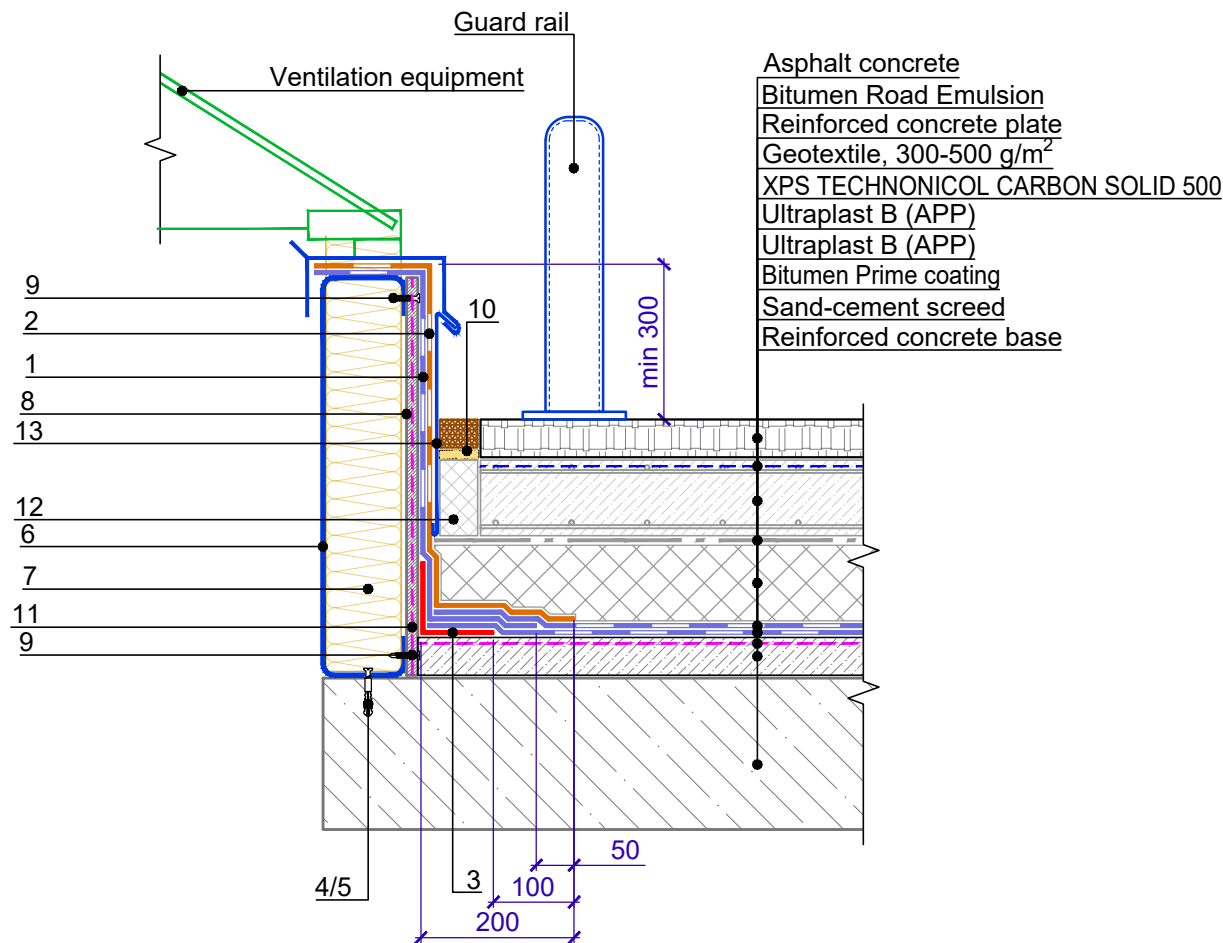


1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Junction to a high insulated parapet without waterproofing installation on the parapet	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 2.7 - 2021.05	REV.

Register of drawings of construction of pipes and junctions to the aerators

№	Name	DWG No.
3.1	Junction to rectangular cross section ventilation sleeve	3.1
3.2	Junction to the pipe	3.2
3.3	Junction to the hot pipe. Option 1	3.3
3.4	Junction to the hot pipe. Option 2	3.4
3.5	Junction to the bundle of pipes of small diameter	3.5

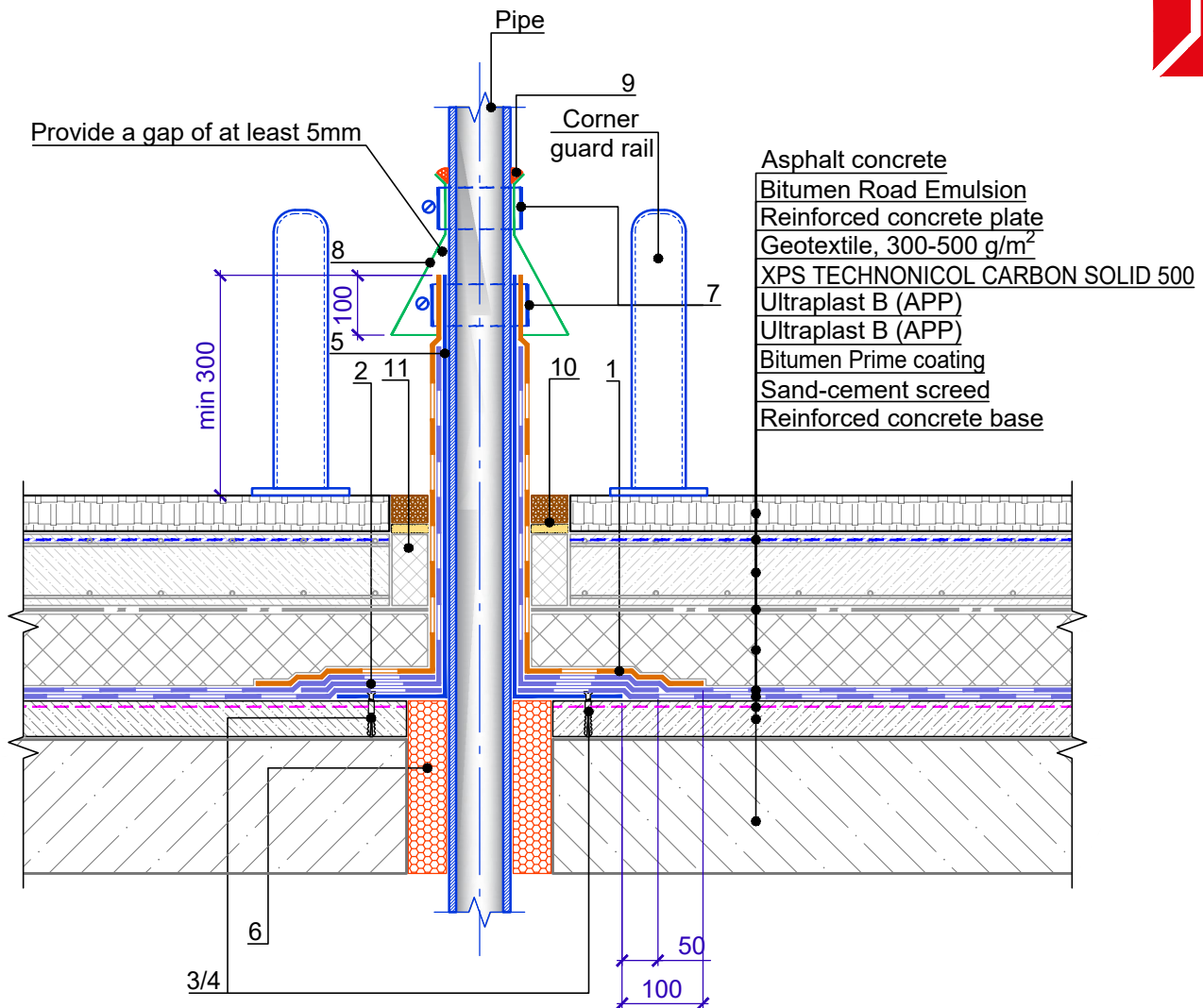


Specification of detail DWG No. 3.1 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B (APP)	upon the project	m ²	
2	Ultraplast B Grey mineral (APP)	upon the project	m ²	
3	Ultraplast B (APP)	0.35	m ²	reinforcement layer
4	Pointed self-tapping screw 4.8x50	5	pcs.	
5	Anchor element 8x45	5	pcs.	
6	Galvanized steel profile	1.00	m	
7	Stone wool	upon the project	m ³	
8	Pressed flat roofing sheets (general purpose cement bonded particle board)	upon the project	m ²	
9	Pointed self-tapping screw 4.8x50	10	pcs.	
10	Polymer-Bitumen Sealant	upon the project	kg	
11	Bitumen Prime Coating	upon the project	l	
12	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	
13	Flashing made of galvanized steel	1.00	m	

1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Junction to rectangular cross section ventilation sleeve	DWG No. 3.1 - 2021.05	REV.

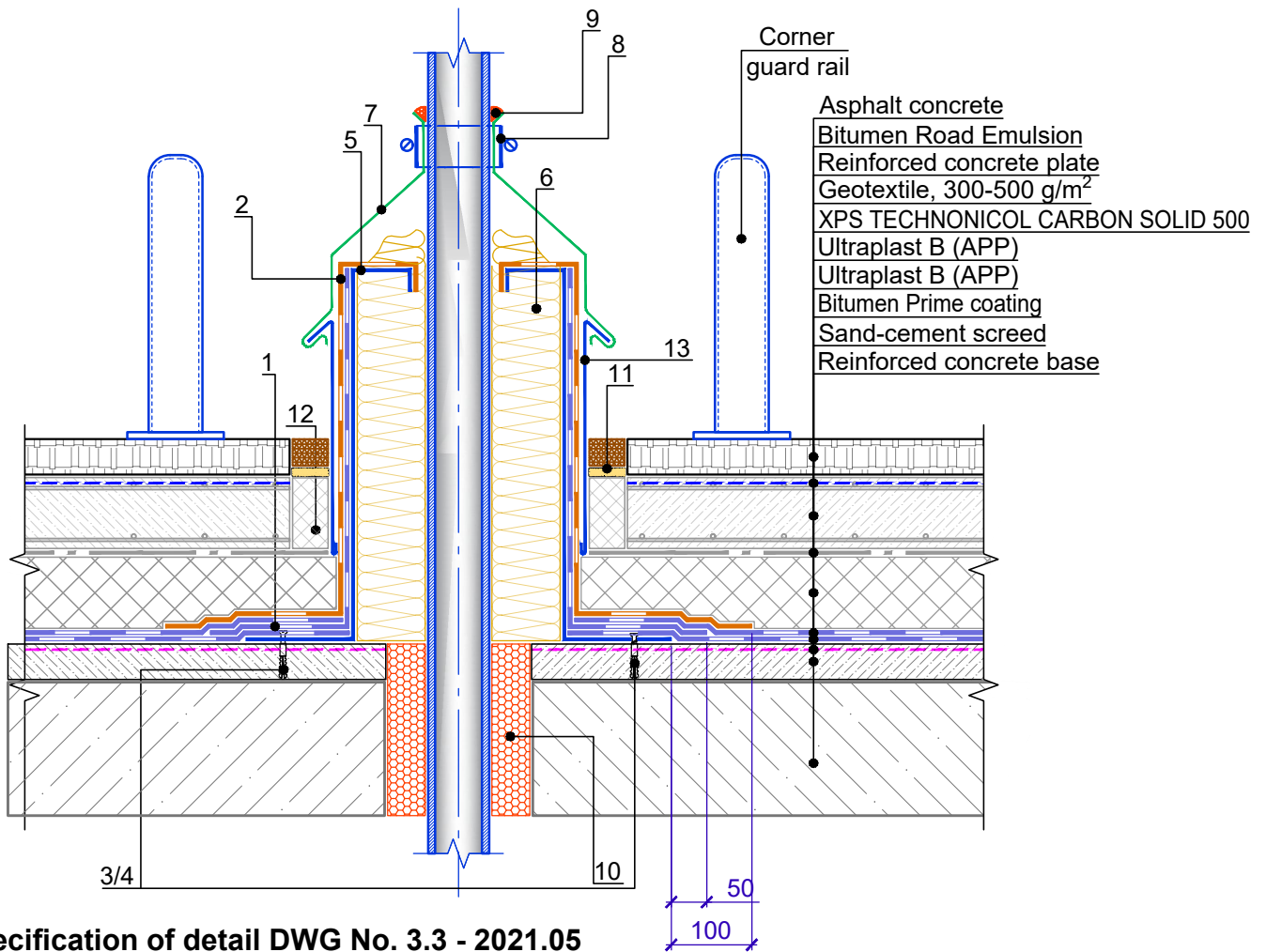


Specification of detail DWG No. 3.2 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B Grey mineral (APP)	upon the project	m ²	
2	Ultraplast B (APP)	upon the project	m ²	
3	Anchor element 8x45	6	pcs.	
4	Pointed self-tapping screw 4.8x50	6	pcs.	
5	Galvanized steel sleeve, 1.0 mm thick	1.00	m	
6	Construction foam	upon the project	pcs.	
7	Metal clip band	2	pcs.	
8	Metal collar	1	pcs.	
9	Bitumen-polymer sealing mastic	150	g/m	
10	Polymer-Bitumen Sealant	upon the project	kg	
11	XPS TECHNOCOL CARBON PROF 300	upon the project	m ³	

1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Junction to the pipe	DWG No. 3.2 - 2021.05	REV.

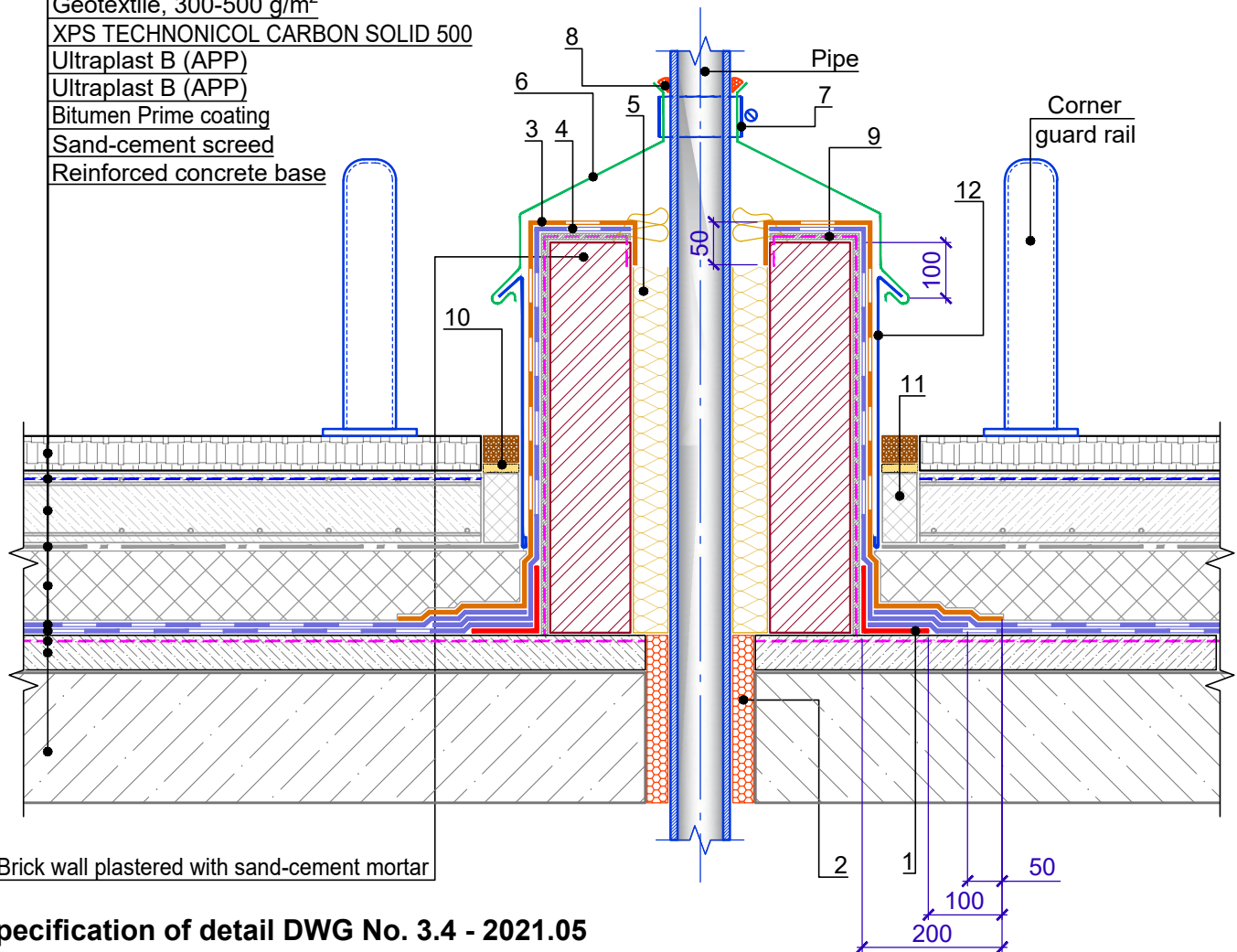


Specification of detail DWG No. 3.3 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B (APP)	upon the project	m ²	
2	Ultraplast B Grey mineral (APP)	upon the project	m ²	
3	Anchor element 8x45	6	pcs.	
4	Pointed self-tapping screw 4.8x50	6	pcs.	
5	Galvanized steel box	1	pcs.	
6	Stone wool	upon the project	m ³	
7	Collar made of galvanized steel	1	pcs.	
8	Metal clip band	1	pcs.	
9	Bitumen-polymer sealing mastic	150	g/m	
10	Construction foam	upon the project	pcs.	
11	Polymer-Bitumen Sealant	upon the project	kg	
12	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	
13	Flashing made of galvanized steel	1.00	m	
TN_ROOF_BRM_CONCRETE_AUTO_EN				DESIGN
				APPROVED
				SCALE
				DATE
Junction to the hot pipe. Option 1				DWG No.
				3.3 - 2021.05
				REV.
REV.	DATE	DESCRIPTION	CHECKED	



Asphalt concrete
Bitumen Road Emulsion
Reinforced concrete plate
Geotextile, 300-500 g/m²
XPS TECHNONICOL CARBON SOLID 500
Ultraplast B (APP)
Ultraplast B (APP)
Bitumen Prime coating
Sand-cement screed
Reinforced concrete base



Specification of detail DWG No. 3.4 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B (APP)	0.35	m ²	reinforcement layer
2	Construction foam	upon the project	pcs.	
3	Ultraplast B Grey mineral (APP)	upon the project	m ²	
4	Ultraplast B (APP)	upon the project	m ²	
5	Stone wool	upon the project	m ³	
6	Collar made of galvanized steel	1	pcs.	
7	Metal clip band	1	pcs.	
8	Bitumen-polymer sealing mastic	150	g/m	
9	Bitumen Prime Coating	upon the project	l	
10	Polymer-Bitumen Sealant	upon the project	kg	
11	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	
12	Flashing made of galvanized steel	1.00	m	

TN_ROOF_BRM_CONCRETE_AUTO_EN				DESIGN	APPROVED
Junction to the hot pipe. Option 2				SCALE	DATE
				DWG No. 3.4 - 2021.05	REV.
REV.	DATE	DESCRIPTION	CHECKED		

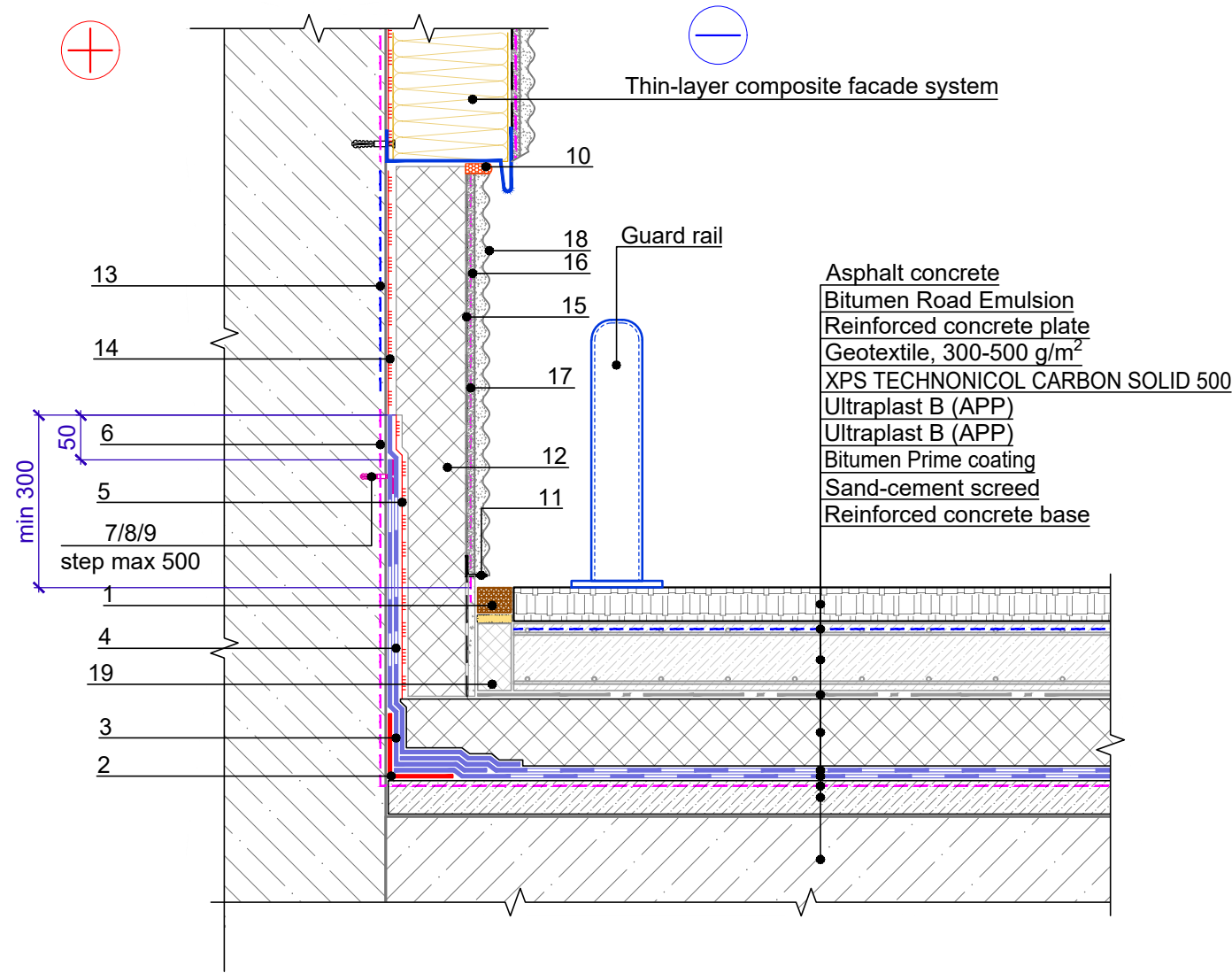


Register of drawings for arrangement of junctions to facade systems

No	Name	DWG No.
4.1	Junction to a thin-layer composite facade system	4.1
4.2	Junction to a ventilated facade system	4.2



Specification of detail DWG No. 4.1 - 2021.05



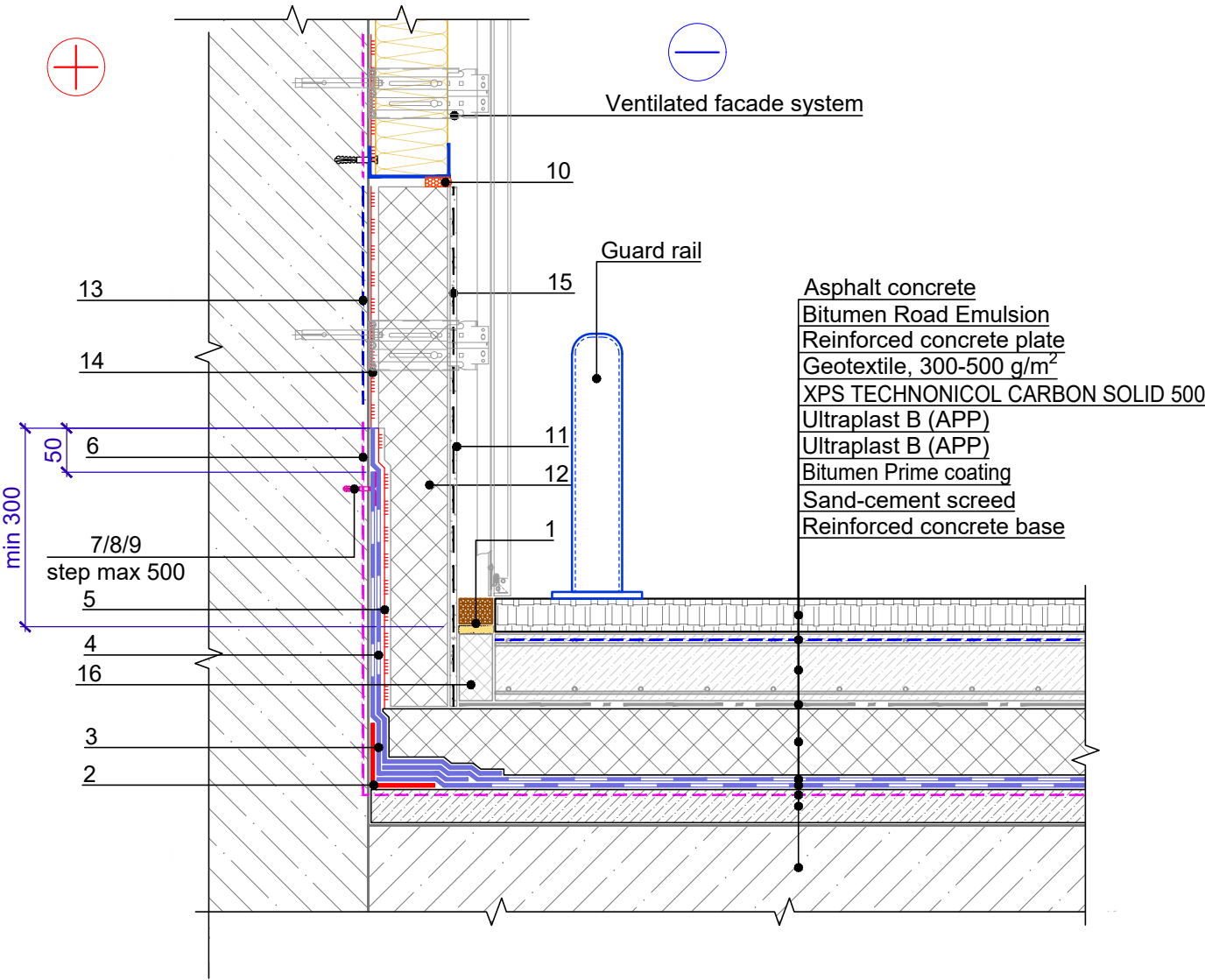
Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Polymer-Bitumen Sealant	upon the project	kg	
2	Ultraplast B (APP)	0.35	m ²	reinforcement layer
3	Ultraplast B (APP)	upon the project	m ²	
4	Ultraplast B (APP)	upon the project	m ²	
5	Adhesive Mastic	upon the project	m ²	
6	Bitumen Prime Coating	upon the project	l	
7	Pointed self-tapping screw 4.8x(L-upon the project)	5	pcs.	
8	Anchor element 8x45	5	pcs.	
9	Washer Ø 50mm	5	pcs.	
10	Bitumen-polymer sealing mastic	150	g/m	
11	Corner PVC profile	upon the project	m	
12	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	
13	Deep-penetration facade primer	upon the project	l	
14	Plaster and adhesive (for XPS)	upon the project	kg.	
15	Facade mesh	upon the project	m ²	
16	Plaster and adhesive (for XPS)	upon the project	kg.	
17	Multipurpose primer	upon the project	kg.	
18	Decorative mineral plaster	upon the project	kg.	
19	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	

1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Junction to a thin-layer composite facade system	DWG No. 4.1 - 2021.05	REV.



Specification of detail DWG No. 4.2 - 2021.05



Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Polymer-Bitumen Sealant	upon the project	kg	
2	Ultraplast B (APP)	0.35	m ²	reinforcement layer
3	Ultraplast B (APP)	upon the project	m ²	
4	Ultraplast B (APP)	upon the project	m ²	
5	Adhesive Mastic	upon the project	m ²	
6	Bitumen Prime Coating	upon the project	l	
7	Pointed self-tapping screw 4.8x(L-upon the project)	5	pcs.	
8	Anchor element 8x45	5	pcs.	
9	Washer Ø 50mm	5	pcs.	
10	Bitumen-polymer sealing mastic	150	g/m	
11	Plaster and adhesive (for XPS)	upon the project	kg.	
12	XPS TECHNOMICOL CARBON PROF 300	upon the project	m ³	
13	Deep-penetration facade primer	upon the project	l	
14	Plaster and adhesive (for XPS)	upon the project	kg.	
15	Facade mesh	upon the project	m ²	
16	XPS TECHNOMICOL CARBON PROF 300	upon the project	m ³	

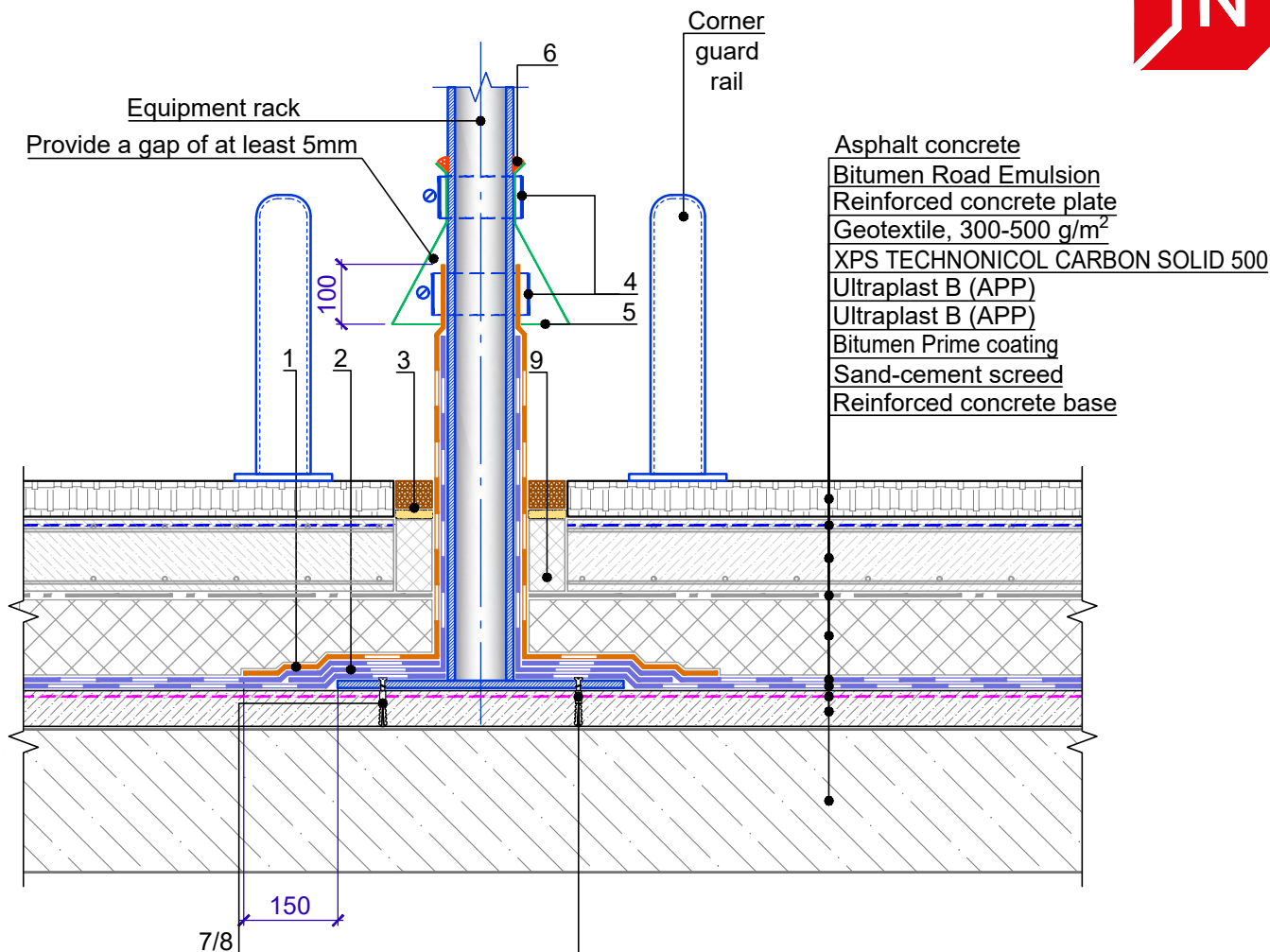
1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Junction to a ventilated facade system	DWG No. 4.2 - 2021.05	REV.



Register of drawings of construction of junctions to the roof fence poles and equipment racks

No	Name	DWG No.
5.1	Junction to the equipment racks	5.1



Specification of detail DWG No. 5.1 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Note
1	Ultraplast B Grey mineral (APP)	upon the project	m ²	
2	Ultraplast B (APP)	upon the project	m ²	
3	Polymer-Bitumen Sealant	upon the project	kg	
4	Metal clip band	2	pcs.	
5	Metal collar	1	pcs.	
6	Bitumen-polymer sealing mastic	150	g/m	
7	Pointed self-tapping screw 4.8x50	6	pcs.	
8	Anchor element 8x45	6	pcs.	
9	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	

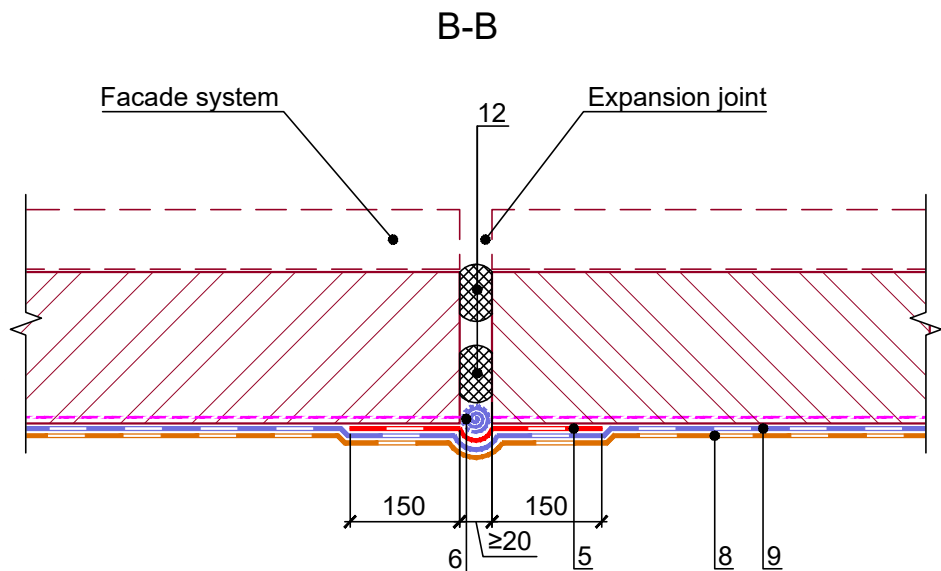
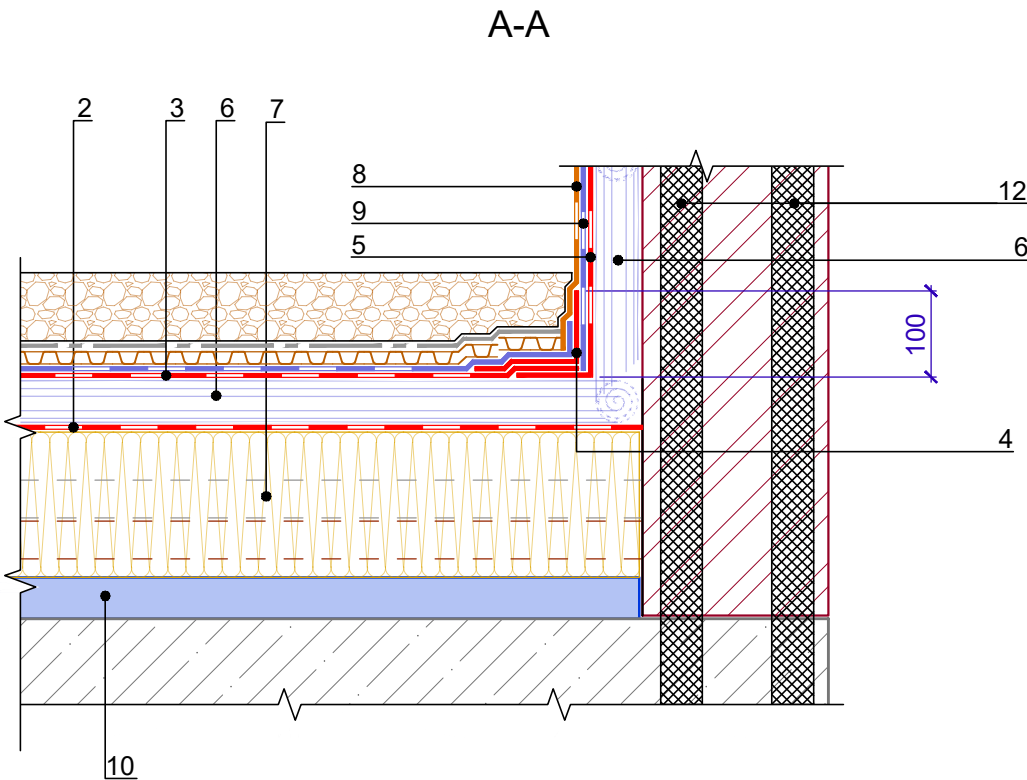
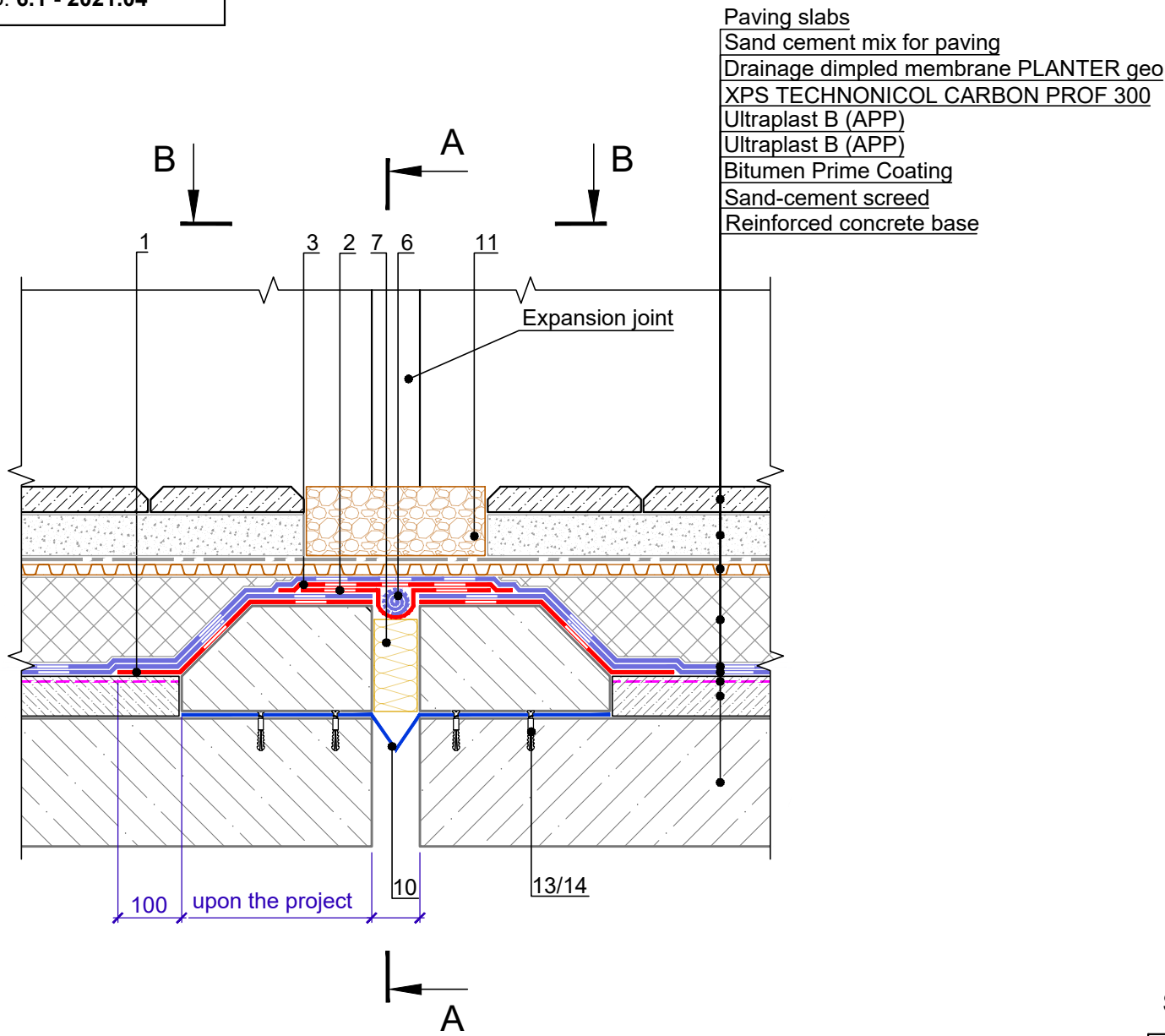
- The height of a fence pole above the waterproofing membrane should be not less than 500 mm.
- As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN		
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Junction to equipment racks	DWG No. 5.1 - 2021.05	REV.



Register of drawings for arrangement of junctions to expansion joints

No	Name	DWG No.
6.1	Expansion joint. Option 1	6.1
6.2	Expansion joint. Option 2	6.2
6.3	Expansion joint in the junction to the wall. Option 1	6.3
6.4	Expansion joint in the junction to the wall. Option 2	6.4
6.5	Expansion spacer	6.5

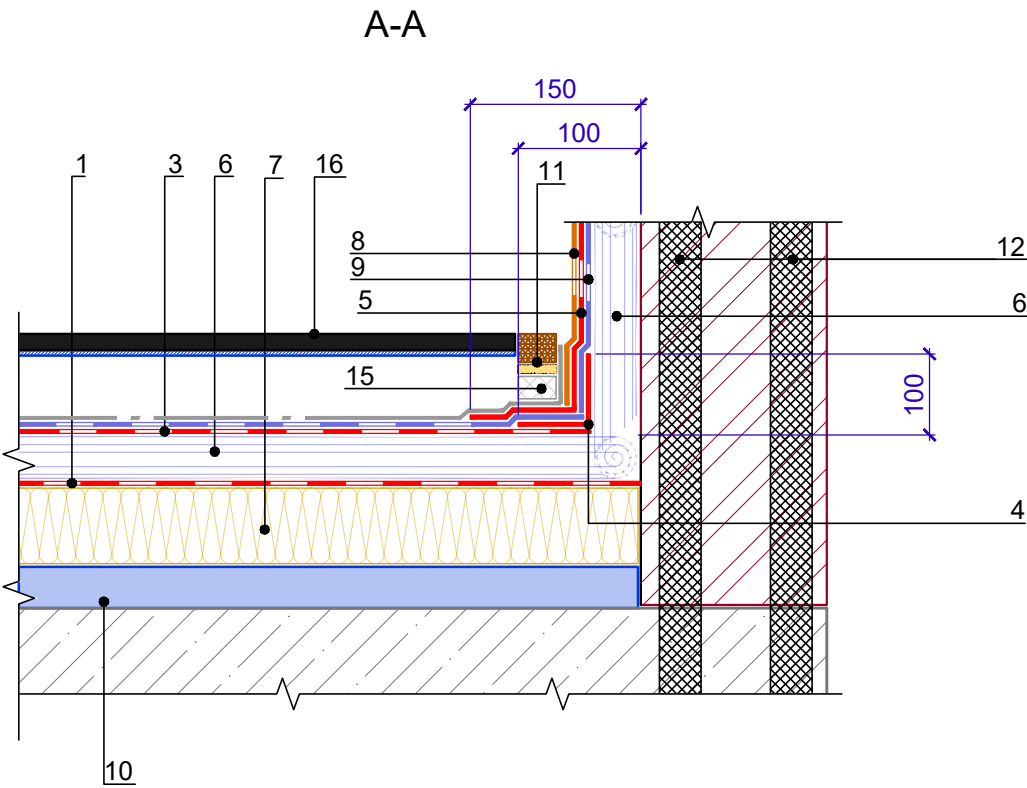
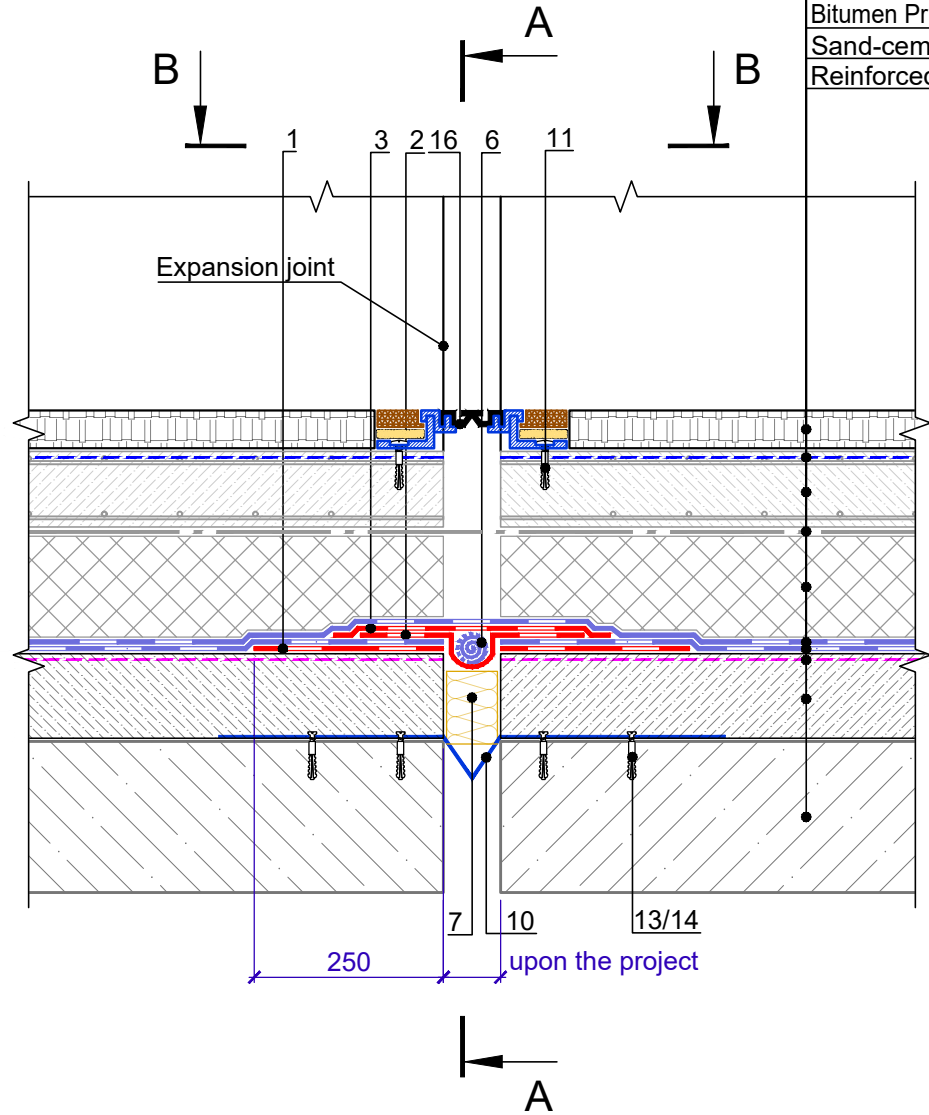


Specification of detail DWG No. 6.1 - 2021.04

Position	Name			Consumption	Unit	Notes	
1	Ultraplast B (APP)			upon the project	m ²		
2	Technoelast Flex			upon the project	m ²		
3	Technoelast Flex			upon the project	m ²		
4	Technoelast Flex			upon the project	m ²		
5	Technoelast Flex			upon the project	m ²		
6	Foamed polyethylene cord			upon the project	m ²		
7	Stone wool			upon the project	m ³		
8	Ultraplast B Grey mineral (APP)			upon the project	m ²		
9	Ultraplast B (APP)			upon the project	m ²		
10	Galvanized steel compensator			1.00	m		
11	Washed gravel with 20-40 mm fraction			upon the project	m ³		
12	Sealing gasket			1.00	m		
13	Pointed self-tapping screw 4.8x50			20	pcs.		
14	Anchor element 8x45			20	pcs.		
				TN_ROOF_BRM_CONCRETE_PAVEMENT_EN		DESIGN	APPROVED
				Expansion joint. Opion 1		SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED			DWG No. 6.1 - 2021.04	REV.



Asphalt concrete
Bitumen Road Emulsion
Reinforced concrete plate
Geotextile, 300-500 g/m²
XPS TECHNOMICOL CARBON SOLID 500
Ultraplast B (APP)
Ultraplast B (APP)
Bitumen Prime coating
Sand-cement screed
Reinforced concrete base



1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

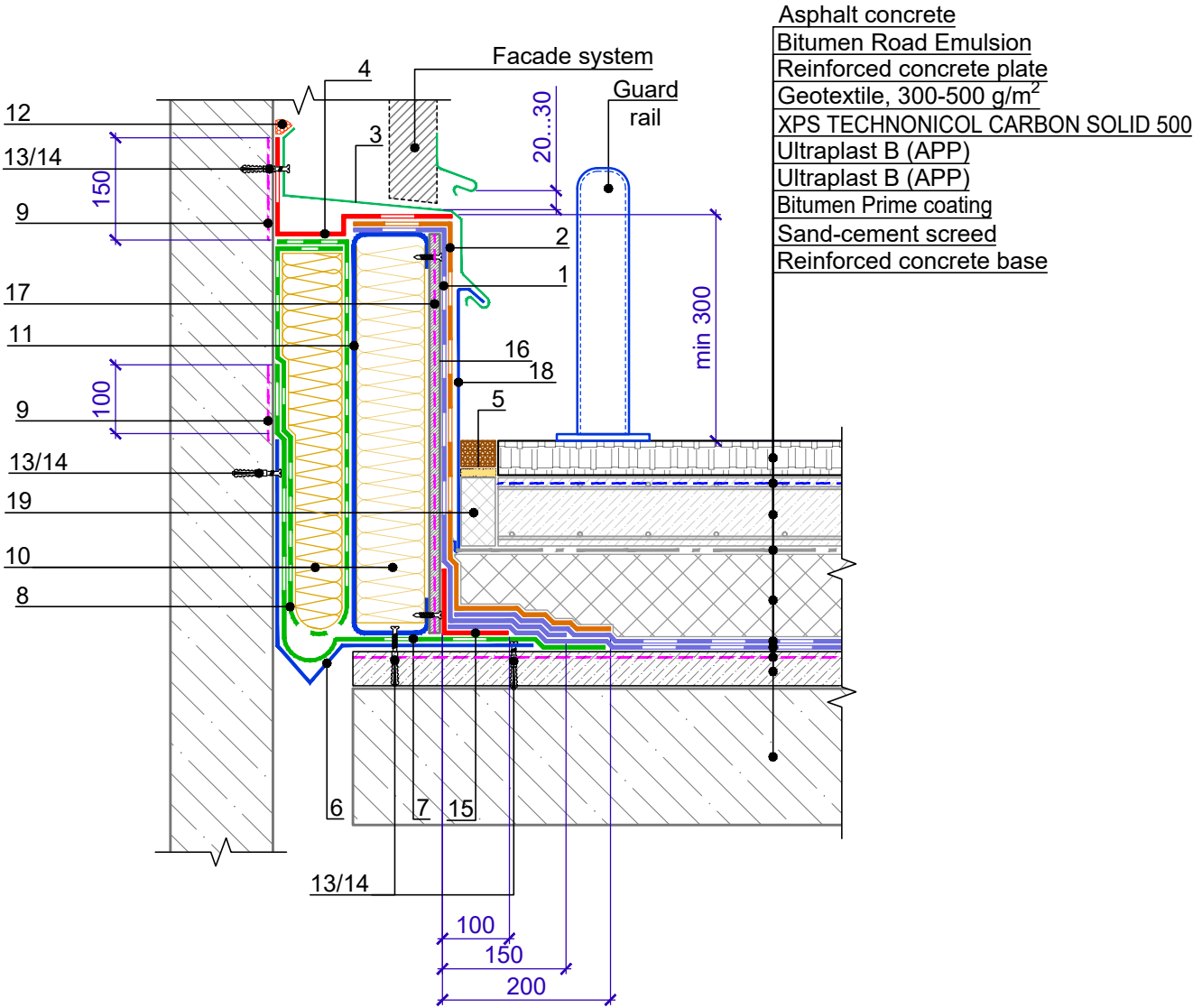
Specification of detail DWG No. 6.2 - 2021.05

Position	Name	Consumption	Unit	Notes
1	Technoelast Flex	upon the project	m ²	
2	Technoelast Flex	upon the project	m ²	
3	Technoelast Flex	upon the project	m ²	
4	Technoelast Flex	upon the project	m ²	
5	Technoelast Flex	upon the project	m ²	
6	Foamed polyethylene cord	upon the project	m ²	
7	Stone wool	upon the project	m ³	
8	Ultraplast B Grey mineral (APP)	upon the project	m ²	
9	Ultraplast B (APP)	upon the project	m ²	
10	Galvanized steel compensator	1.00	m	
11	Polymer-Bitumen Sealant	upon the project	kg	
12	Sealing harness	1.00	m	
13	Pointed self-tapping screw 4.8x50	20	pcs.	
14	Anchor element 8x45	20	pcs.	
15	XPS TECHNOMICOL CARBON PROF 300	upon the project	m ³	
16	Expansion joint waterstop	1.00	m	
TN_ROOF_BRM_CONCRETE_AUTO_EN				DESIGN
Expansion joint. Option 2				APPROVED
				SCALE
				DATE
REV.	DATE	DESCRIPTION	CHECKED	DWG No. 6.2 - 2021.05
				REV.



Specification of detail DWG No. 6.3 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Notes
1	Ultraplast B (APP)	upon the project	m ²	
2	Ultraplast B Grey mineral (APP)	upon the project	m ²	
3	Flashing made of galvanized steel	1.00	m	
4	Technoelast Flex, 0.5 m wide	upon the project	m ²	
5	Polymer-Bitumen Sealant	upon the project	kg	
6	Galvanized steel compensator	1.00	m	
7	Vapor barrier	upon the project	m ²	
8	Vapor barrier	upon the project	m ²	
9	Bitumen Prime Coating	0.10	l	
10	Stone wool	upon the project	m ³	
11	Galvanized steel profile	upon the project	m	
12	Bitumen-polymer sealing mastic	150	g/m	
13	Pointed self-tapping screw 4.8x50	20	pcs.	
14	Anchor element 8x45	20	pcs.	
15	Ultraplast B (APP)	0.35	m ²	
16	Cement bonded particle board	upon the project	m ²	
17	Bitumen Prime Coating	upon the project	l	
18	Flashing made of galvanized steel	1.00	m	
19	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	



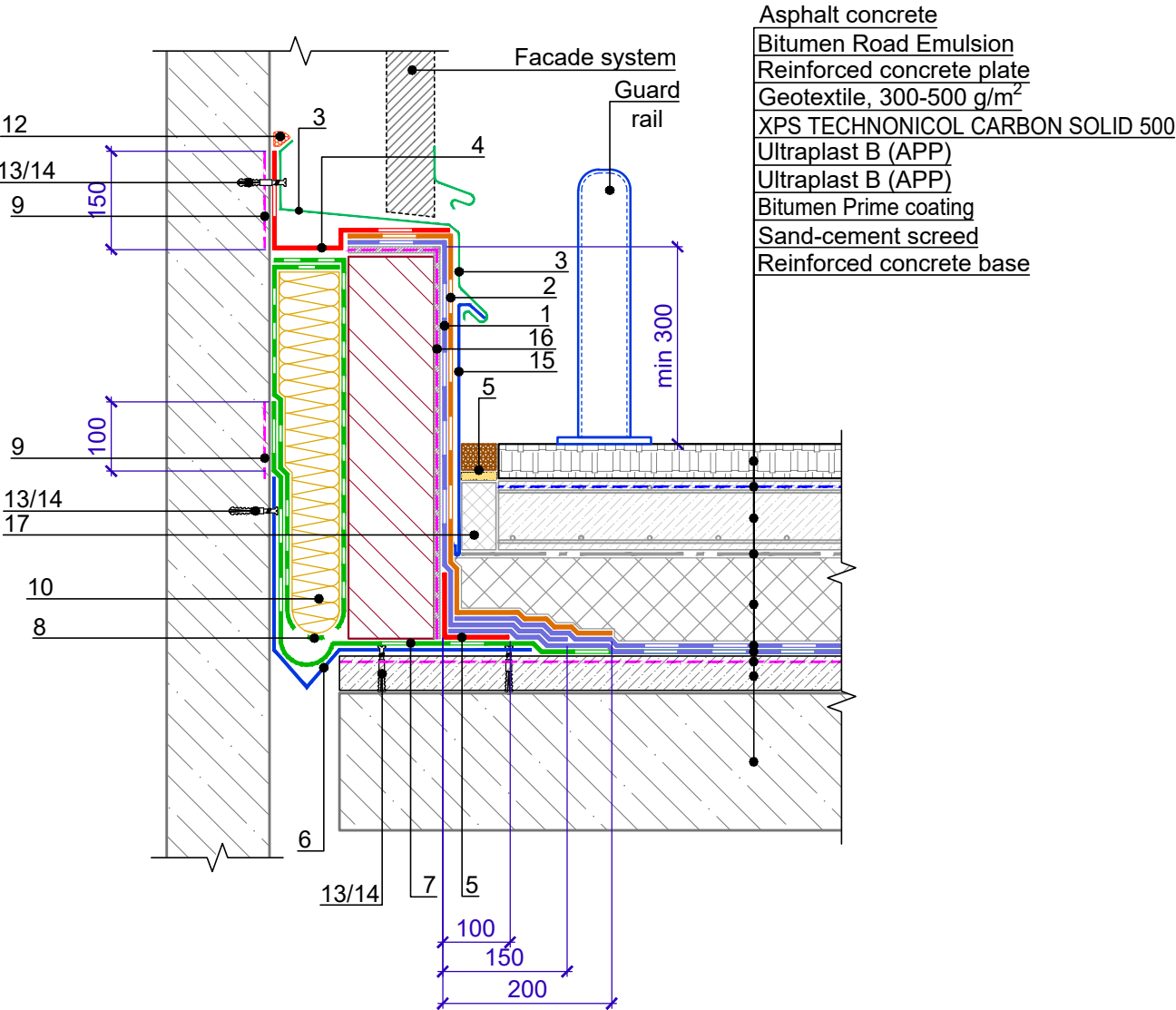
1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN		
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Expansion joint in the junction to the wall. Opion 1	DWG No. 6.3 - 2021.05	REV.



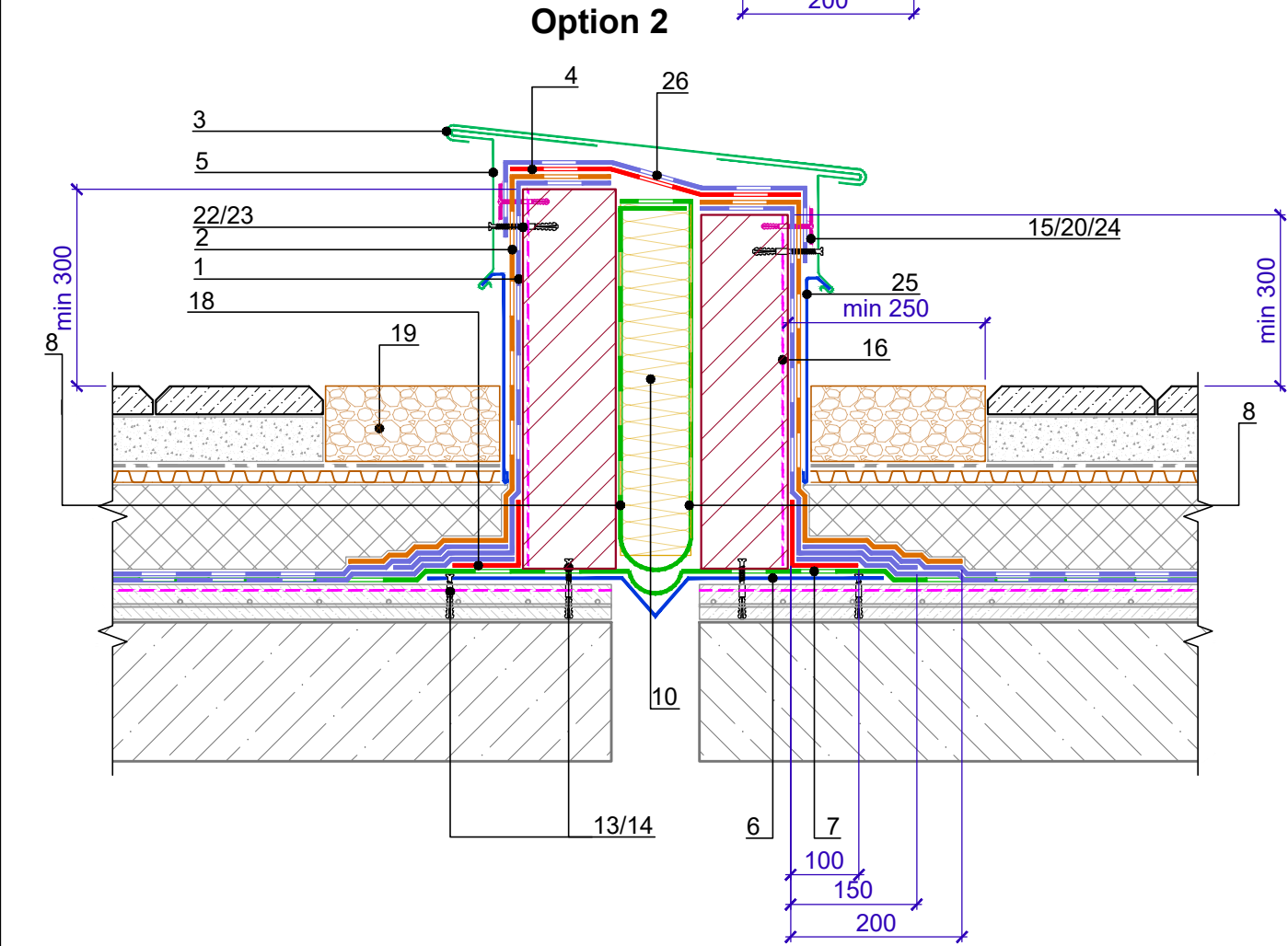
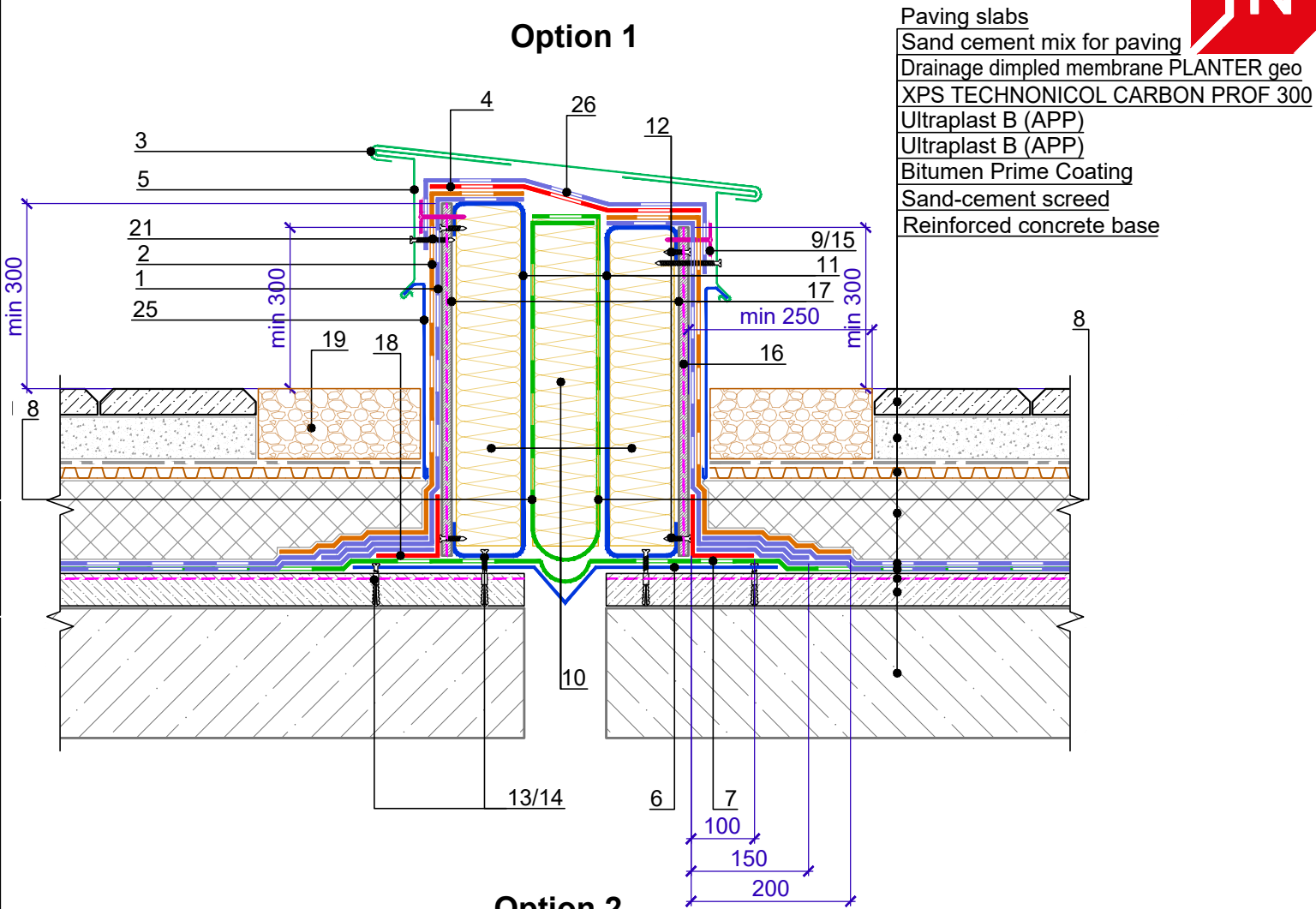
Specification of detail DWG No. 6.4 - 2021.05

Position	Name	Consumption on 1 l.m. of junction	Unit	Notes
1	Ultraplast B (APP)	upon the project	m ²	
2	Ultraplast B Grey mineral (APP)	upon the project	m ²	
3	Flashing made of galvanized steel	1.00	m	
4	Technoelast Flex, 0.5 m wide	upon the project	m ²	
5	Ultraplast B (APP)	0.35	m ²	
6	Galvanized steel compensator	1.00	m	
7	Vapor barrier	upon the project	m ²	
8	Vapor barrier	upon the project	m ²	
9	Bitumen Prime Coating	0.10	l	
10	Stone wool	upon the project	m ³	
11	Polymer-Bitumen Sealant	upon the project	kg	
12	Bitumen-polymer sealing mastic	150	g/m	
13	Pointed self-tapping screw 4.8x50	20	pcs.	
14	Anchor element 8x45	20	pcs.	
15	Flashing made of galvanized steel	1.00	m	
16	Bitumen Prime Coating	upon the project	l	
17	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	



1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN		
				Expansion joint in the junction to the wall. Opion 2	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 6.4 - 2021.05	REV.



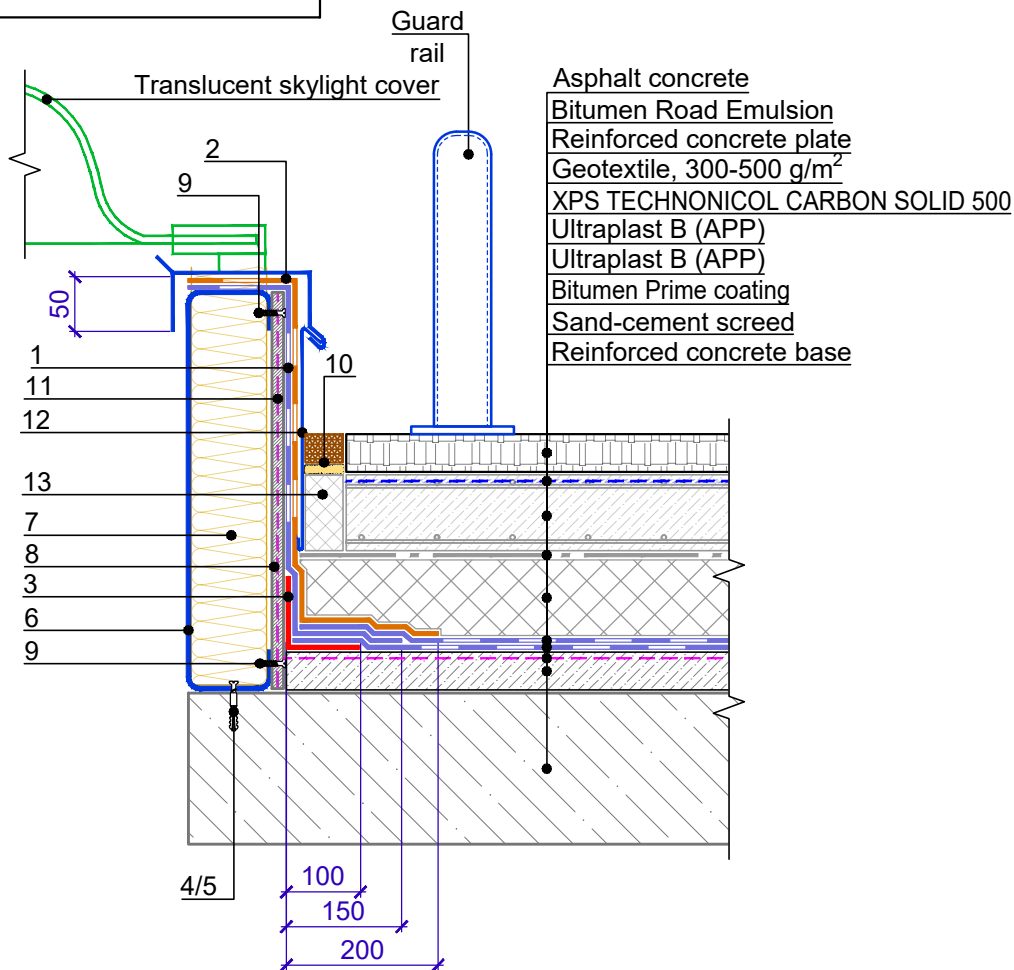
Position	Name	Consumption on 1 l.m. of junction	Unit	Notes
1	Ultraplast B (APP)	upon the project	m ²	
2	Ultraplast B Grey mineral (APP)	upon the project	m ²	
3	Flashing made of galvanized steel	1.00	m	
4	Technoelast Flex, 0.5 m wide	upon the project	m ²	
5	Fastener	1.70	pcs.	
6	Galvanized steel compensator	1.00	m	
7	Vapor barrier	upon the project	m ²	
8	Vapor barrier	upon the project	m ²	
9	Drill-tipped self-tapping screw 4.8x50	10	pcs.	
10	Stone wool	upon the project	m ³	
11	Galvanized steel profile	upon the project	m	
12	Pointed self-tapping screw 4.8x50	26	pcs.	
13	Pointed self-tapping screw 4.8x50	20	pcs.	
14	Anchor element 8x45	20	pcs.	
15	Washer Ø 50mm	20	pcs.	
16	Bitumen Prime Coating	upon the project	l	
17	Cement bonded particle board	upon the project	m ²	
18	Ultraplast B (APP)	0.35	m ²	
19	Washed gravel with 20-40 mm fraction	upon the project	m ³	
20	Pointed self-tapping screw 4.8x50	10	pcs.	
21	Drill-tipped self-tapping screw 4.8x50	3.40	pcs.	
22	Pointed self-tapping screw 4.8x50	3.40	pcs.	
23	Anchor element 8x45	3.40	pcs.	
24	Anchor element 8x45	10	pcs.	
25	Flashing made of galvanized steel	1.00	m	
26	Ultraplast B (APP)	upon the project	m ²	

				TN_ROOF_BRM_CONCRETE_PAVEMENT_EN		
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Expansion spacer	DWG No. 6.5 - 2021.04	REV.



Register of drawings for junctions to the zenith skylights and smoke exhaust hatches

No	Name	DWG No.
7.1	Junction to the zenith skylight. Option 1 (before installation of the skylight)	7.1
7.2	Junction to the zenith skylight. Option 2 (after installation of the skylight)	7.2
7.3	Junction to the smoke exhaust hatch. Option 1 (before installation of the hatch)	7.3
7.4	Junction to the exhaust hatch. Option 2 (after installation of the hatch)	7.4



Specification of detail DWG No. 7.1 - 2021.05

Position	Name	Consumption on 1 l.m.	Unit	Notes
1	Ultraplast B (APP)	upon the project	m ²	
2	Ultraplast B Grey mineral (APP)	upon the project	m ²	
3	Ultraplast B (APP)	0.35	m ²	
4	Pointed self-tapping screw 4.8x50	5	pcs.	
5	Anchor element 8x45	5	pcs.	
6	Galvanized steel profile	1.00	m	
7	Stone wool	upon the project	m ³	
8	Cement bonded particle board	upon the project	m ²	
9	Pointed self-tapping screw 4.8x50	10	pcs.	
10	Polymer-Bitumen Sealant	upon the project	kg	
11	Bitumen Prime Coating	upon the project	l	
12	Flashing made of galvanized steel	1.00	m	
13	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	

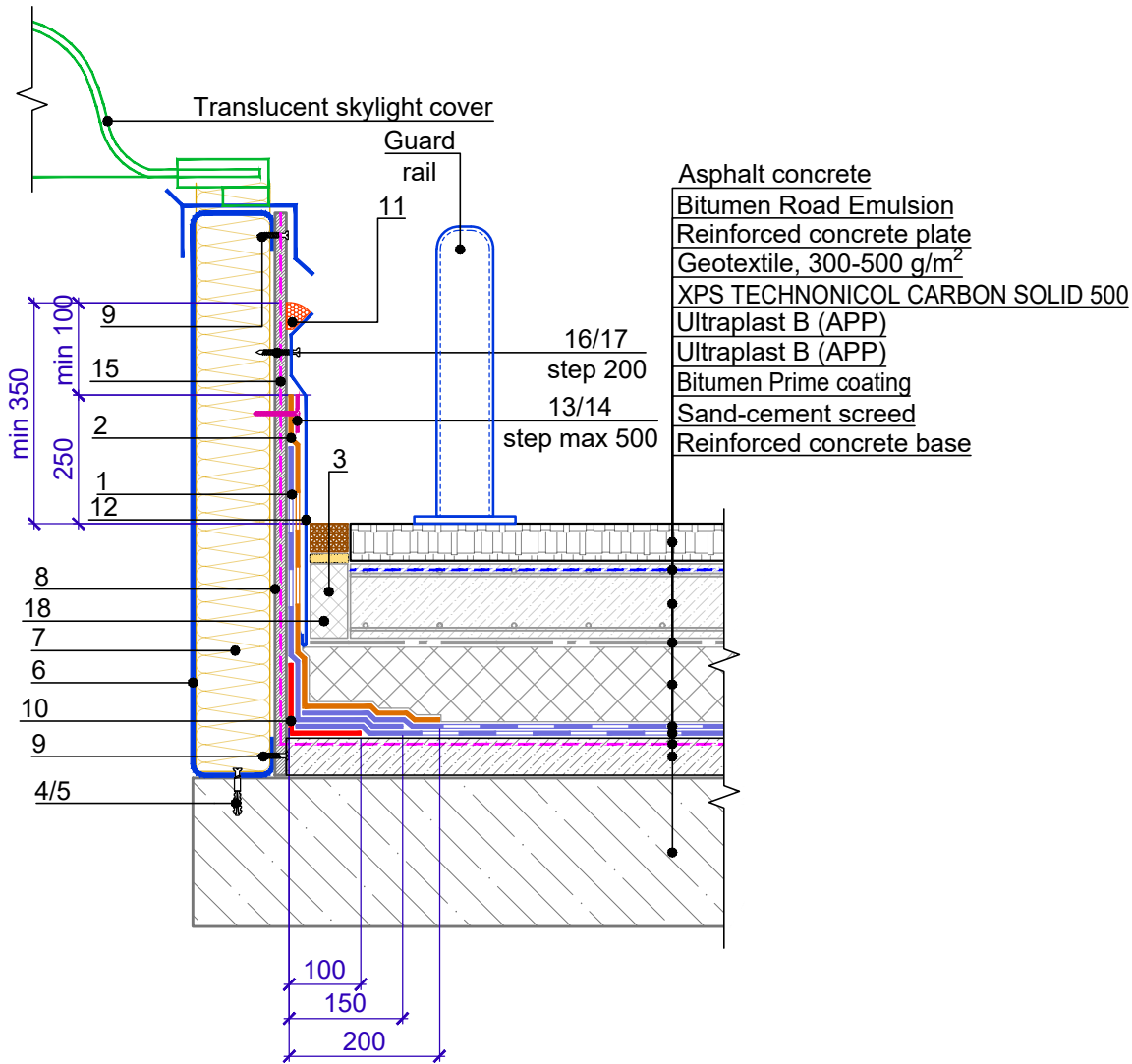
1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN		
				Junction to the zenith skylight. Option 1 (before installation of the skylight)	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 7.1 - 2021.05	REV.



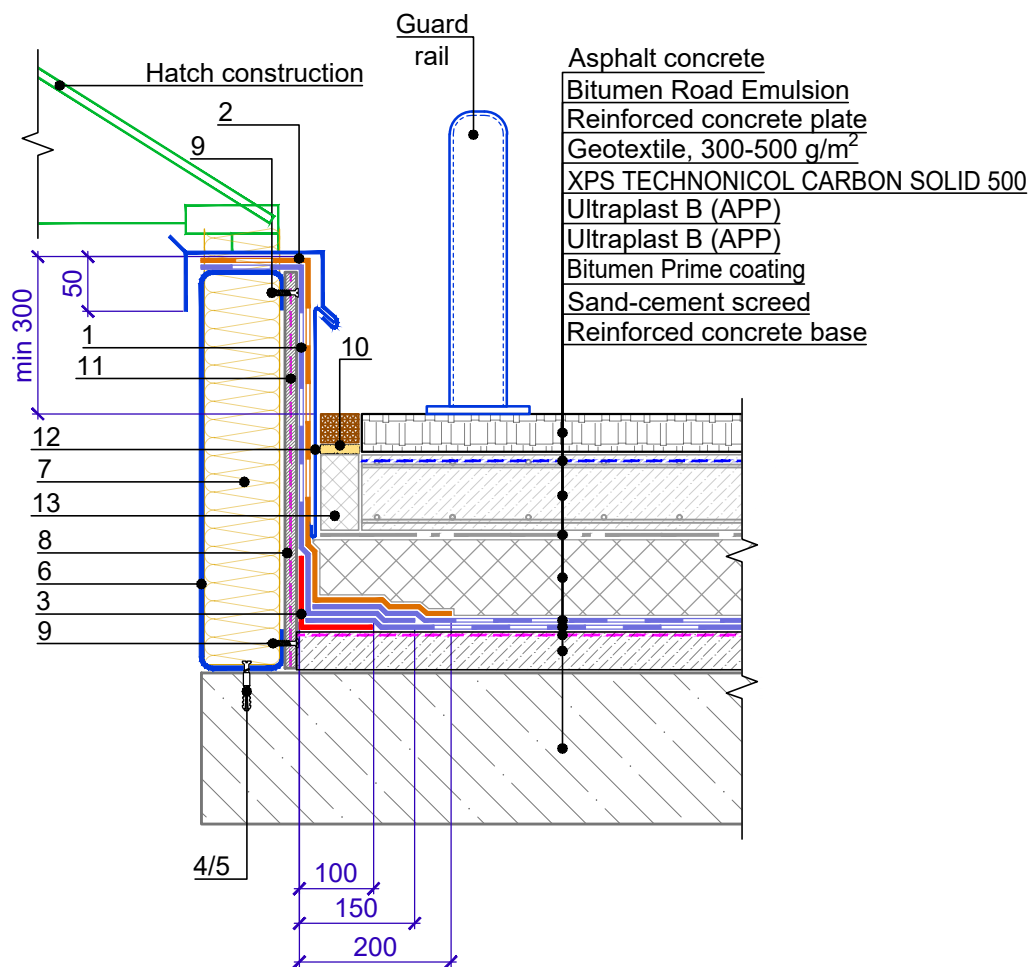
Specification of detail DWG No. 7.2 - 2021.05

Position	Name	Consumption on 1 l.m.	Unit	Note
1	Ultraplast B (APP)	upon the project	m ²	
2	Ultraplast B Grey mineral (APP)	upon the project	m ²	
3	Polymer-Bitumen Sealant	upon the project	kg	
4	Pointed self-tapping screw 4.8x50	5	pcs.	
5	Anchor element 8x45	5	pcs.	
6	Galvanized steel profile	1.00	m	
7	Stone wool	upon the project	m ³	
8	Cement bonded particle board	upon the project	m ²	
9	Pointed self-tapping screw 4.8x50	10	pcs.	
10	Ultraplast B (APP)	0.35	m ²	
11	Bitumen-polymer sealing mastic	150	g/m	
12	Flashing made of galvanized steel	1.00	m	
13	Pointed self-tapping screw 4.8x50	5	pcs.	
14	Washer Ø 50mm	5	pcs.	
15	Bitumen Prime Coating	upon the project	l	
16	Pointed self-tapping screw 4.8x50	5	pcs.	
17	Anchor element 8x45	5	pcs.	
18	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	



1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN		
				Junction to the zenith skylight. Option 2 (after installation of the skylight)	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 7.2 - 2021.05	REV.



Specification of detail DWG No. 7.3 - 2021.05

Position	Name	Consumption on 1 l.m.	Unit	Notes
1	Ultraplast B (APP)	upon the project	m ²	
2	Ultraplast B Grey mineral (APP)	upon the project	m ²	
3	Ultraplast B (APP)	0.35	m ²	
4	Pointed self-tapping screw 4.8x50	5	pcs.	
5	Anchor element 8x45	5	pcs.	
6	Galvanized steel profile	1.00	m	
7	Stone wool	upon the project	m ³	
8	Cement bonded particle board	upon the project	m ²	
9	Pointed self-tapping screw 4.8x50	10	pcs.	
10	Polymer-Bitumen Sealant	upon the project	kg	
11	Bitumen Prime Coating	upon the project	l	
12	Flashing made of galvanized steel	1.00	m	
13	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	

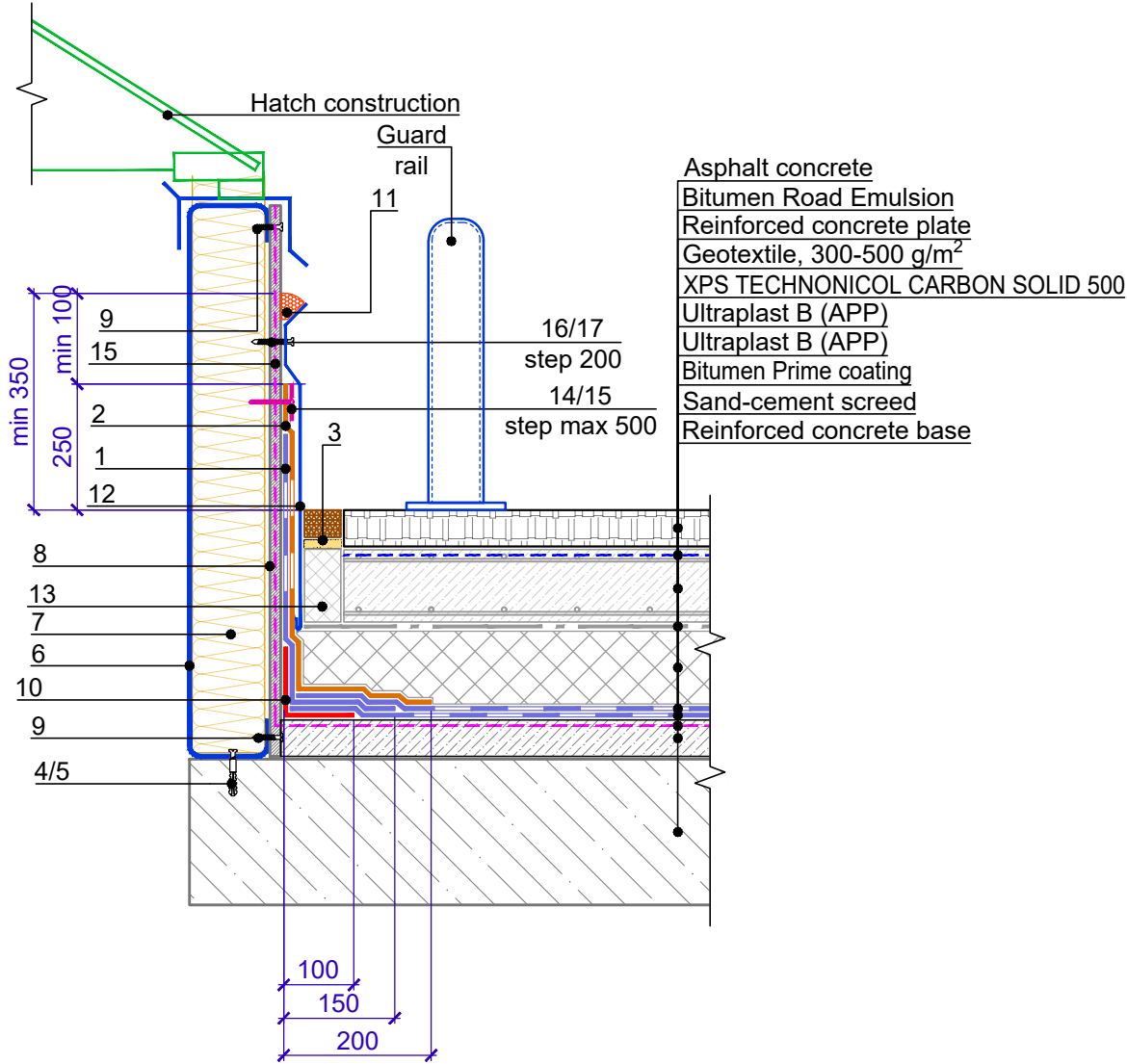
1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN		
				Junction to the smoke exhaust hatch. Option 1 (before installation of the hatch)	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 7.3 - 2021.05	REV.



Specification of detail DWG No. 7.4 - 2021.05

Position	Name	Consumption on 1 l.m.	Unit	Note
1	Ultraplast B (APP)	upon the project	m ²	
2	Ultraplast B Grey mineral (APP)	upon the project	m ²	
3	Polymer-Bitumen Sealant	upon the project	kg	
4	Pointed self-tapping screw 4.8x50	5	pcs.	
5	Anchor element 8x45	5	pcs.	
6	Galvanized steel profile	1.00	m	
7	Stone wool	upon the project	m ³	
8	Cement bonded particle board	upon the project	m ²	
9	Pointed self-tapping screw 4.8x50	10	pcs.	
10	Ultraplast B (APP)	0.35	m ²	
11	Bitumen-polymer sealing mastic	150	g/m	
12	Flashing made of galvanized steel	1.00	m	
13	Pointed self-tapping screw 4.8x50	5	pcs.	
14	Washer Ø 50mm	5	pcs.	
15	Bitumen Prime Coating	upon the project	l	
16	Pointed self-tapping screw 4.8x50	5	pcs.	
17	Anchor element 8x45	5	pcs.	
18	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	



1. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN		
				Junction to the exhaust hatch. Option 2 (after installation of the hatch)	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 7.4 - 2021.05	REV.

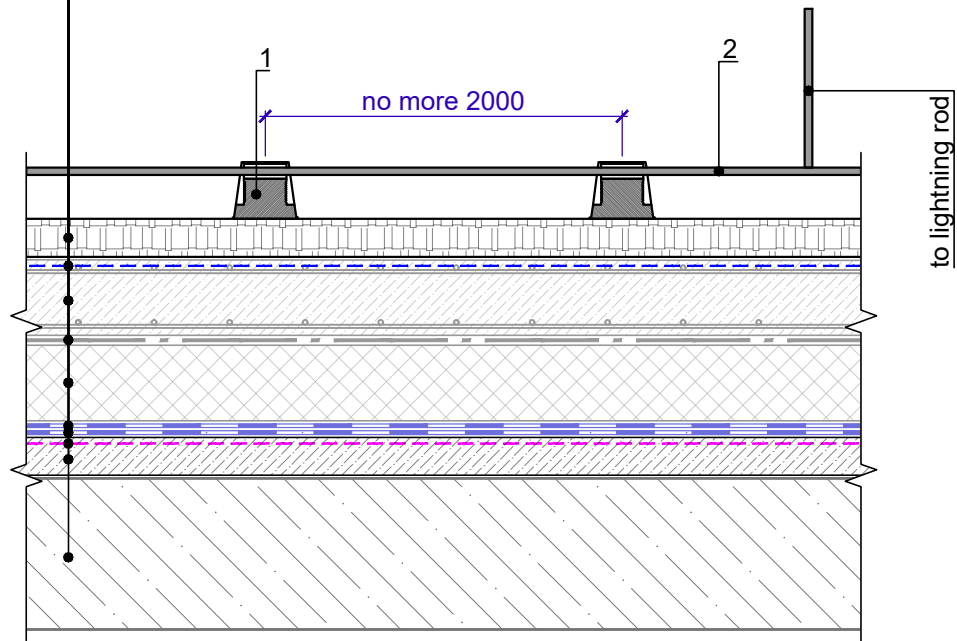


Register of drawings for the junctions to the lightning protection structures

No	Name	DWG No.
8.1	Construction of lightning protection. Option 1.	8.1
8.2	Construction of lightning protection. Option 2.	8.2



Asphalt concrete
Bitumen Road Emulsion
Reinforced concrete plate
Geotextile, 300-500 g/m²
XPS TECHNOMICOL CARBON SOLID 500
Ultraplast B (APP)
Ultraplast B (APP)
Bitumen Prime coating
Sand-cement screed
Reinforced concrete base



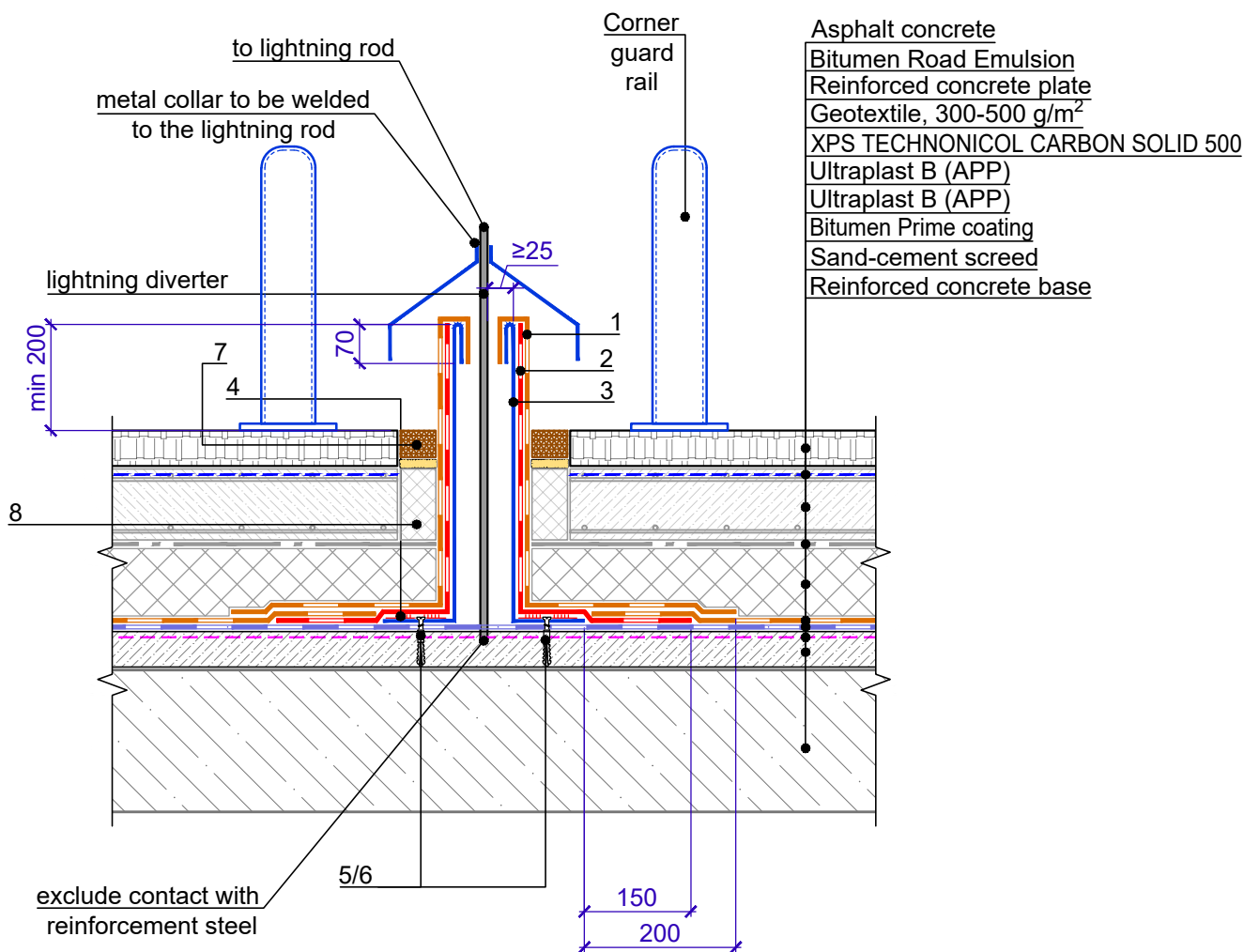
Specification of detail DWG No. 8.1 - 2021.05

Position	Name	Consumption	Unit	Notes
1	Lightning rod holder (stand)	upon the project	pcs.	
2	Lightning rod metal mesh Ø8mm	upon the project	m	

Notes

- Lightning rod holders (stands) are installed freely over the entire roof area without being fixed to the roof and filled with sand or cement-sand mortar. The lightning rod mesh is placed on the supports.

				TN_ROOF_BRM_CONCRETE_AUTO_EN		
				Construction of lightning protection. Option 1	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 8.1 - 2021.05	REV.



Specification of detail DWG No. 8.2 - 2021.05

Position	Name	Consumption	Unit	Notes
1	Ultraplast B Grey mineral (APP)	upon the project	m ²	
2	Ultraplast B (APP)	upon the project	m ²	
3	Waterproofing sleeve	upon the project	-	
4	Hot-applied roofing mastic	upon the project	-	
5	Pointed self-tapping screw 4.8x50	upon the project	pcs.	
6	Anchor element 8x45	upon the project	pcs.	
7	Polymer-Bitumen Sealant	upon the project	kg	
8	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	

Notes

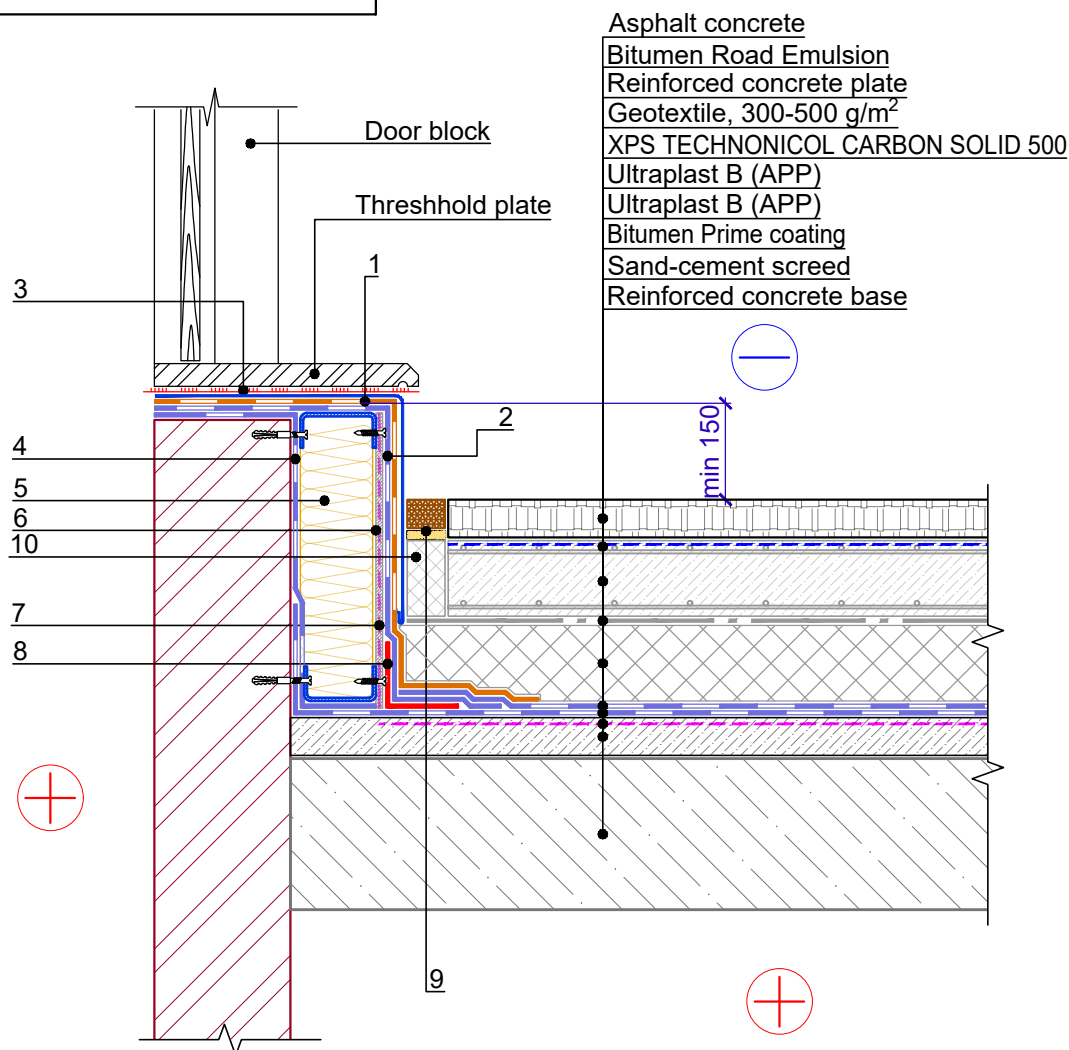
1. It is possible to lay a diverter wire inside the slope-forming layer.
2. As an alternative to the metal safety fence, a similar height brick wall is allowed.

				TN_ROOF_BRM_CONCRETE_AUTO_EN		
					SCALE	DATE
				Construction of lightning protection. Option 2	DWG No. 8.2 - 2021.05	REV.
REV.	DATE	DESCRIPTION	CHECKED			



Register of drawings for arrangement of junctions to roof access

No	Name	DWG No.
9.1	Junctions to a roof access	9.1



Specification of detail DWG No. 9.1 - 2021.05

Position	Name	Consumption on 1 l.m.	Unit	Notes
1	Ultraplast B Grey mineral (APP)	upon the project	m ²	
2	Ultraplast B (APP)	upon the project	m ²	
3	Bitumen-polymer sealing mastic	upon the project	-	
4	Fastening element for plaster facade	upon the project	pcs.	
5	Stone wool	upon the project	m ³	
6	Plaster layer of sand-cement mortar on a grid 100x100mm	upon the project	-	
7	Bitumen Prime Coating	upon the project	l	
8	Ultraplast B (APP)	0.35	pcs.	
9	Polymer-Bitumen Sealant	upon the project	kg	
10	XPS TECHNONICOL CARBON PROF 300	upon the project	m ³	

Notes

1. Instead of applying a plaster layer on the vertical surface of the parapet for subsequent torching of the waterproofing layer, it is allowed to use cement bonded particle boards with mechanical fastening to the load-bearing part of the parapet using telescopic or disk-shaped fasteners.
2. To arrange a smooth transition to a vertical, the use of a prefabricated product of high-rigidity stone wool slabs with side dimensions up to 100 mm is allowed - stone wool angle fillet.

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Junctions to a roof access	DWG No. 9.1 - 2021.05	REV.

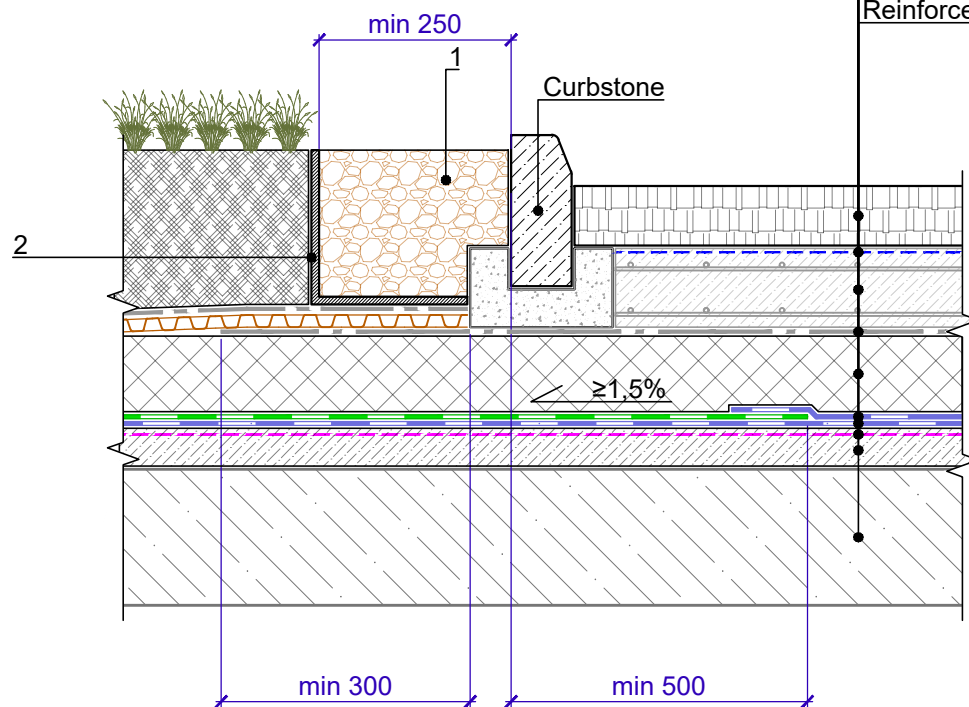


Register of drawings for construction of junctions to the different types of accessible roofs

No	Name	DWG No.
10.1	Junction to a green roof	10.1
10.2	Junction to a pavement covering. Option 1	10.2
10.3	Junction to a pavement covering. Option 2	10.3



Asphalt concrete
Bitumen Road Emulsion
Reinforced concrete plate
Geotextile, 300-500 g/m²
XPS TECHNICONICOL CARBON SOLID 500
Ultraplast B (APP)
Ultraplast B (APP)
Bitumen Prime coating
Sand-cement screed
Reinforced concrete base

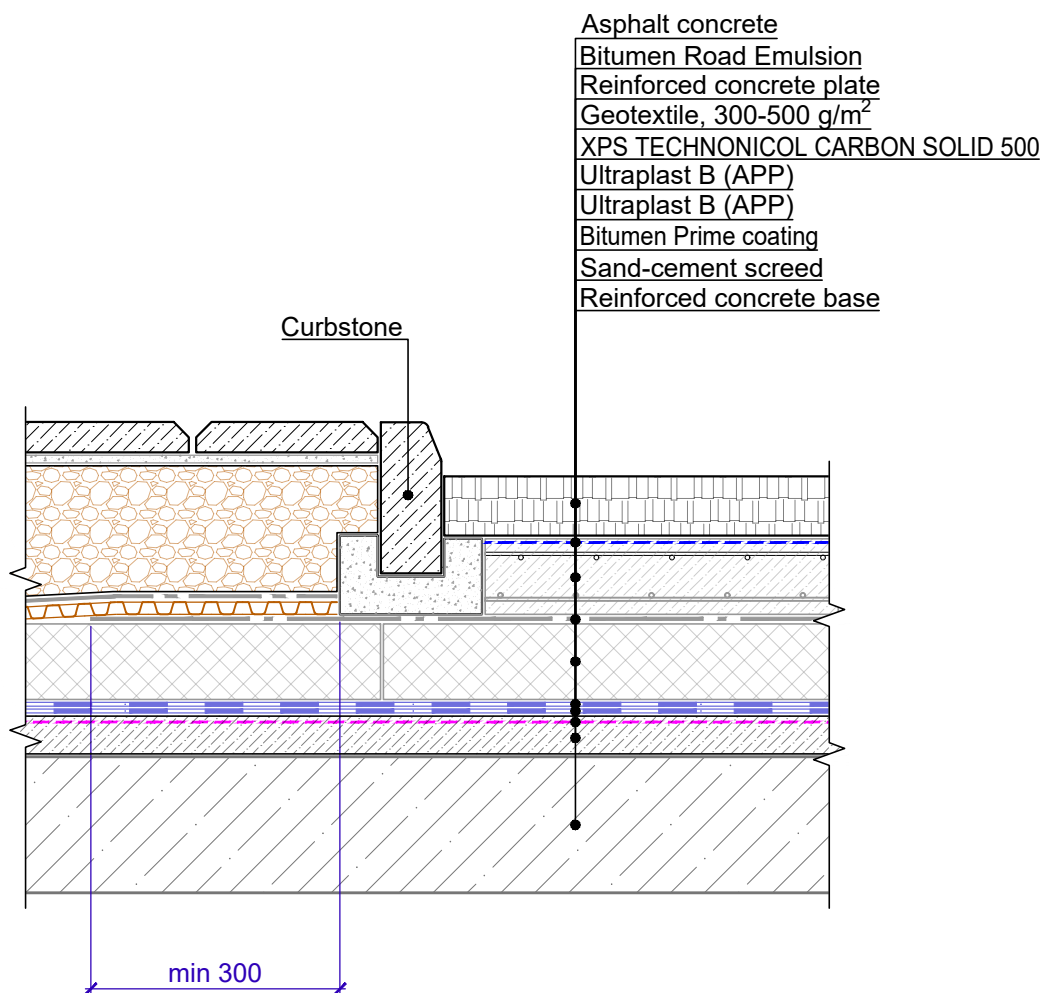


Specification of detail DWG No. 10.1 - 2021.05

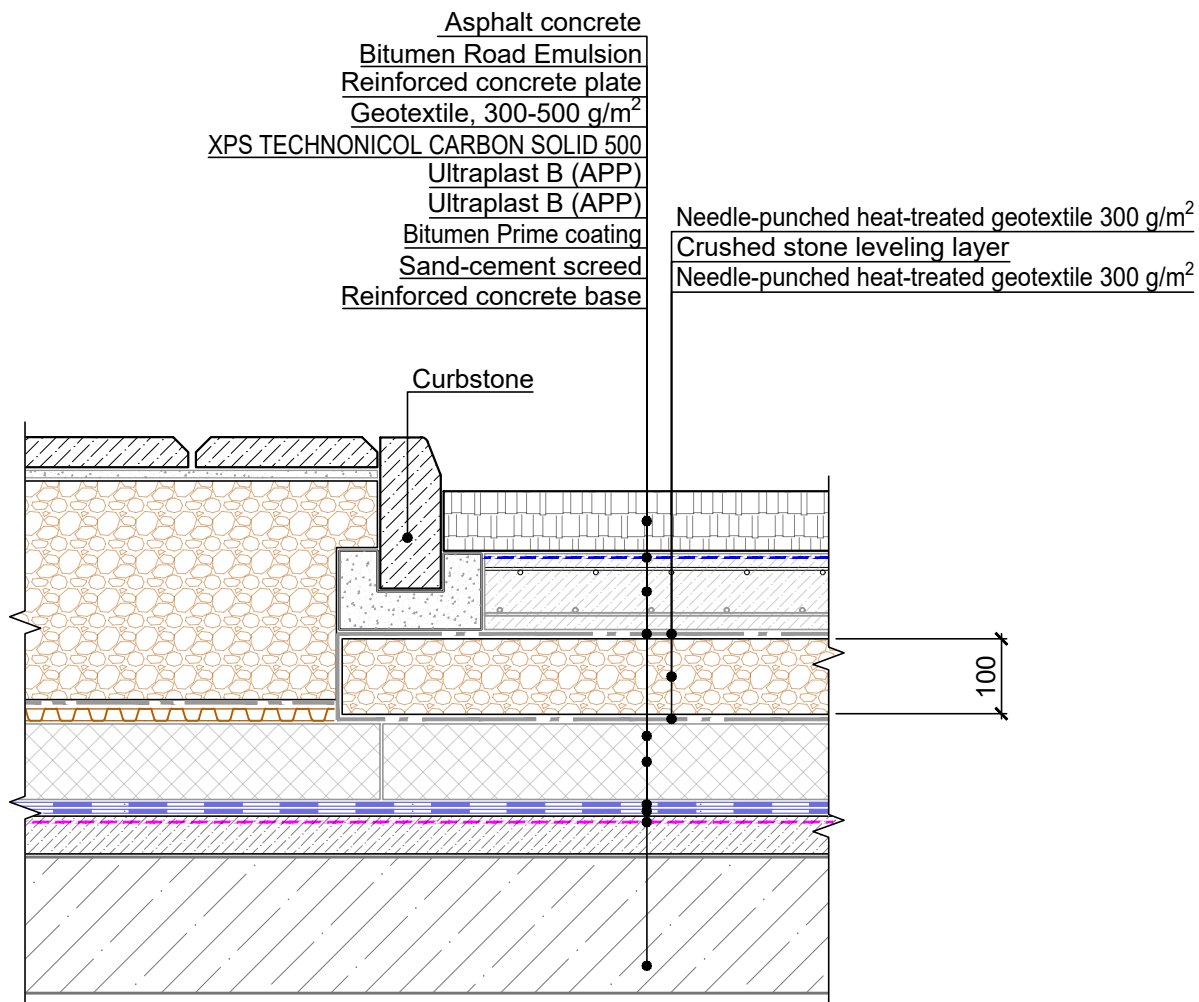
Position	Name	Consumption on 1 l.m. upon the project	Unit	Notes
1	Washed gravel with 20-40 mm fraction	upon the project	m ³	
2	L-shaped plastic element	1.05	m	

1. At high soil backfilling, use geotextile separation layer with a density of at least 300 g/m²

				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
					SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED	Junction to a green roof	DWG No. 10.1 - 2021.05	REV.



				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Junction to a pavement covering. Option 1	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 10.2 - 2021.05	REV.



				TN_ROOF_BRM_CONCRETE_AUTO_EN	DESIGN	APPROVED
				Junction to a pavement covering. Option 2	SCALE	DATE
REV.	DATE	DESCRIPTION	CHECKED		DWG No. 10.3 - 2021.05	REV.