

Drawing nr.	Contents of drawing	Date	Rev. date
SPA01-ENERGY-1E-EN	Plinth, horizontal installation	15.06.2011	04.06.2012
SPA01-ENERGY-2E-EN	Plinth, horizontal installation	15.06.2011	04.06.2012
SPA01-ENERGY-3E-EN	Plinth, horizontal installation	15.06.2011	04.06.2012
SPA01-ENERGY-4E-EN	Plinth, horizontal installation	15.06.2011	04.06.2012
SPA01-ENERGY-5E-EN	Plinth, horizontal installation, starting with cut panel	15.06.2011	04.06.2012
SPA01-ENERGY-6E-EN	Plinth, vertical- and horizontal installation	15.06.2011	04.06.2012
SPA02-ENERGY-1E-EN	Joint between panels, horizontal installation	15.06.2011	04.06.2012
SPA02-ENERGY-2E-EN	Joint between panels, vertical- and horizontal installation	15.06.2011	04.06.2012
SPA03-ENERGY-1E-EN	Vertical joint, horizontal installation	15.06.2011	04.06.2012
SPA03-ENERGY-2E-EN	Vertical joint, horizontal installation	15.06.2011	04.06.2012
SPA03-ENERGY-3E-EN	Vertical joint, horizontal installation	15.06.2011	04.06.2012
SPA03-ENERGY-4E-EN	Vertical joint, horizontal installation	15.06.2011	04.06.2012
SPA03-ENERGY-5E-EN	Vertical joint, horizontal installation	15.06.2011	04.06.2012
SPA03-ENERGY-6E-EN	Vertical joint, horizontal installation	15.06.2011	04.06.2012
SPA03-ENERGY-7E-EN	Vertical joint, horizontal installation, parapet	15.06.2011	04.06.2012
SPA04-ENERGY-1E-EN	External corner, horizontal installation	15.06.2011	04.06.2012
SPA04-ENERGY-2E-EN	External corner, horizontal installation	15.06.2011	04.06.2012
SPA04-ENERGY-3E-EN	External corner, horizontal installation	15.06.2011	04.06.2012
SPA04-ENERGY-4E-EN	External corner, horizontal installation	15.06.2011	04.06.2012
SPA04-ENERGY-5E-EN	External corner, horizontal installation	15.06.2011	04.06.2012
SPA04-ENERGY-6E-EN	External corner, horizontal installation	15.06.2011	04.06.2012
SPA04-ENERGY-7E-EN	External corner, horizontal installation	15.06.2011	04.06.2012
SPA04-ENERGY-8E-EN	External corner, horizontal installation	15.06.2011	04.06.2012
SPA04-ENERGY-9E-EN	External corner, horizontal installation, parapet	15.06.2011	04.06.2012
SPA05-ENERGY-1E-EN	Internal corner, horizontal installation	15.06.2011	04.06.2012
SPA05-ENERGY-2E-EN	Internal corner, horizontal installation	15.06.2011	04.06.2012
SPA05-ENERGY-3E-EN	Internal corner, horizontal installation, parapet	15.06.2011	04.06.2012
SPA06-ENERGY-1E-EN	Parapet, Side eaves section, horizontal installation	15.06.2011	04.06.2012
SPA06-ENERGY-2E-EN	Parapet, gable eaves section, horizontal installation	15.06.2011	04.06.2012
SPA06-ENERGY-3E-EN	Parapet, Side eaves section, vertical- and diagonal installation	15.06.2011	04.06.2012
SPA06-ENERGY-4E-EN	Parapet, gable eaves section, vertical- and diagonal installation	15.06.2011	04.06.2012
SPA06-ENERGY-5E-EN	Cantilever eaves, Side eaves section, horizontal installation	15.06.2011	04.06.2012
SPA06-ENERGY-6E-EN	Cantilever eaves, gable eaves section, horizontal installation	15.06.2011	04.06.2012
SPA06-ENERGY-7E-EN	Cantilever eaves, Side eaves section, horizontal installation	15.06.2011	04.06.2012
SPA06-ENERGY-8E-EN	Cantilever eaves, gable eaves section, horizontal installation	15.06.2011	04.06.2012
SPA06-ENERGY-9E-EN	Eaves, Side eaves section, horizontal installation	15.06.2011	04.06.2012
SPA06-ENERGY-10E-EN	Eaves, gable eaves section, horizontal installation	15.06.2011	04.06.2012
SPA06-ENERGY-11E-EN	Eaves, Side eaves section, horizontal installation	15.06.2011	04.06.2012
SPA06-ENERGY-12E-EN	Eaves, gable eaves section, horizontal installation	15.06.2011	04.06.2012
SPA07-ENERGY-1E-EN	Uplifted roofing, vertical section, horizontal installation	15.06.2011	04.06.2012
SPA08-ENERGY-1E-EN	System window, vertical section, horizontal installation	15.06.2011	04.06.2012
SPA08-ENERGY-2E-EN	System window, horizontal section, horizontal installation	15.06.2011	04.06.2012
SPA08-ENERGY-3E-EN	System window, vertical section, horiz. installation, supporting structure	15.06.2011	04.06.2012
SPA08-ENERGY-4E-EN	System window, horizontal sect., horiz. installation, supporting structure	15.06.2011	04.06.2012

City sector	Block	Site/Reg. nr.	File nr.
Building type	Drawing type		Nr.
Building, Name and address	Contents of drawing		Scale
 <p>Ruukki Construction Oy Vimpelintie 661 FI - 62900 ALAJÄRVI FINLAND</p> <p>tel +358 2059 127 fax +358 2059 27700 www.ruukki.com</p>	Sandwich panel SPA ENERGY		1:Z
	PRINCIPLE DETAIL DRAWINGS		
External walls (54 pcs)		Work nr.	Rev.
Date 04.06.2012	Designer	Work nr.	Rev.
Drawn by Ruukki	Checked		B



Contents of drawing

Sandwich panel SPA ENERGY
Accessory numbers in details

Date 15.06.2011	Rev. date 04.06.2012	Work nr. .	Drawing nr. Rev. SPA00-ENERGY-0E-EN
Drawn by Ruukki	Rev. B		
Scale 1:Z	Building .		File nr. SPA00-ENERGY-0E-EN.dwg

SANDWICH PANELS

- 001. Sandwich panel SPA ENERGY 80-230
- 002. Sandwich panel SPA ENERGY corner panel

FLASHINGS

- 100. Standard purlins and starting tracks
- 101-109. Purlins and other $t \geq 2$ mm fastening flashings

- 111-119. Plinth flashings

- 121-124. Fastening plates (for vemo-fastenings)
- 125-129. Purlins

- 131-159. Vertical seam-, ext. corner- and int. corner flashings

- 161-179. Eave flashings

- 181-194. Window- and door flashings
- 195-199. Flashings used in uplifted roofs

FASTENERS

- 201. Self-drilling panel fastening screw, washer with sealing
- 202. Self-drilling panel fastening screw, countersink washer
- 205. Self-drilling panel fastening screw/roof fastener screw

- 211. Self-threading panel fastening screw, washer with sealing
- 212. Self-threading panel fastening screw, countersink washer

- 221. Internal thread socket + hex bolt (for vemo-fastenings)

- 231. Flashing fastener, washer with sealing
- 232. Flashing fastener (without washer)
- 234. Flat cup head screw
- 235. Joint panel fastener RST

- 241. Fastener screw, washer with sealing
- 242. Fastener screw (without washer)

- 251. Spike-panel fastener, washer with sealing
- 255. Spike-fastener (without washer)

- 261. Self-drilling panel fastening screw for wood, washer with sealing
- 262. Self-drilling panel fastening screw for wood, countersink washer
- 265. Fastener screw for wood, washer with sealing

- 271. Rivet

SEALANTS AND INSULATIONS

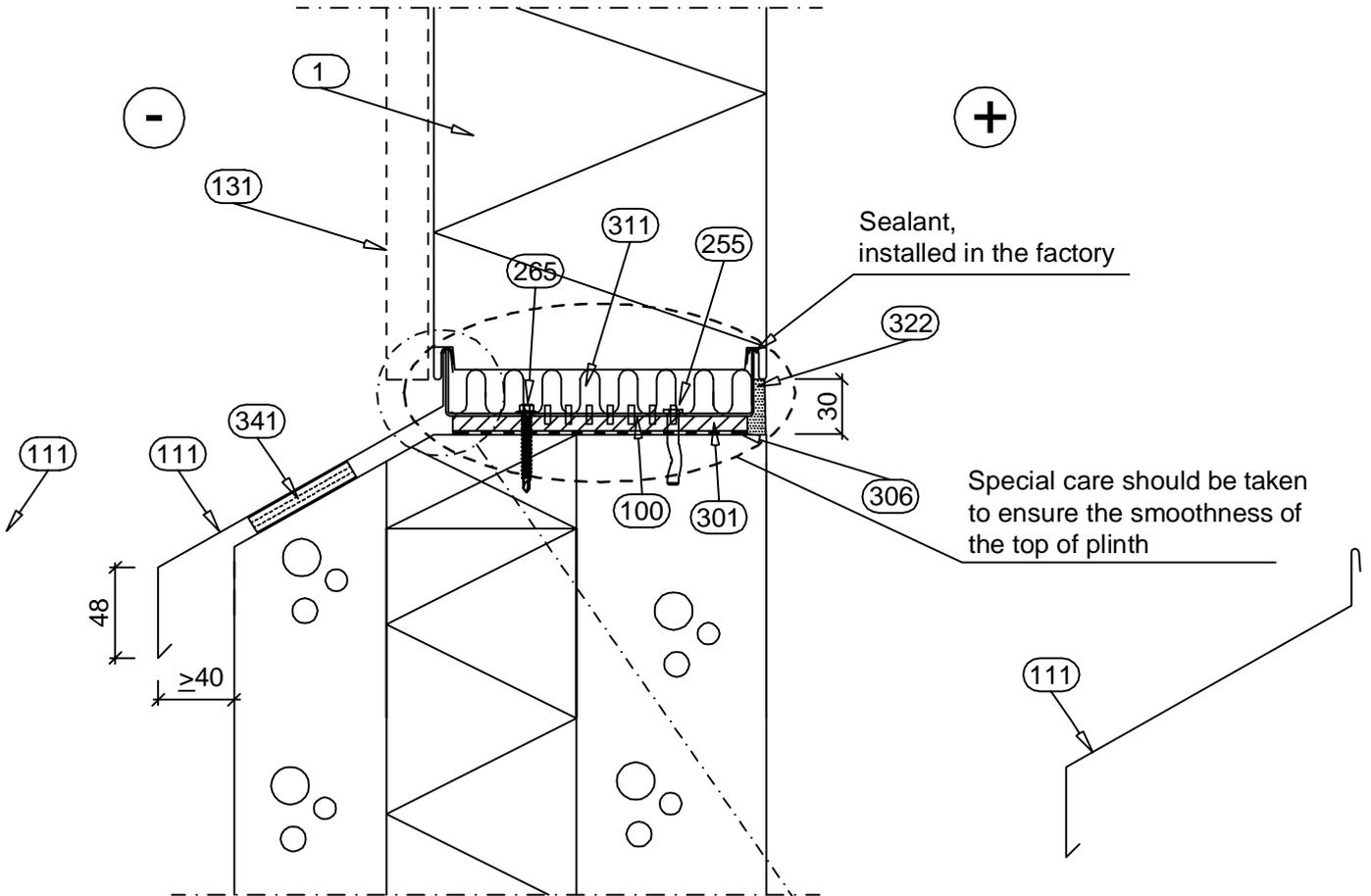
- 300. Plinth sealing (SPA80-230)
- 301. Expandable sealing band
- 302. Sealing band, steel/wood
- 303. Sealing band, concrete
- 305. Butyl rubber seal
- 306. Butyl plinth sealing

- 310. Mineral-/stonewool
- 311. Mineral wool
- 321. Sealant
- 322. Sealant, if necessary
- 325. Sealant to male groove > 200mm in length
- 326. Sealant to male groove
- 327. Elastic polyurethane, eg. Illbruck FM330 tai FM637

- 331. Elastic groove joint sealant (installed in the factory)

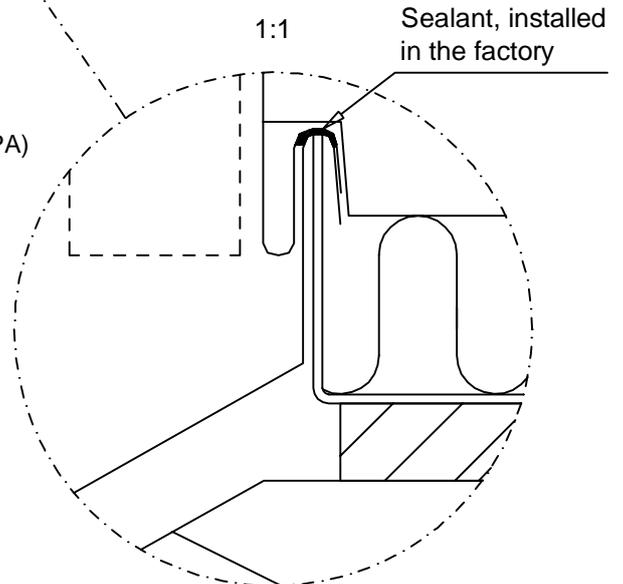
- 341. Plywood

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA01-ENERGY-1E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:4	Building .	File nr. SPA01-ENERGY-1E-EN.DWG		



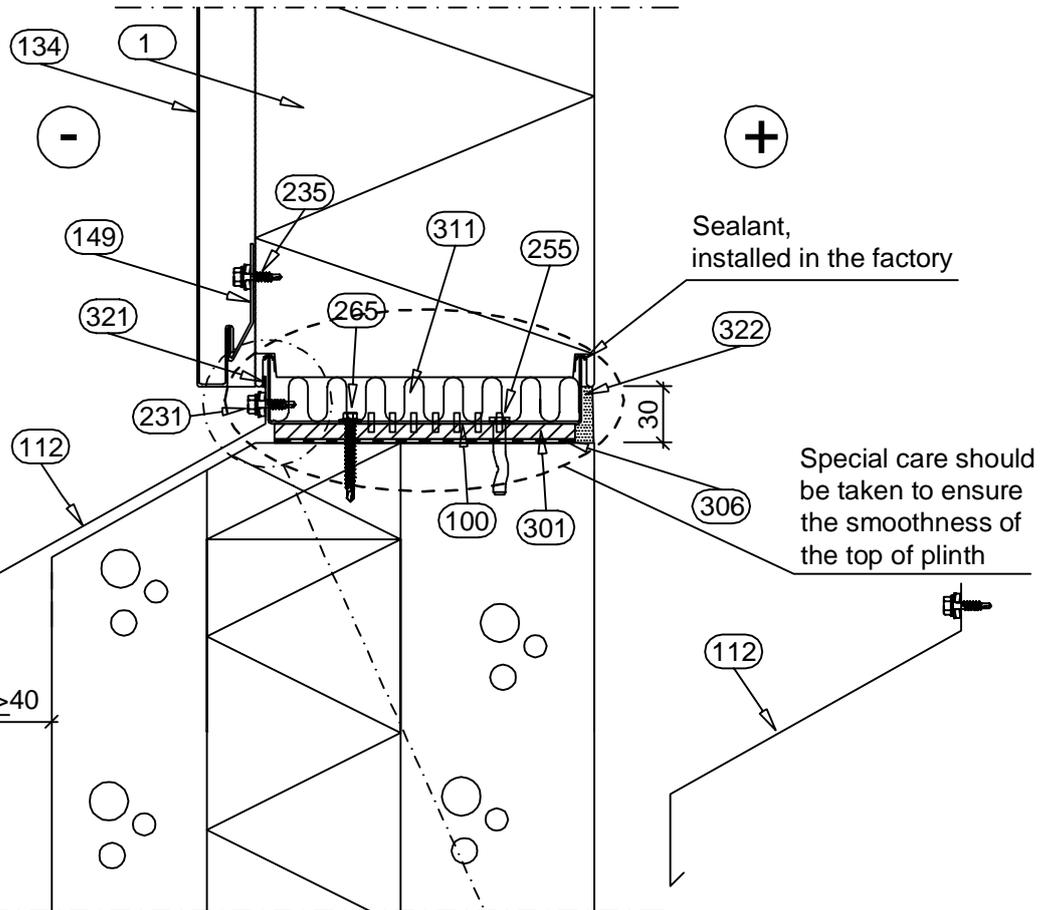
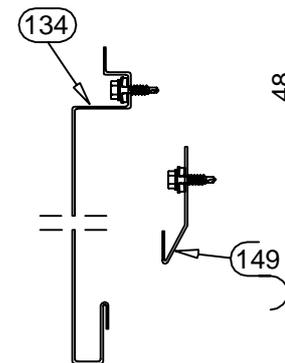
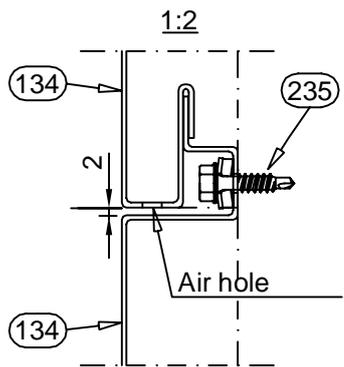
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 100. /EA1U___/ Starter track
- 111. /EA1P3-___/ Cill flashing (installed simultaneously with SPA)
- 131. /EA1JV1/ Vertical joint flashing
- 255. Spike-fastener, concrete c/c600
- 265. Fastener, wood c/c600
- 301. Expandable sealing band
- 306. Butyl plinth sealing
- 311. /EAWS30565/ Mineral wool
- 322. /EA3SM310___/ Sealant, if necessary
- 341. Plywood, if necessary

Ruukki's delivery

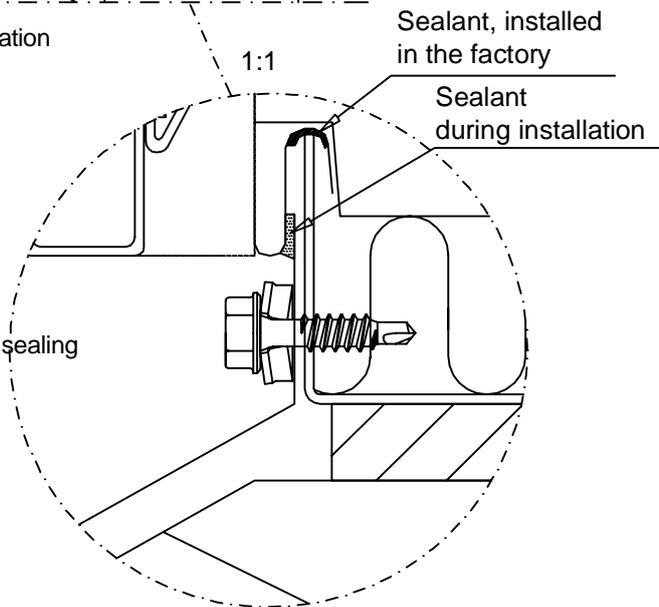


Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA01-ENERGY-2E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:4	Building	.	File nr. SPA01-ENERGY-2E-EN.DWG	

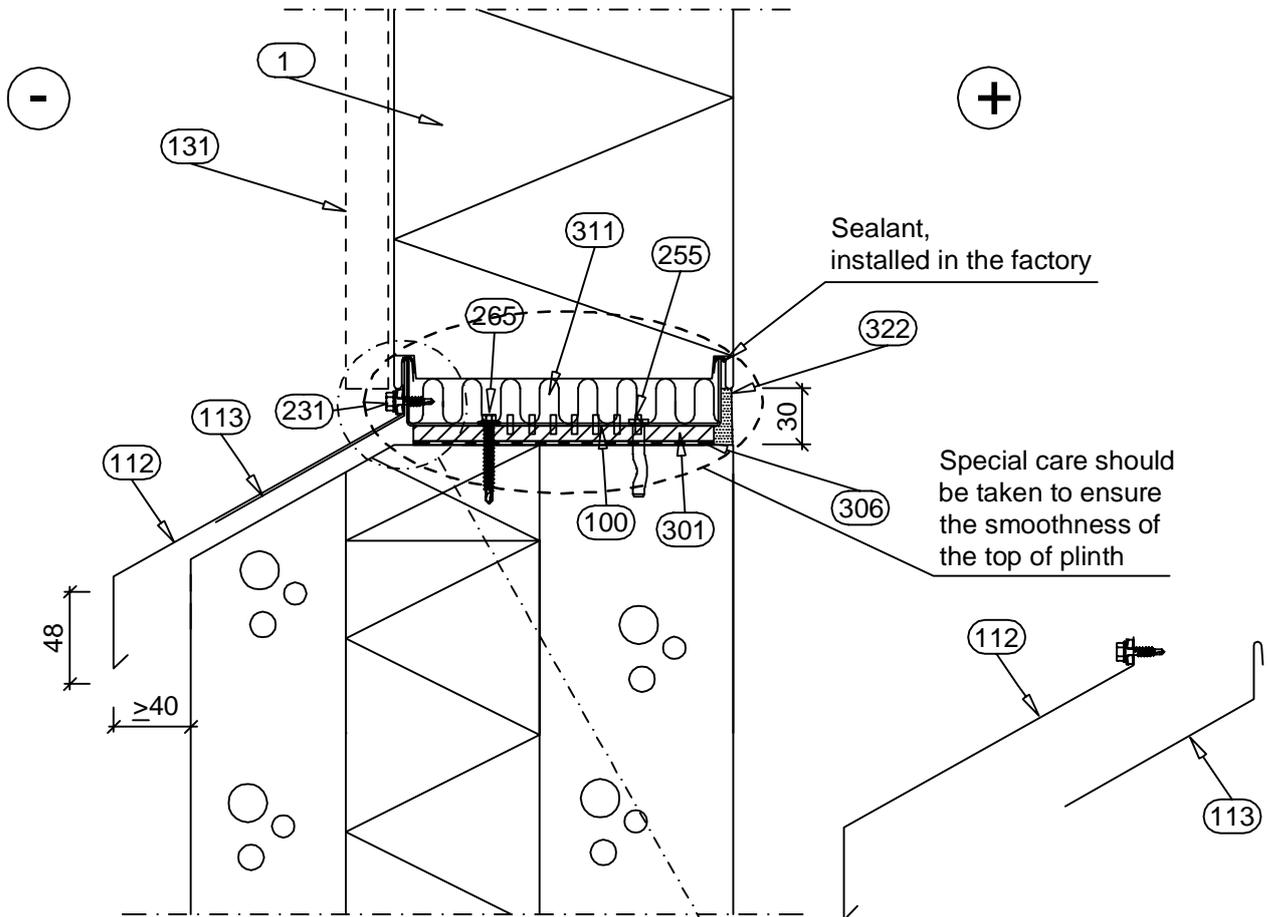
Seam between vertical seam,
and corner rain screen panel:



- 001. Sandwich panel SPA ENERGY, horizontal installation
- 100. /EA1U___/ Starter track
- 112. /EA1P1-___/ Cill flashing (can be installed after SPA installation)
- 134. /EA1JV10-11/ Vertical joint panel
- 149. /EA1SF1/ Rain screen panel starting fillet
- 231. Fastener for flashing, washer with sealing
- 235. Joint panel fastener, stainless steel, washer with sealing
- 255. Spike-fastener, concrete c/c600
- 265. Fastener, wood c/c600
- 301. Expandable sealing band
- 306. Butyl plinth sealing
- 311. /EAWS30565/ Mineral wool
- 321. /EA3SM310___/ Sealant
- 322. /EA3SM310___/ Sealant, if necessary
- Ruukki's delivery

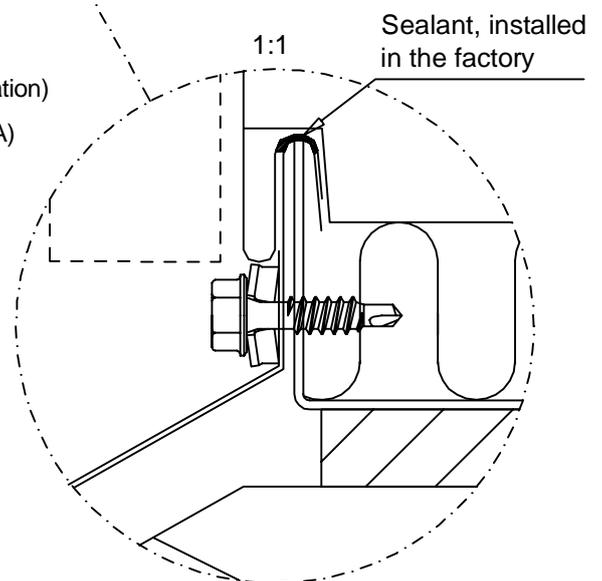


Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA01-ENERGY-3E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:4	Building		File nr. SPA01-ENERGY-3E-EN.DWG	

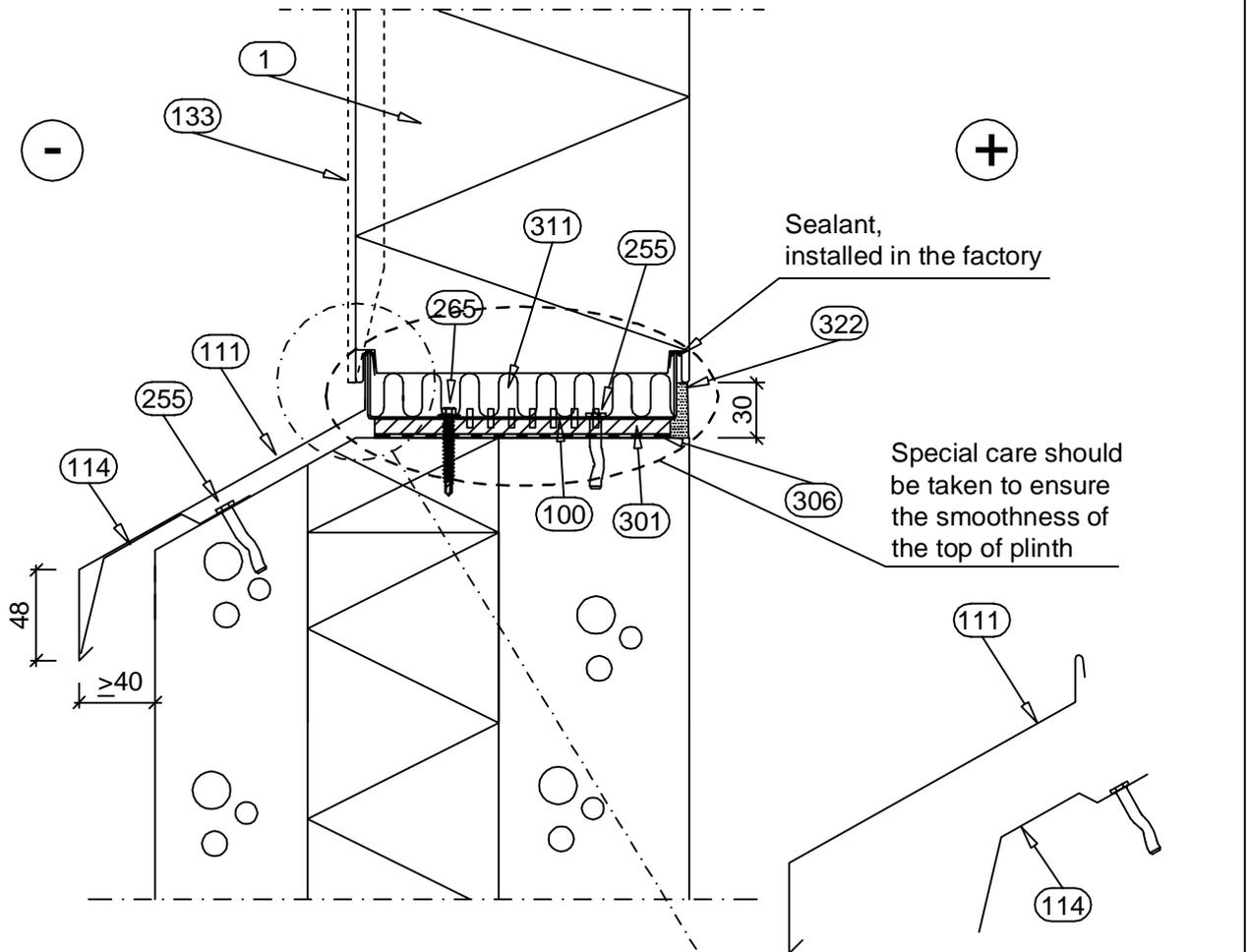


- 001. Sandwich panel SPA ENERGY, horizontal installation
- 100. /EA1U___/ Starter track
- 112. /EA1P1-___/ Cill flashing (can be installed after SPA installation)
- 113. /EA1PS/ Support flashing (installed simultaneously with SPA)
- 131. /EA1JV1/ Vertical joint flashing
- 231. Fastener for flashing, washer with sealing
- 255. Spike-fastener, concrete c/c600
- 265. Fastener, wood c/c600
- 301. Expandable sealing band
- 306. Butyl plinth sealing
- 311. /EAWS30565/ Mineral wool
- 322. /EA3SM310___/ Sealant, if necessary

Ruukki's delivery



Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA01-ENERGY-4E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:4	Building .	File nr. SPA01-ENERGY-4E-EN.DWG		

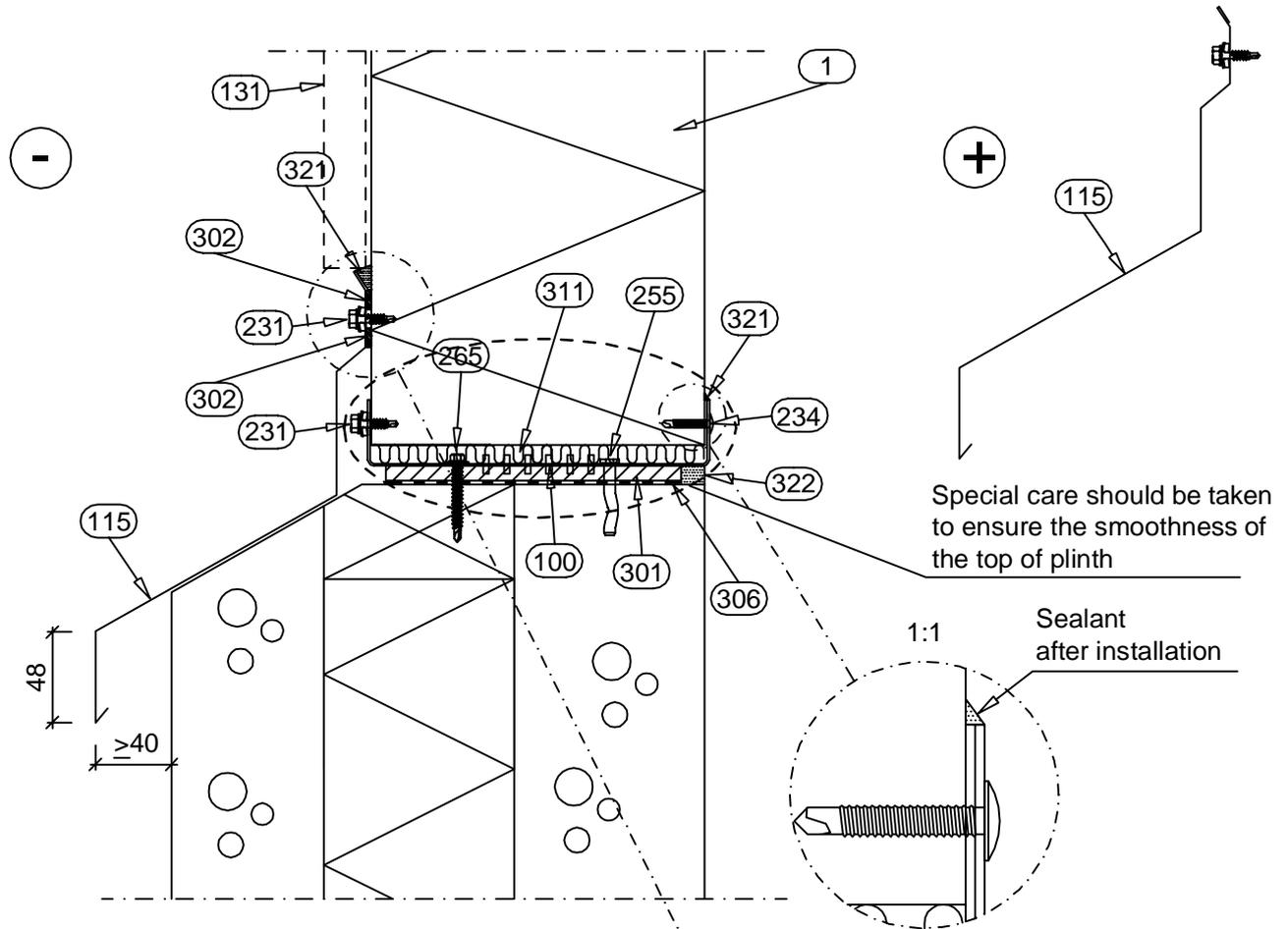


- 001. Sandwich panel SPA ENERGY, horizontal installation
- 100. /EA1U___/ Starter track
- 111. /EA1P3-___/ Cill flashing (installed simultaneously with SPA)
- 114. Support flashing, L200 c/c1000, according to project
(installed simultaneously with SPA)
- 133. /EA1JV9/ Vertical joint flashing
- 255. Spike-fastener, concrete c/c600
- 265. Fastener, wood c/c600
- 301. Expandable sealing band
- 306. Butyl plinth sealing
- 311. /EAWS30565/ Mineral wool
- 322. /EA3SM310___/ Sealant, if necessary

* The vertical joint flashing must be cut, folded and sealed so that a bottom lip is created so that water cannot transfer into the stater track

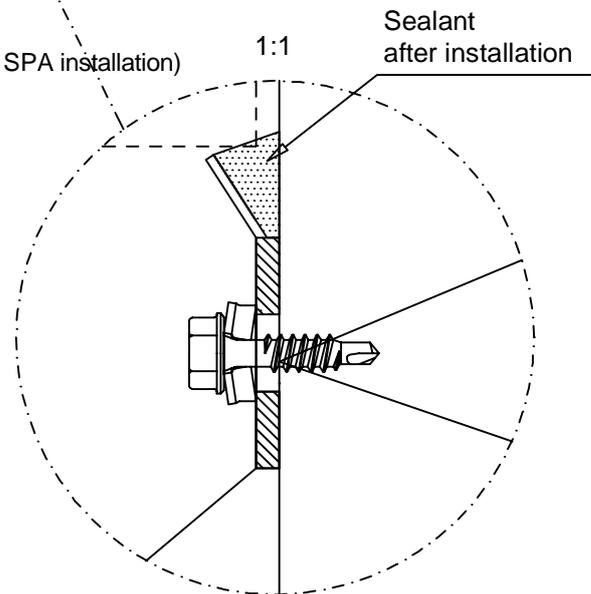
Ruukki's delivery

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA01-ENERGY-5E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:4	Building	.	File nr. SPA01-ENERGY-5E-EN.DWG	

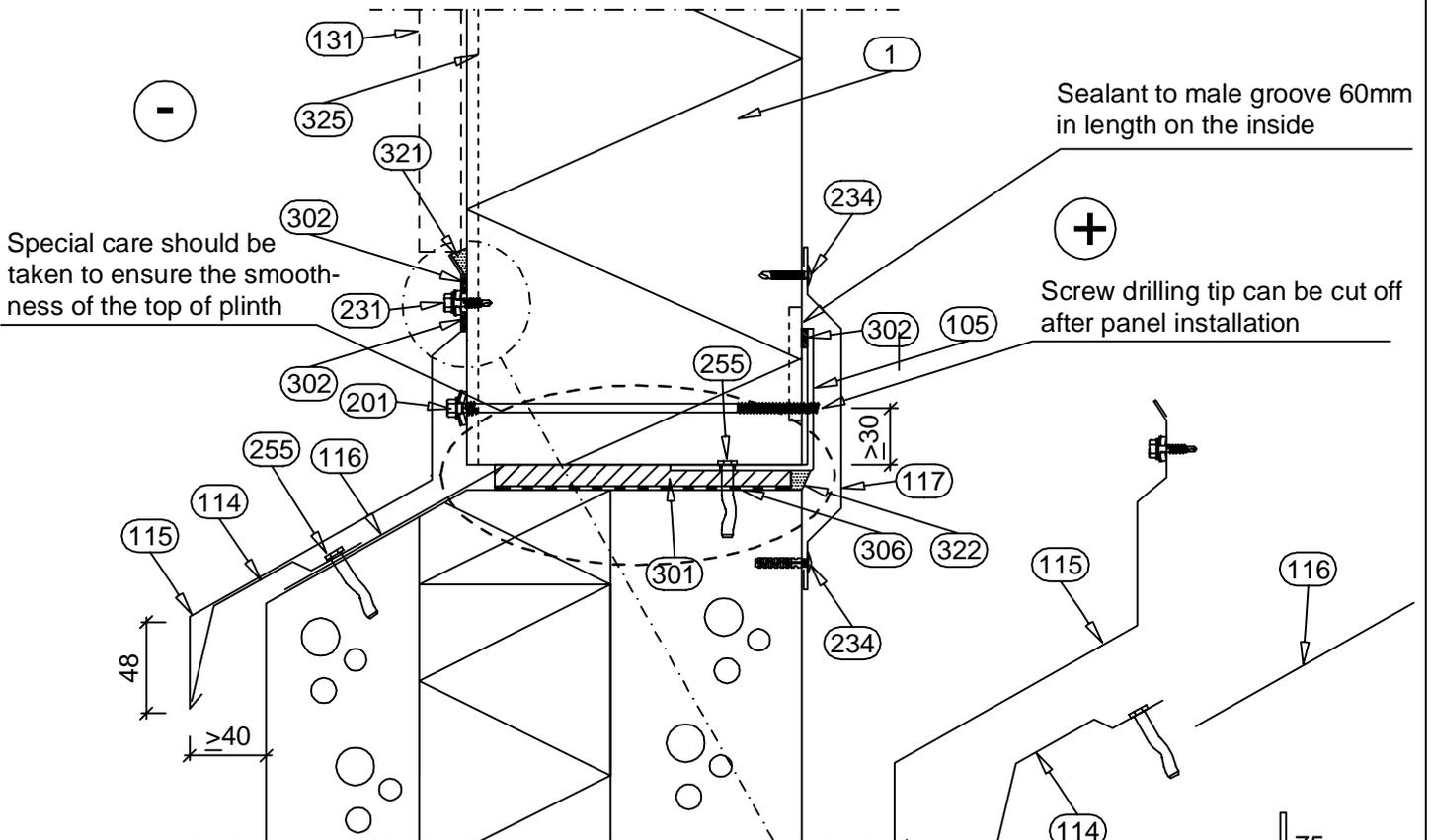


- 001. Sandwich panel SPA ENERGY, horizontal installation
- 100. /EA1W___/ Purlin
- 115. Cill flashing, according to project (can be installed after SPA installation)
- 131. /EA1JV1/ Vertical joint flashing
- 231. Fastener for flashing, washer with sealing
- 234. Flat headed screw
- 255. Spike-fastener, concrete c/c600
- 265. Fastener, wood c/c600
- 301. Expandable sealing band
- 302. /EA3SS410/ Sealing band
- 306. Butyl plinth sealing
- 311. /EAWS30565/ Mineral wool
- 321. /EA3SM310___/ Sealant
- 322. /EA3SM310___/ Sealant, if necessary

Ruukki's delivery



Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA01-ENERGY-6E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:4	Building		File nr. SPA01-ENERGY-6E-EN.DWG	



- 001. Sandwich panel SPA, vertical- and horizontal installation
- 105. /EA1L75/ Support L-purlin, (t=3mm)
- 114. Support flashing, L200 c/c1000, according to project
(installed simultaneously with SPA)
- 115. Cill flashing, according to project (can be installed after SPA installation)
- 116. Protective flashing, according to project (installed simultaneously with SPA)
- 117. Cover flashing, according to project
- 131. /EA1JV1/ Vertical joint flashing
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 234. Flat cup head screw
- 255. Spike-fastener, concrete c/c600
- 301. Expandable sealing band
- 302. /EA3SS410/ Sealing band
- 306. Butyl plinth sealing
- 321. /EA3SM310___/ Sealant
- 322. /EA3SM310___/ Sealant, if necessary
- 325. /EA3SM310___/ Sealant to male groove, during installation

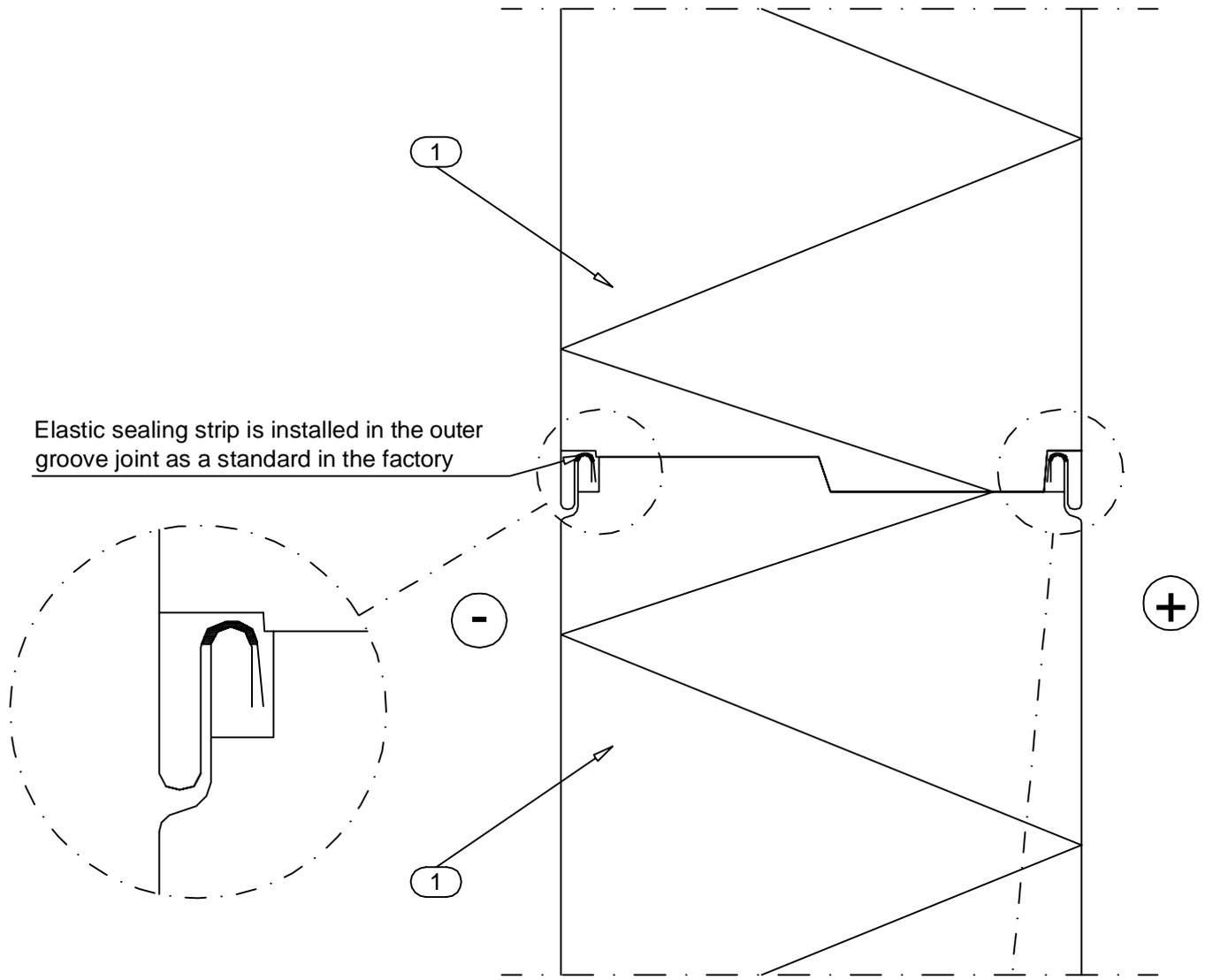
Ruukki's delivery



Contents of drawing

Sandwich panel SPA ENERGY, horizontal installation
Joint between panels, vertical section

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA02-ENERGY-1E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:2	Building		File nr. SPA02-ENERGY-1E-EN.dwg	

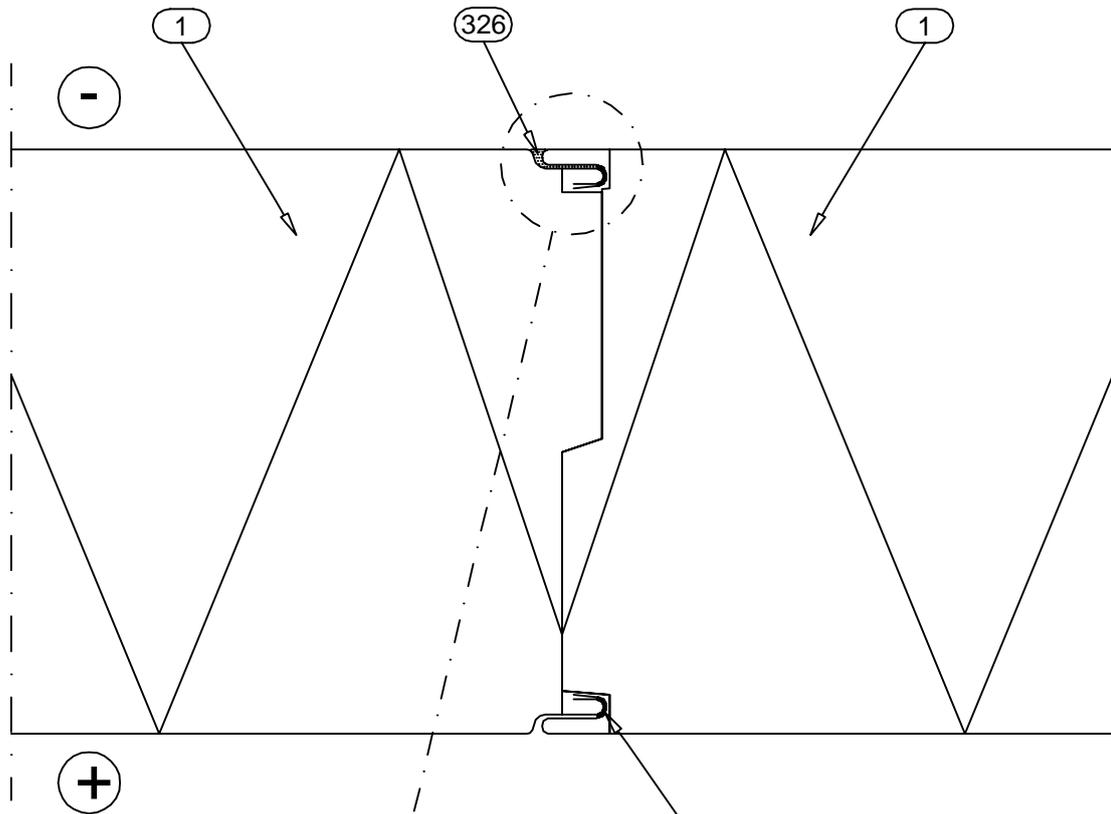


Elastic sealing strip is installed in the inner groove joint as a standard in the factory

001. Sandwich panel SPA ENERGY, horizontal installation

Ruukki's delivery

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA02-ENERGY-2E-EN
Drawn by Ruukki	Rev. B		Rev.
Scale 1:2	Building		File nr. SPA02-ENERGY-2E-EN.dwg



Elastic sealing strip is installed in the inner groove joint as a standard in the factory

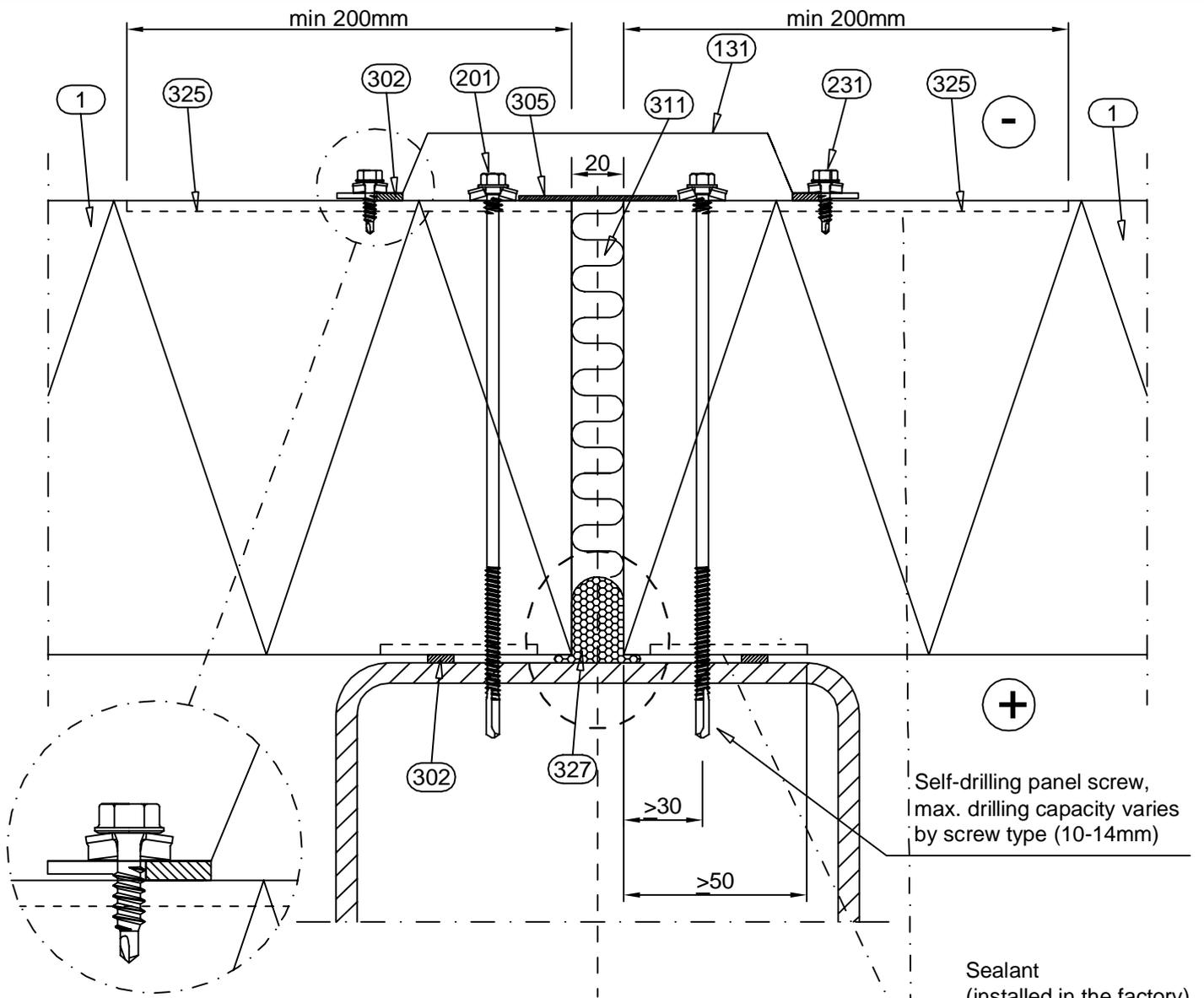
Elastic sealing strip is installed in the outer groove joint as a standard in the factory

Sealant during installation

- 001. Sandwich panel SPA, vertical and diagonal installation
- 326. /EA3SM310___/ Sealant to male groove, during installation

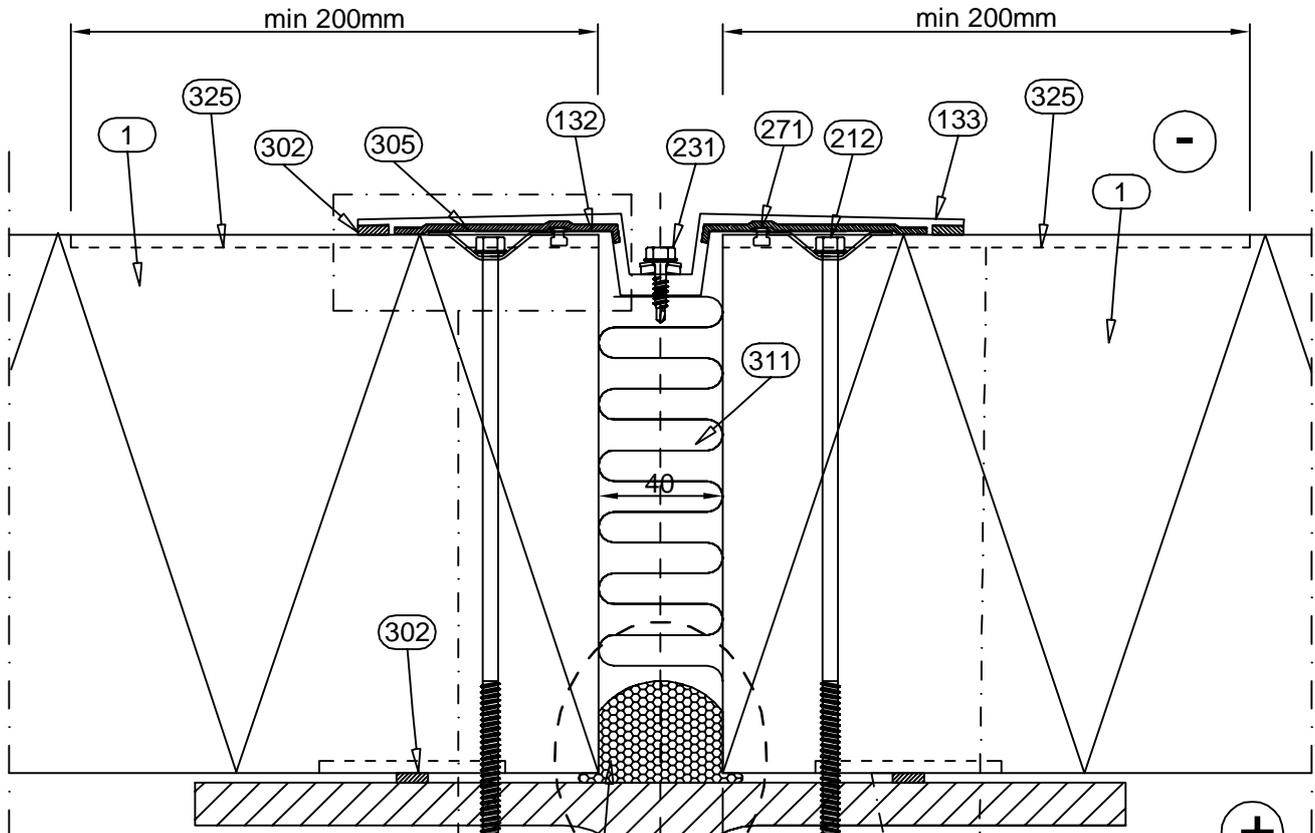
Ruukki's delivery

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA03-ENERGY-1E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA03-ENERGY-1E-EN.DWG	



- 001. Sandwich panel SPA ENERGY, horizontal installation
- 131. /EA1JV1/ Vertical joint flashing
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA03-ENERGY-2E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA03-ENERGY-2E-EN.DWG	

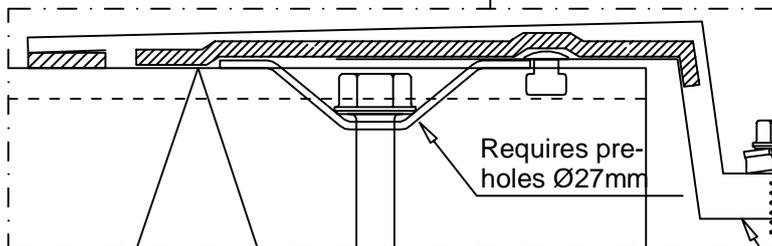
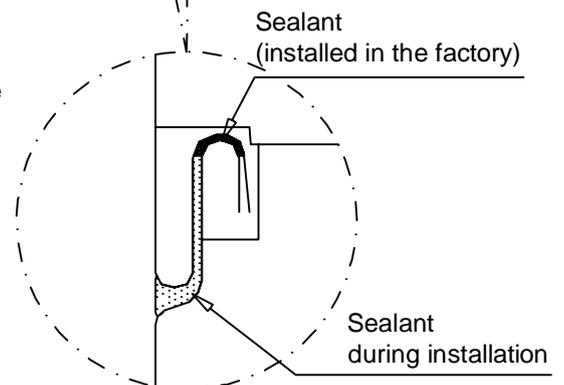


- 001. Sandwich panel SPA ENERGY, horizontal installation
- 132. /EA1JV3/ Vertical joint bottom flashing (joints must be sealed waterproof)
- 133. /EA1JV9/ Vertical joint flashing
- 212. Self-threading panel screw, countersink washer
- 231. Fastener for flashing, washer with sealing
- 271. Rivet
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery

Self-threading panel screw when material is thick ($>10-14$ mm), requires pre-drilled holes

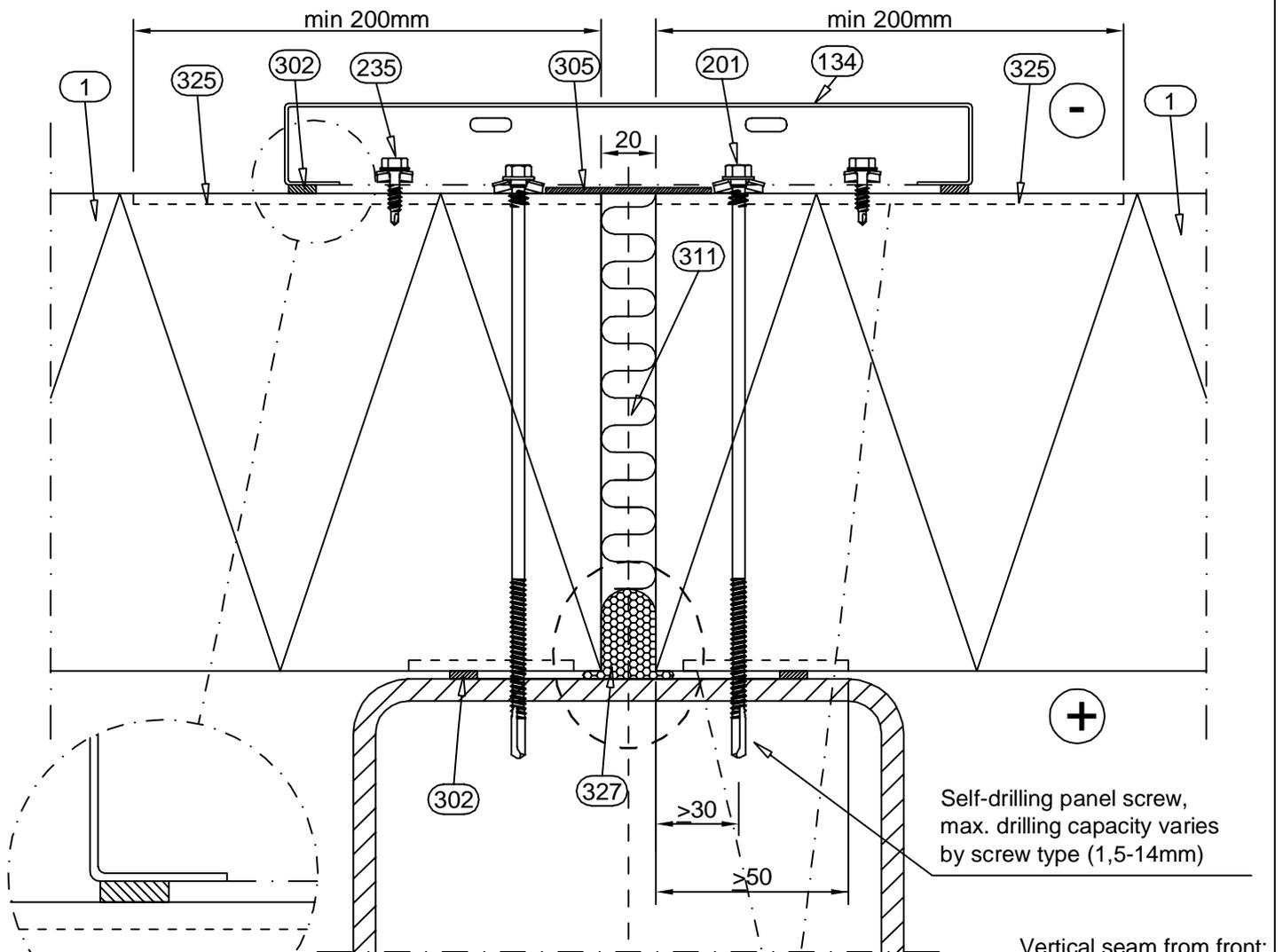
Note! Optional way is to pre-drill the material enough to be able to continue with self-drilling screws.

Screw drilling tip can be cut off after panel installation



Vertical joint bottom flashing joints must be sealed properly!

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA03-ENERGY-3E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA03-ENERGY-3E-EN.DWG	



Vertical seam from front:

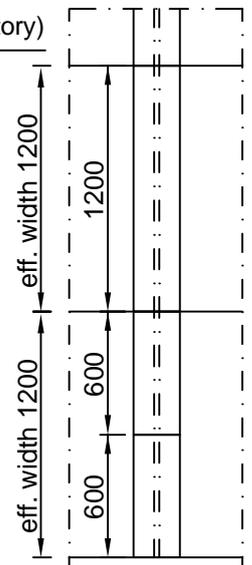
1:15

250

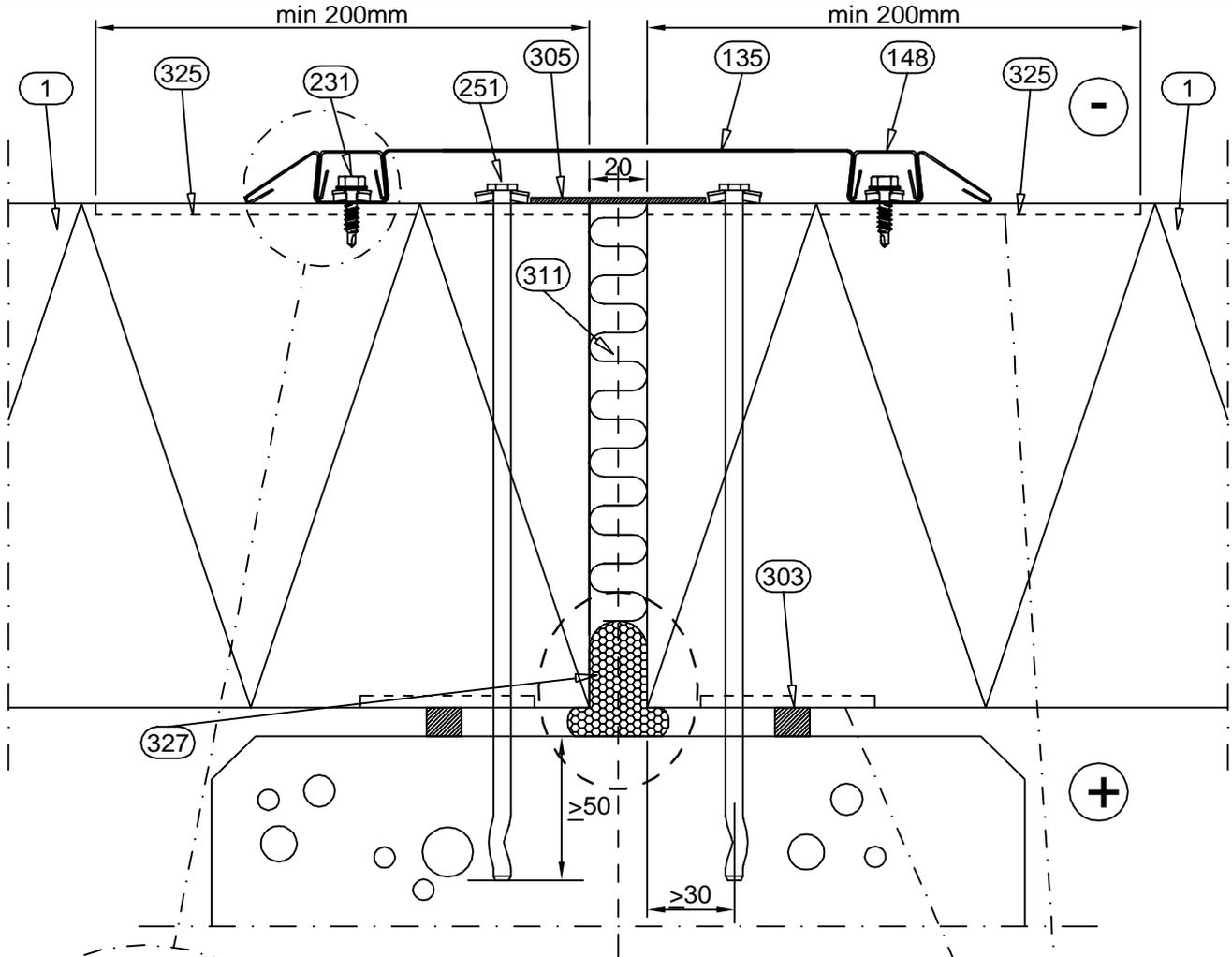
Sealant during installation

Sealant (installed in the factory)

- 001. Sandwich panel SPA ENERGY, horizontal installation
- 134. /EA1JV10-11/ Vertical joint panel (h=600 or 1200)
- 201. Self-drilling panel screw, washer with sealing
- 235. Joint panel fastener RST, washer with sealing
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery



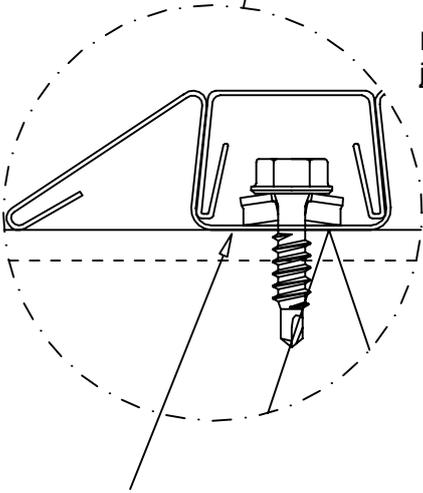
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA03-ENERGY-4E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA03-ENERGY-4E-EN.DWG	



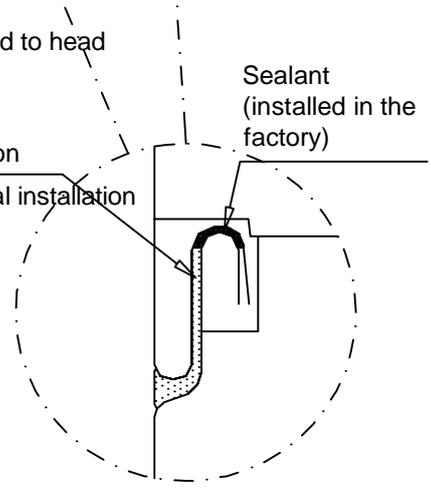
Remember that under vertical flashing EA1JV4 head to head joints there must be butt strap EA1JVJP

Sealant during installation

Sealant (installed in the factory)

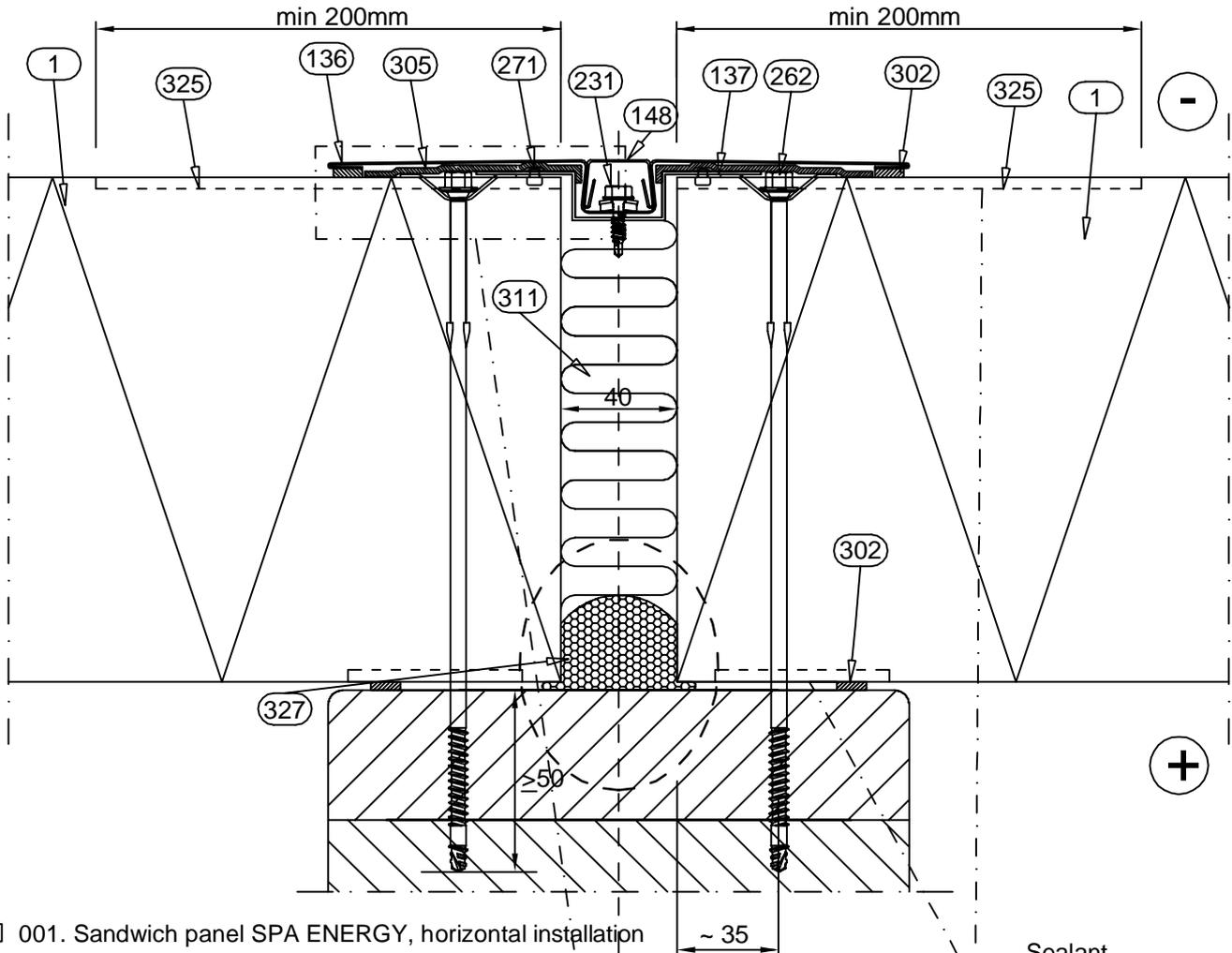


Sealant is installed under the flashing before installation

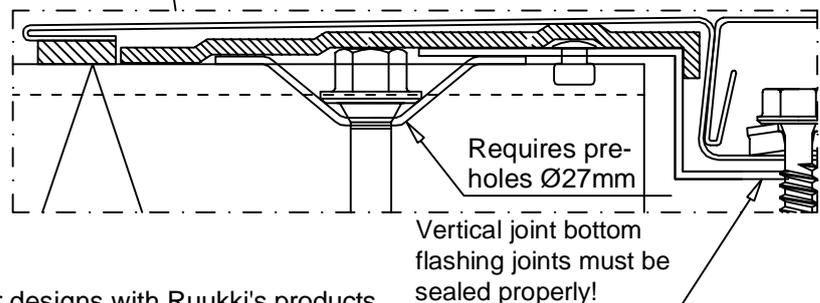
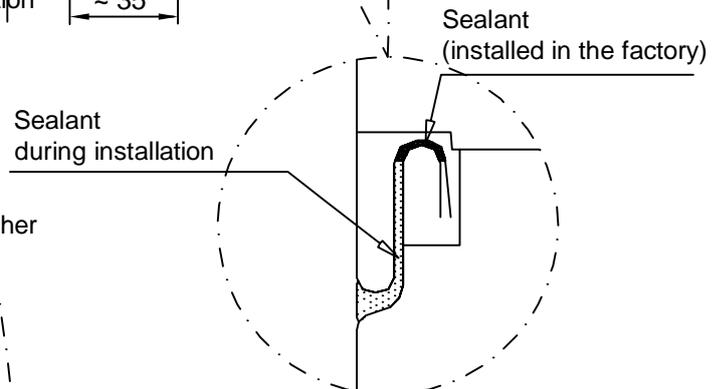


- 001. Sandwich panel SPA ENERGY, horizontal installation
- 135. /EA1JV4/ Vertical joint flashing
- 148. /EA1VCO/ Vertical cover flashing
- 231. Fastener for flashing, washer with sealing
- 251. Spike panel fastener, washer with sealing
- 303. /EA3SS1012/ Sealing band, concrete
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery

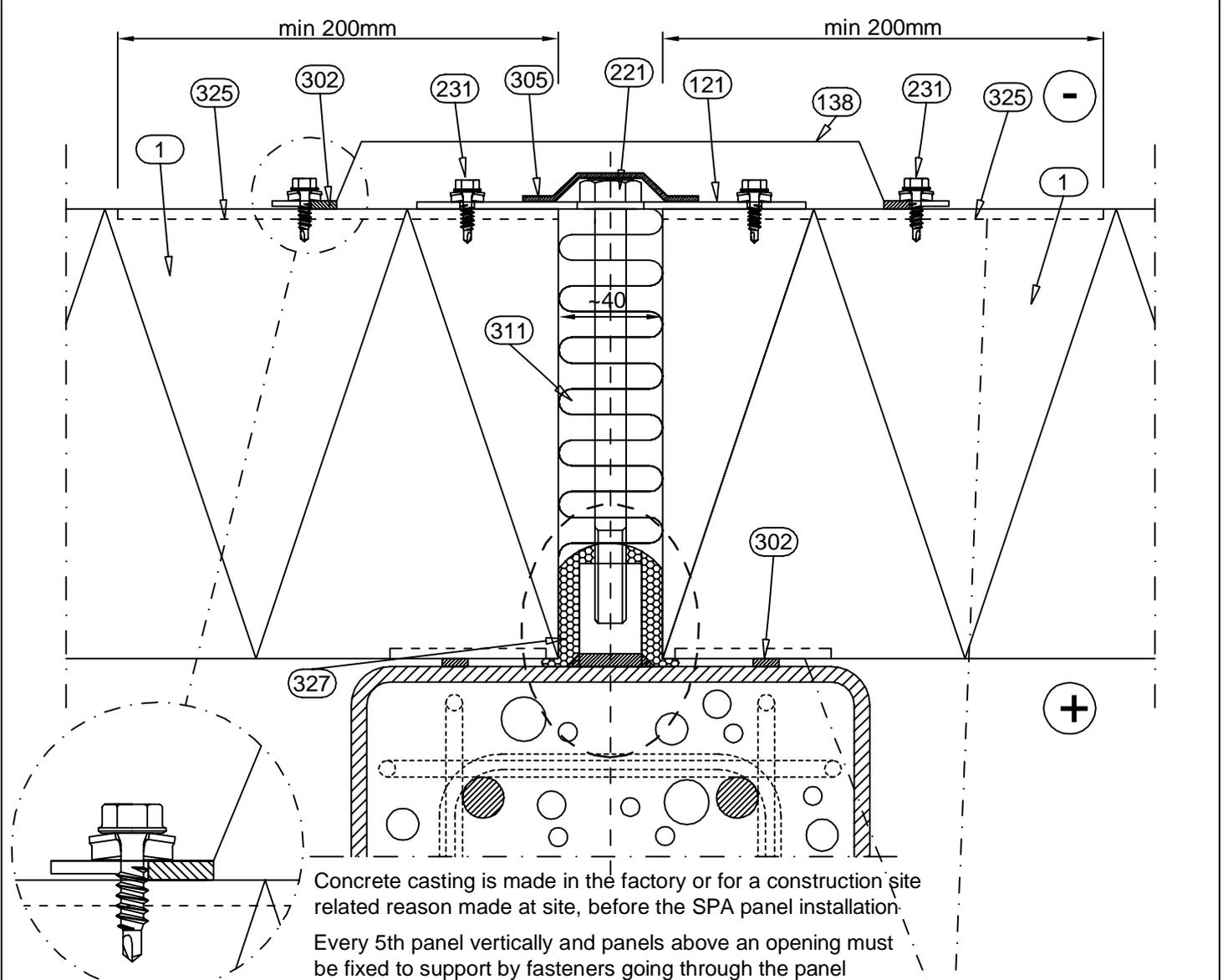
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA03-ENERGY-5E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA03-ENERGY-5E-EN.DWG	



- 001. Sandwich panel SPA ENERGY, horizontal installation
- 136. /EA1JV7/ Vertical joint flashing
- 137. /EA1JVB2/ Vertical joint bottom flashing
- 148. /EA1VCO/ Vertical cover flashing
- 231. Fastener for flashing, washer with sealing
- 262. Self-drilling panel screw for wood, countersink washer
- 271. Rivet
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove $\geq 200\text{mm}$ in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery



Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA03-ENERGY-6E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA03-ENERGY-6E-EN.DWG	



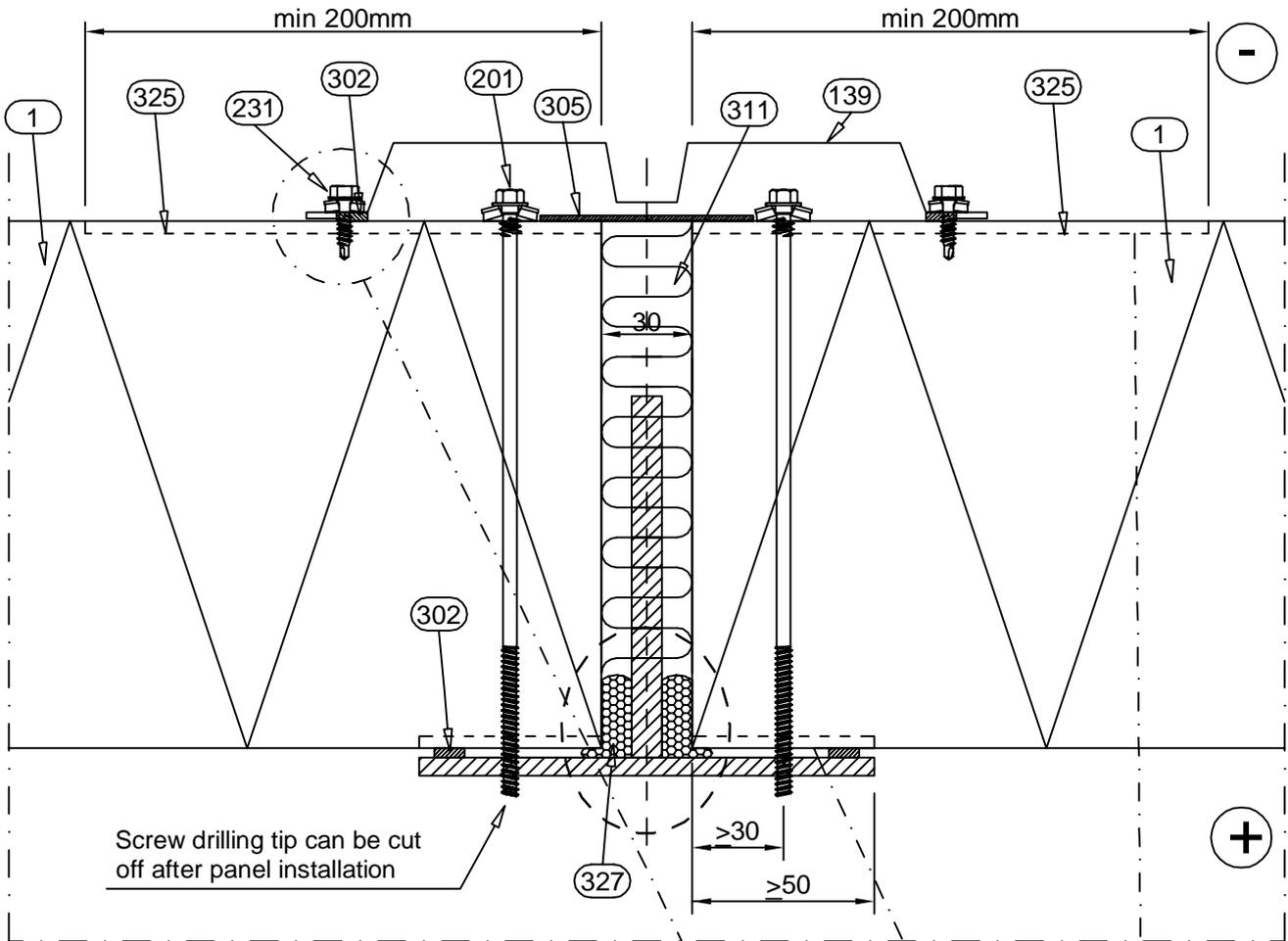
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 121. /EA6FP_/ Fastening plate
- 138. /EA1JV2/ Vertical joint flashing
- 221. Internal thread socket + hex bolt
- 231. Fastener for flashing, washer with sealing
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane

Ruukki's delivery

Sealant during installation

Sealant (installed in the factory)

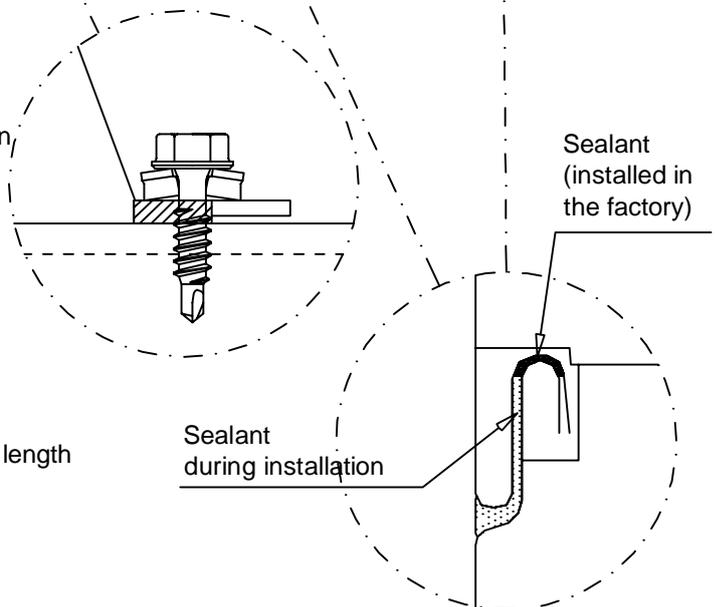
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA03-ENERGY-7E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:2.5	Building		File nr. SPA03-ENERGY-7E-EN.DWG	



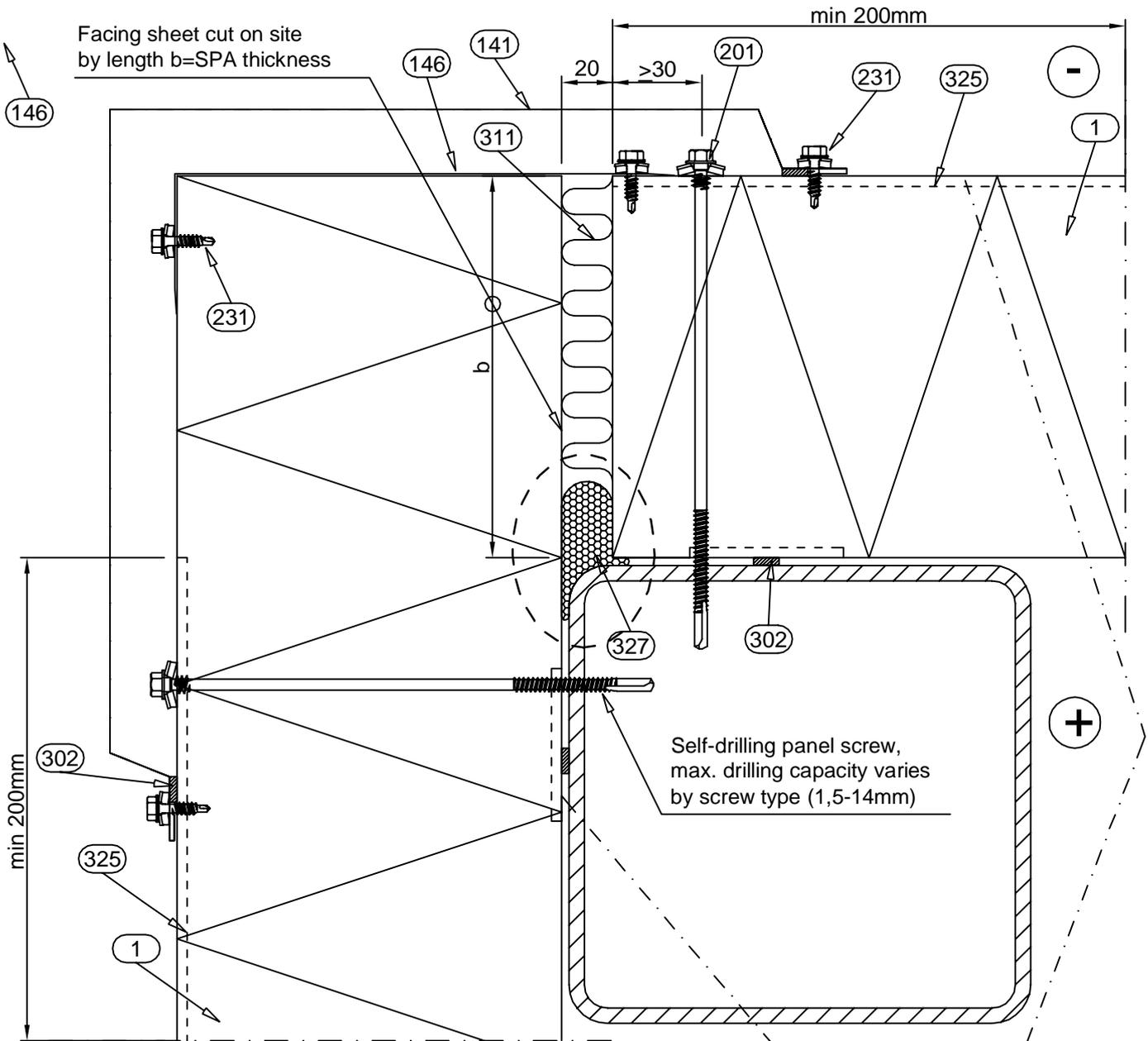
Secondary steel supports for SPA panels according to structural designer

The structures on the side of the roof are displayed in the parapet details

- 001. Sandwich panel SPA ENERGY, horizontal installation,
- 139. /EA1JV3/ Vertical joint flashing
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove $\geq 200\text{mm}$ in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery

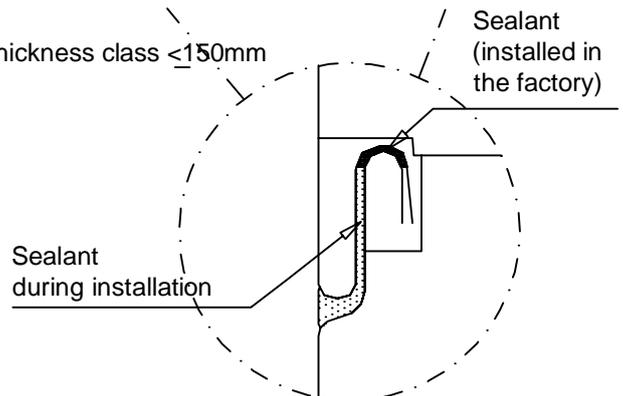


Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA04-ENERGY-1E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA04-ENERGY-1E-EN.DWG	

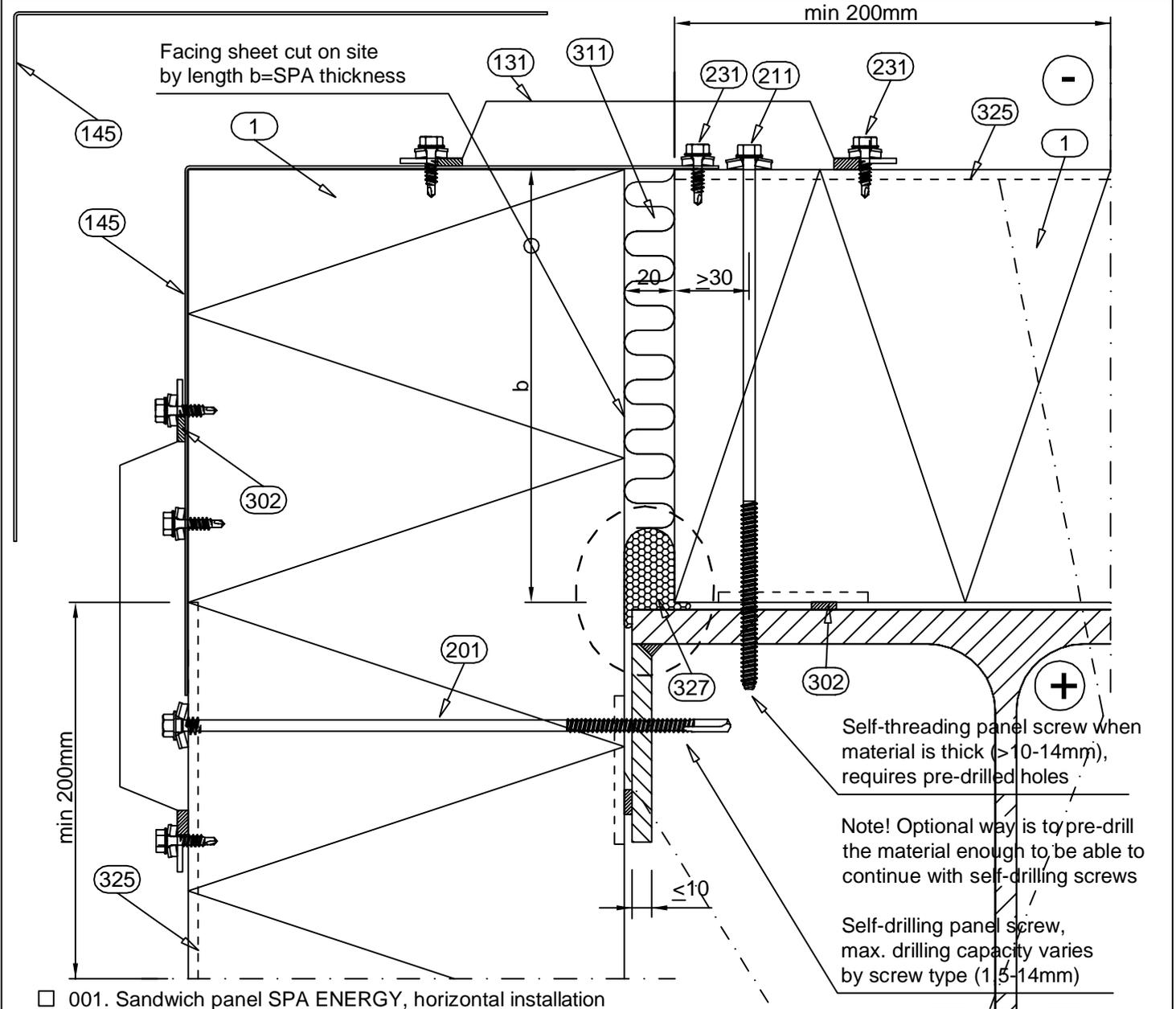


- 001. Sandwich panel SPA ENERGY, horizontal installation
- 141. /EA1EC1-3/ External corner flashing, recommended SPA thickness class $< 150\text{mm}$
- 146. /EA1EC9-___/ External corner flashing
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 302. /EA3SS410/ Sealing band
- 311. /EAWS30565/ Mineral wool
- 327. Elastic polyurethane
- 325. /EA3SM310___/ Sealant to male groove $\ge 200\text{mm}$ in length

Ruukki's delivery on the outside and 60 mm on the inside
Copyright © Rautaruukki Oyj. Allowed only for designs with Ruukki's products.

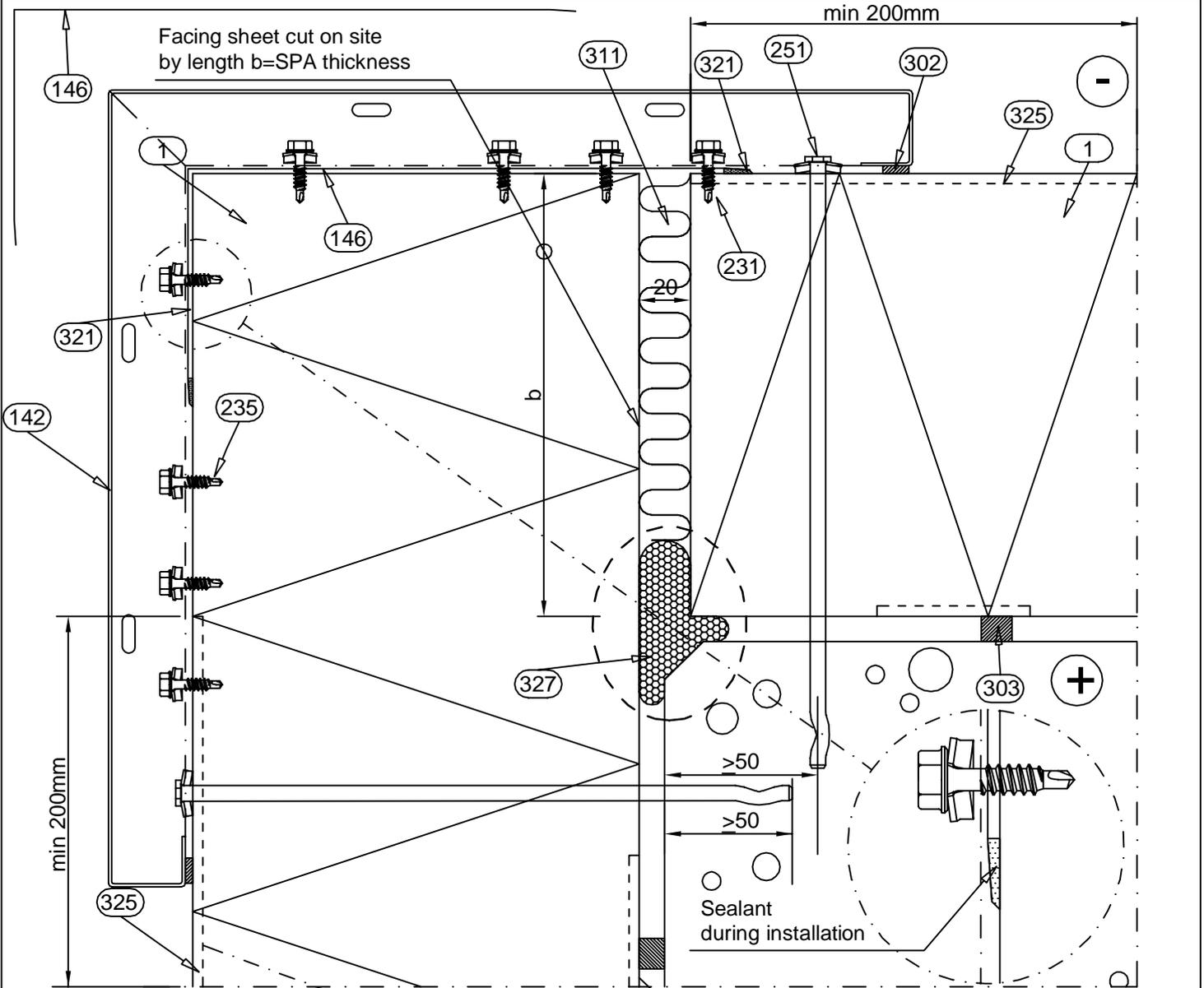


Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA04-ENERGY-2E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA04-ENERGY-2E-EN.DWG	



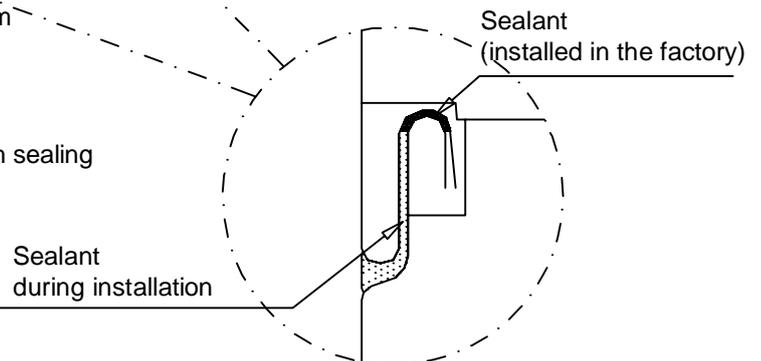
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 131. /EA1JV1/ Vertical joint flashing
- 145. /EA1EC10-___/ Cover flashing, $t=1\text{mm}/1.2\text{mm}$, (limited range of colours)
- 201. Self-drilling panel screw, washer with sealing
- 211. Self-threading panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 302. /EA3SS410/ Sealing band
- 311. /EAWS30565/ Mineral wool
- 327. Elastic polyurethane
- 325. /EA3SM310___/ Sealant to male groove $\geq 200\text{mm}$ in length
- Ruukki's delivery on the outside and 60 mm on the inside

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA04-ENERGY-3E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA04-ENERGY-3E-EN.DWG	



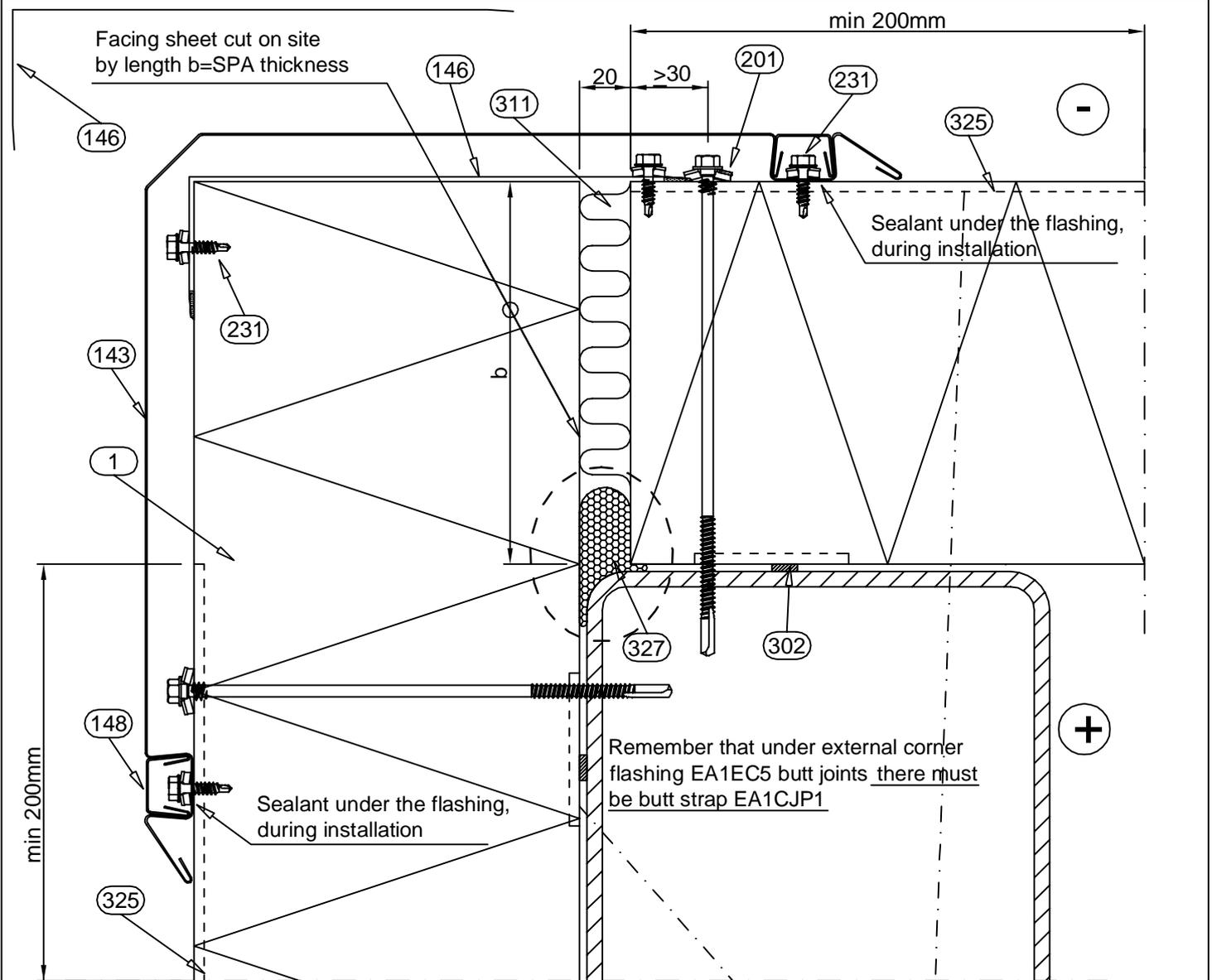
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 142. /EA1EC11-12/ External corner panel
- 146. /EA1EC9-___/ External corner flashing, t=0.6mm
- 251. Spike panel fastener, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 235. Joint panel fastener, stainless steel, washer with sealing
- 302. /EA3SS410/ Sealing band
- 303. /EA3SS1012/ Sealing band, concrete
- 311. /EAWS30565/ Mineral wool
- 321. /EA3SM310___/ Sealant
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length

- 327. Elastic polyurethane
- Ruukki's delivery

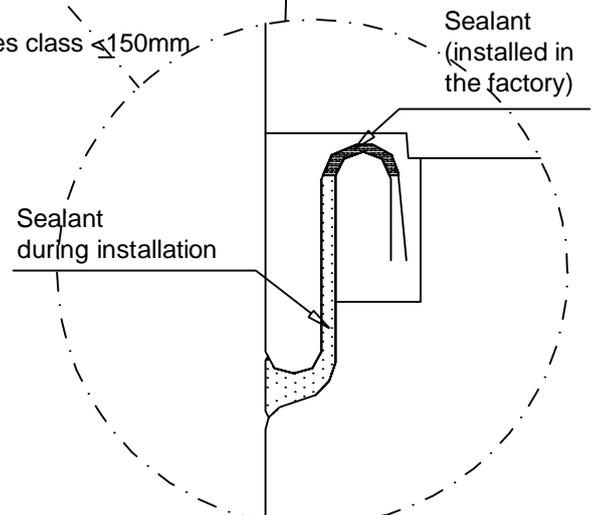


on the outside and 60 mm on the inside

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA04-ENERGY-4E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA04-ENERGY-4E-EN.DWG	

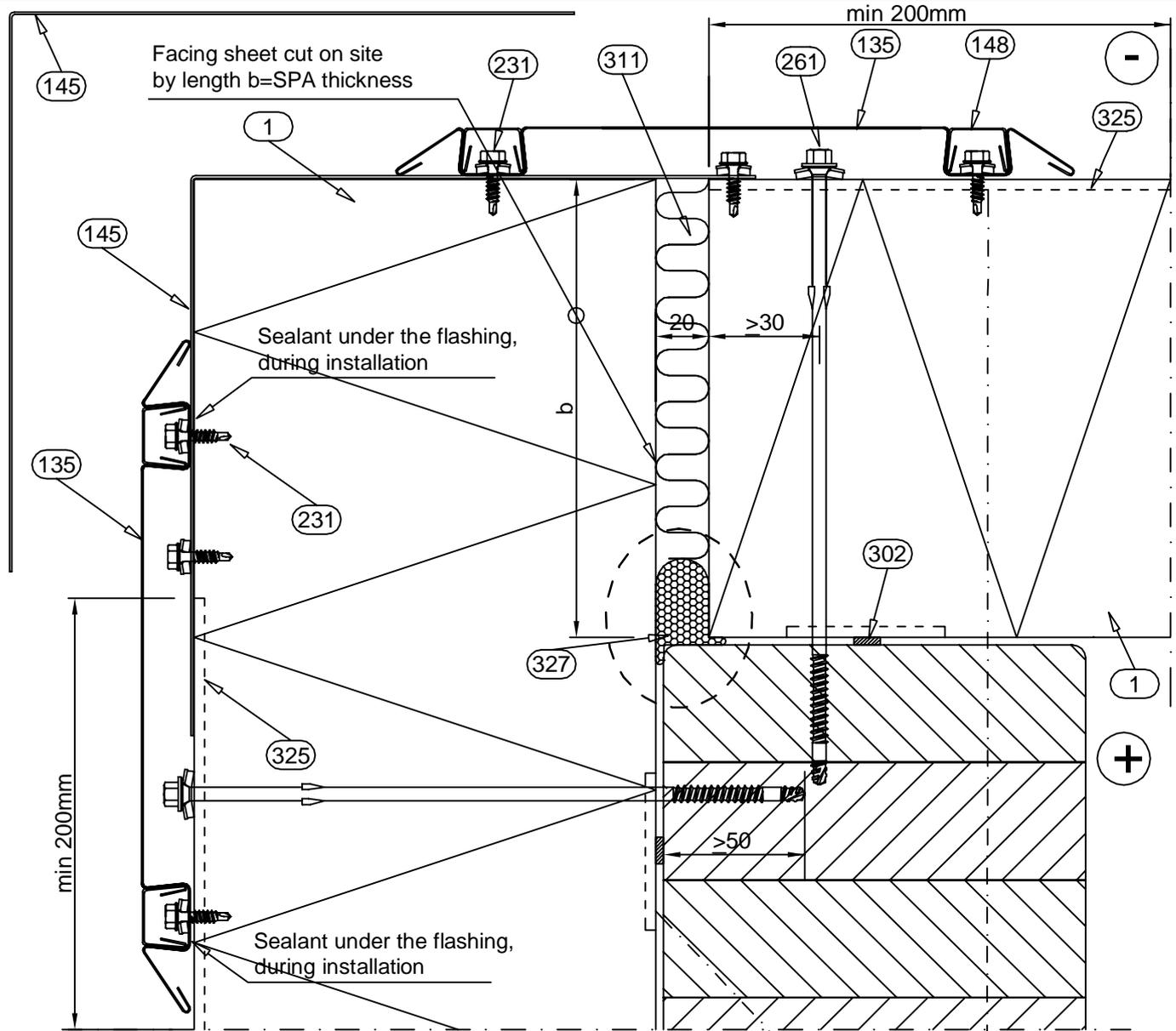


- 001. Sandwich panel SPA ENERGY, horizontal installation
- 143. /EA1EC5/ External corner flashing, recommended SPA thickness class $\leq 150\text{mm}$
- 146. /EA1EC9-___/ External corner flashing
- 148. /EA1VCO/ Vertical cover flashing
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 302. /EA3SS410/ Sealing band
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove $\geq 200\text{mm}$ in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery



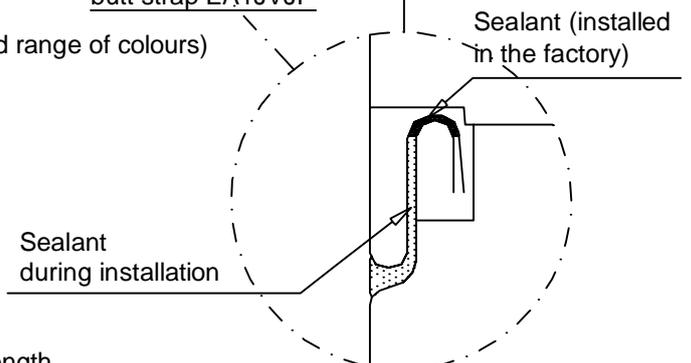
Sandwich panel SPA ENERGY, horizontal installation, External corner, horizontal section
Laminated timber column, option 5

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA04-ENERGY-5E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA04-ENERGY-5E-EN.DWG	



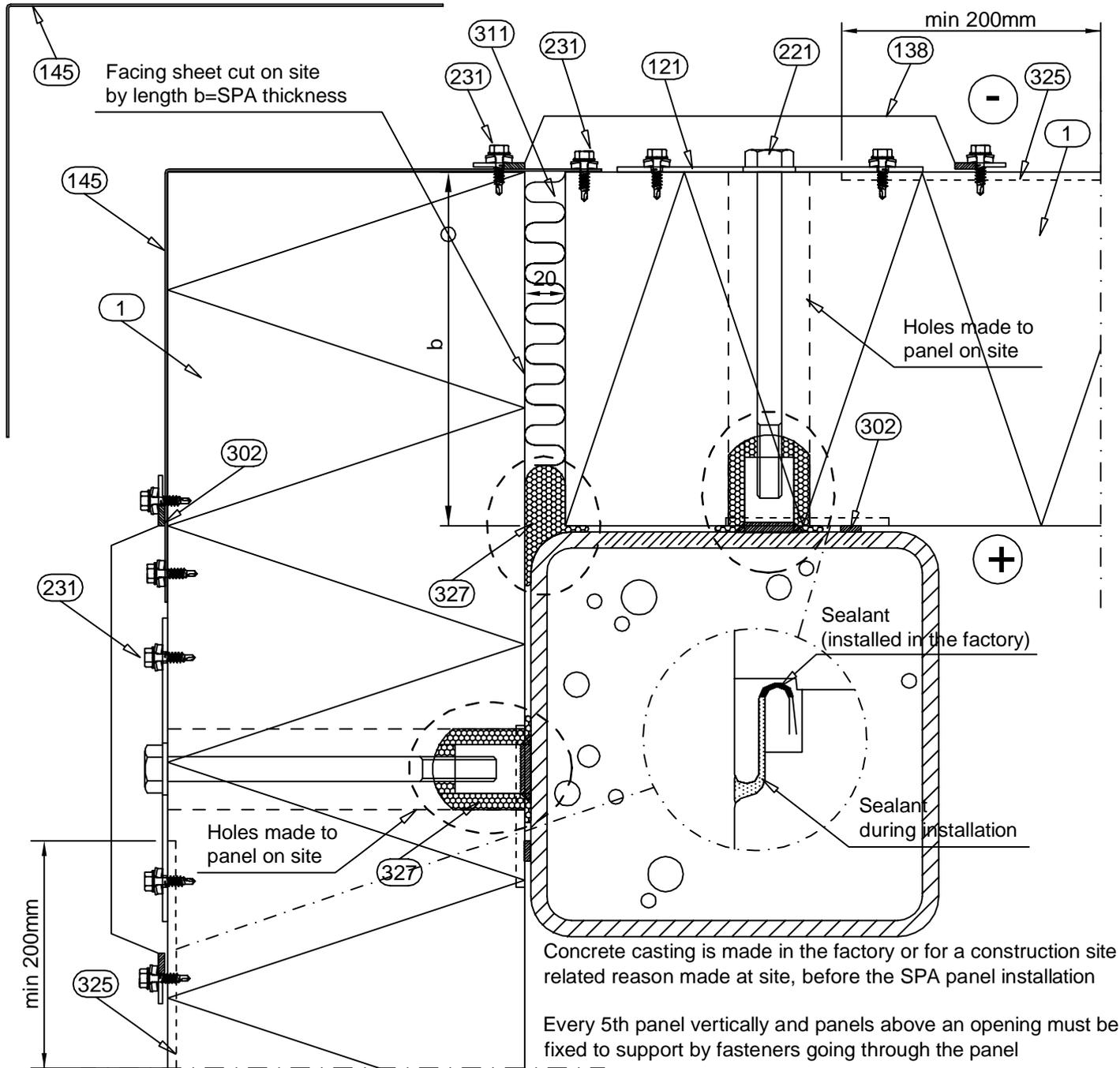
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 135. /EA1JV4/ Vertical joint flashing
- 145. /EA1EC10-___/ Cover flashing, t=1mm/1.2mm, (limited range of colours)
- 148. /EA1VCO/ Vertical cover flashing
- 261. Self-drilling panel screw for wood, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 302. /EA3SS410/ Sealing band
- 311. /EAWS30565/ Mineral wool
- 327. Elastic polyurethane
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length

Remember that under vertical flashing EA1JV4 butt joints there must be butt strap EA1JVJP



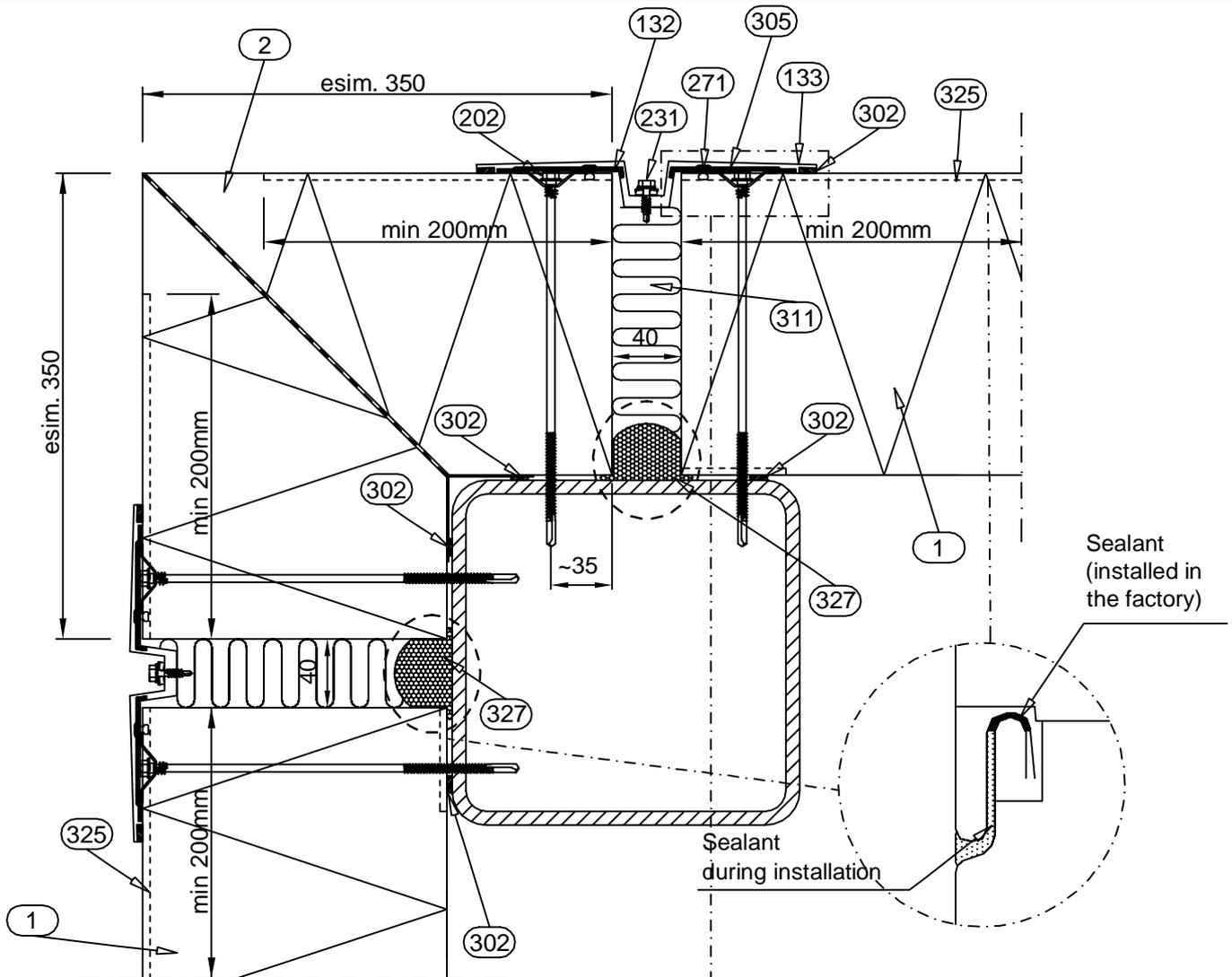
Ruukki's delivery on the outside and 60 mm on the inside

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA04-ENERGY-6E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:3	Building		File nr. SPA04-ENERGY-6E-EN.dwg	

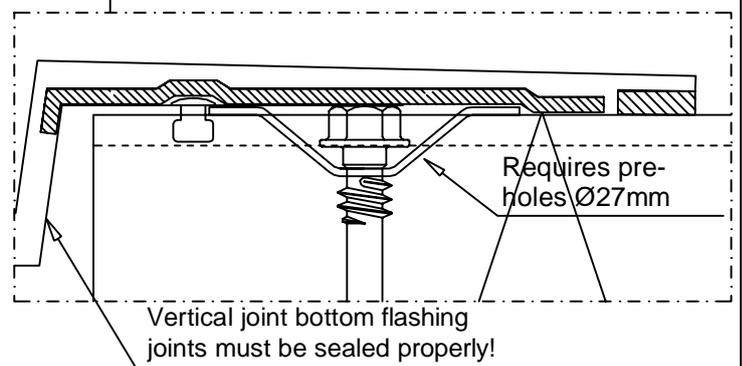


- 001. Sandwich panel SPA ENERGY, horizontal installation
- 121. /EA6FP_/ Fastening plate
- 138. /EA1JV2/ Vertical joint flashing
- 145. /EA1EC10-___/ Cover flashing, t=1mm/1.2mm, (limited range of colours)
- 221. Internal thread socket + hex bolt
- 231. Fastener for flashing, washer with sealing
- 302. /EA3SS410/ Sealing band
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery

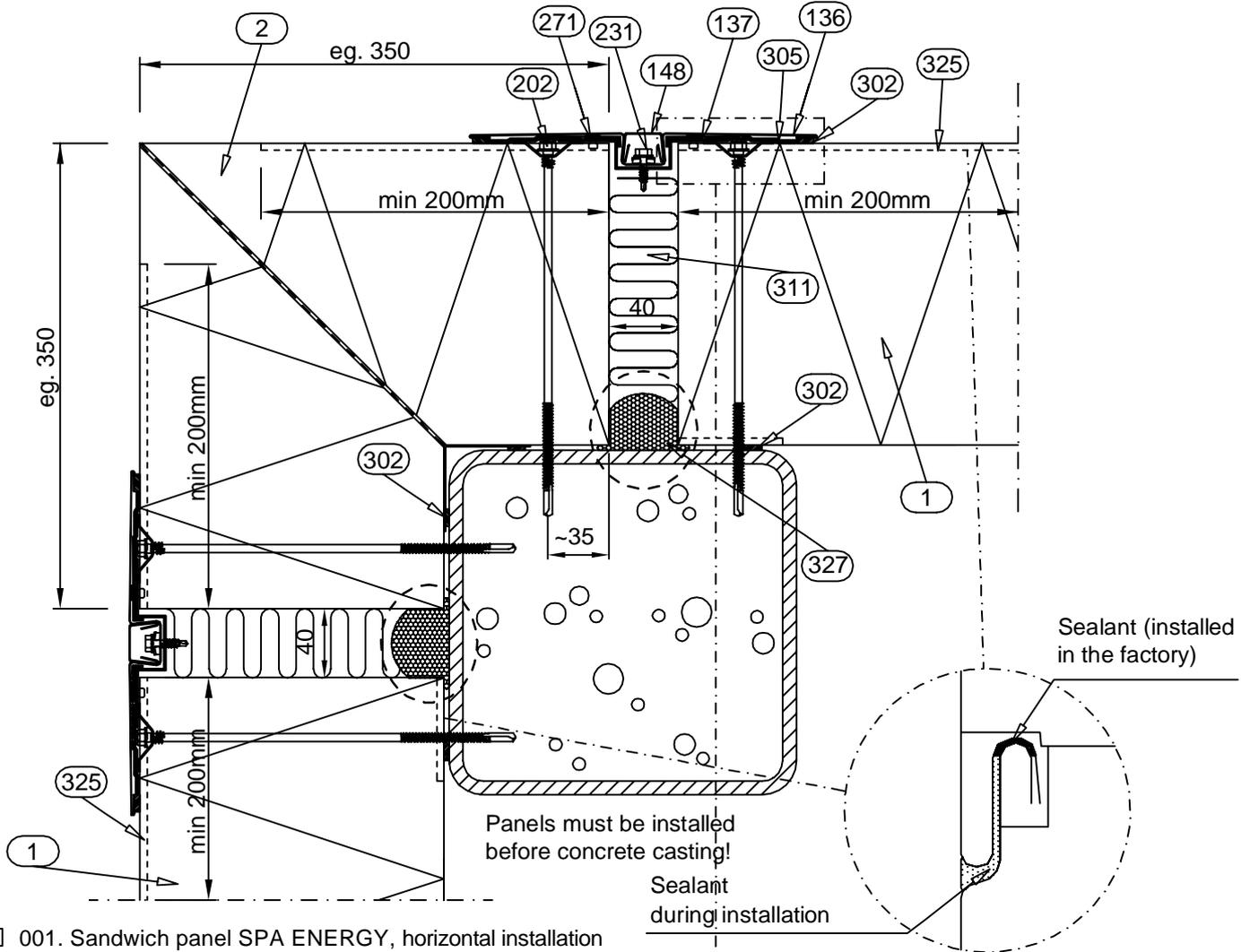
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr.
Drawn by Ruukki	Rev. B	.	SPA04-ENERGY-7E-EN
Scale 1:4	Building		File nr. SPA04-ENERGY-7E-EN.dwg



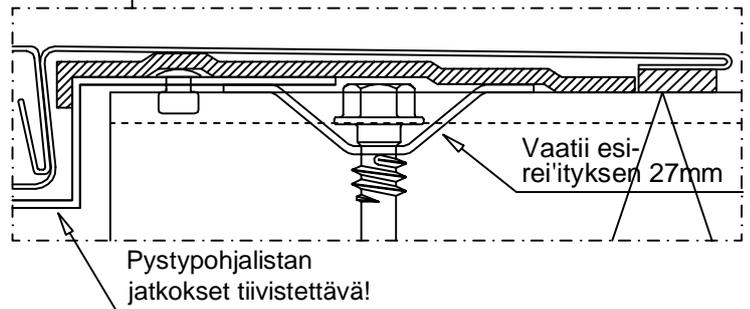
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 002. Sandwich panel SPA ENERGY corner panel, for example 350x350 (SPA 80-200: min. ext. dimension 300mm, max. 2400mm; SPA 230: min. ext. dimension 350mm, max. 2400mm)
- 132. /EA1JVB3/ Vertical joint bottom flashing
- 133. /EA1JV9/ Vertical joint flashing
- 202. Self-drilling panel screw, countersink washer
- 231. Fastener for flashing, washer with sealing
- 271. Rivet
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery



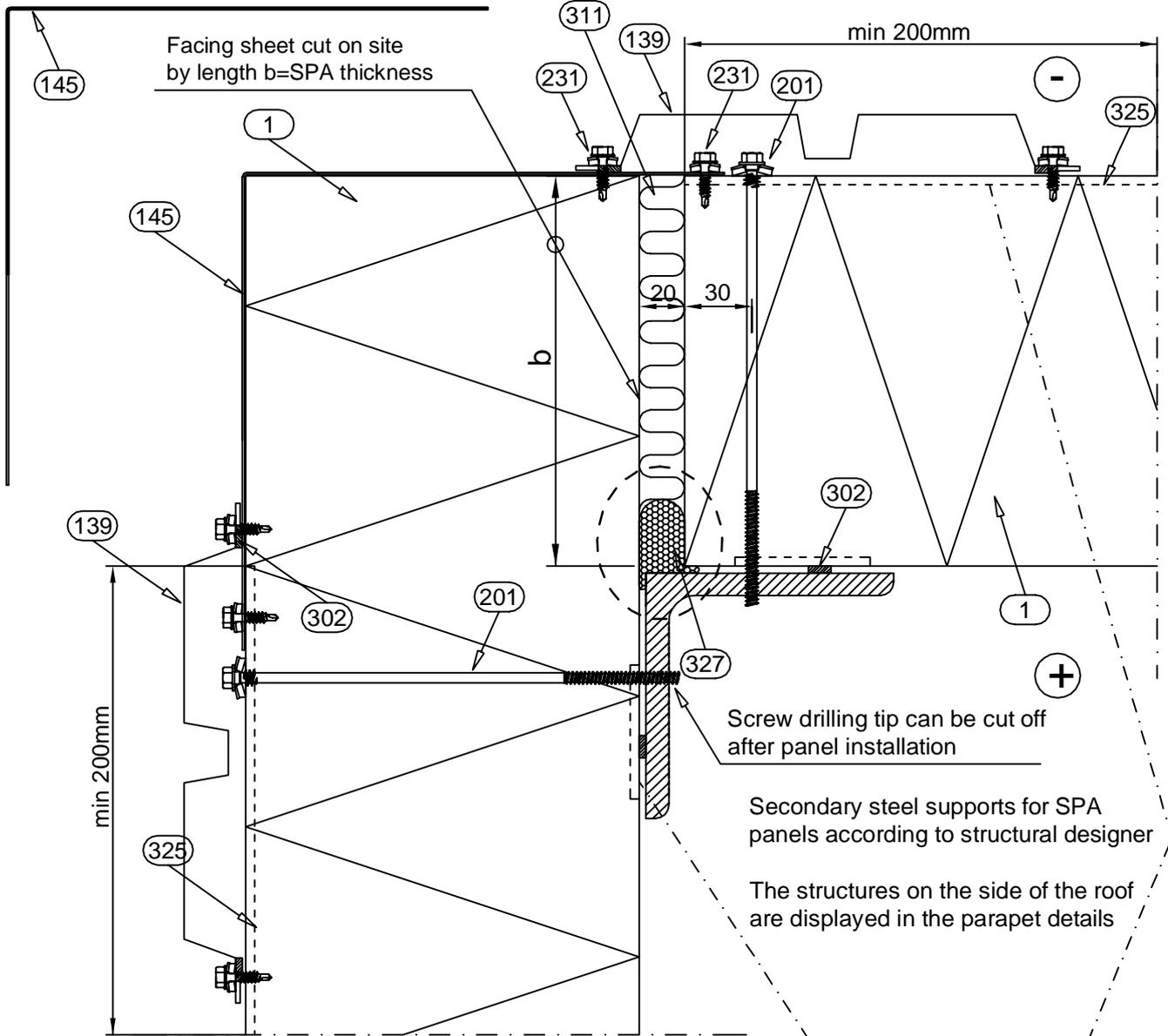
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA04-ENERGY-8E-EN
Drawn by Ruukki	Rev. B		
Scale 1:4	Building		File nr. SPA04-ENERGY-8E-EN.dwg



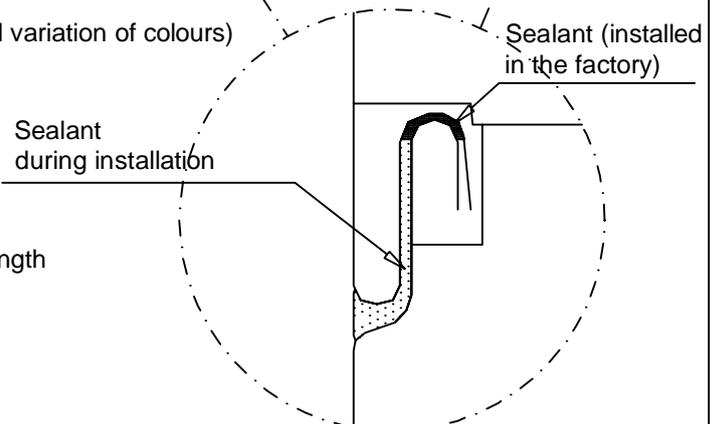
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 002. Sandwich panel SPA ENERGY corner panel, for example 350x350
(SPA 80-200: min. ext. dimension 300mm, max. 2400mm; SPA 230: min. ext. dimension 350mm, max. 2400mm)
- 136. /EA1JV7/ Vertical joint flashing
- 137. /EA1JVB2/ Vertical joint bottom flashing
- 148. /EA1VCO/ Vertical cover flashing
- 202. Self-drilling panel screw, countersink washer
- 231. Fastener for flashing, washer with sealing
- 271. Rivet
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery



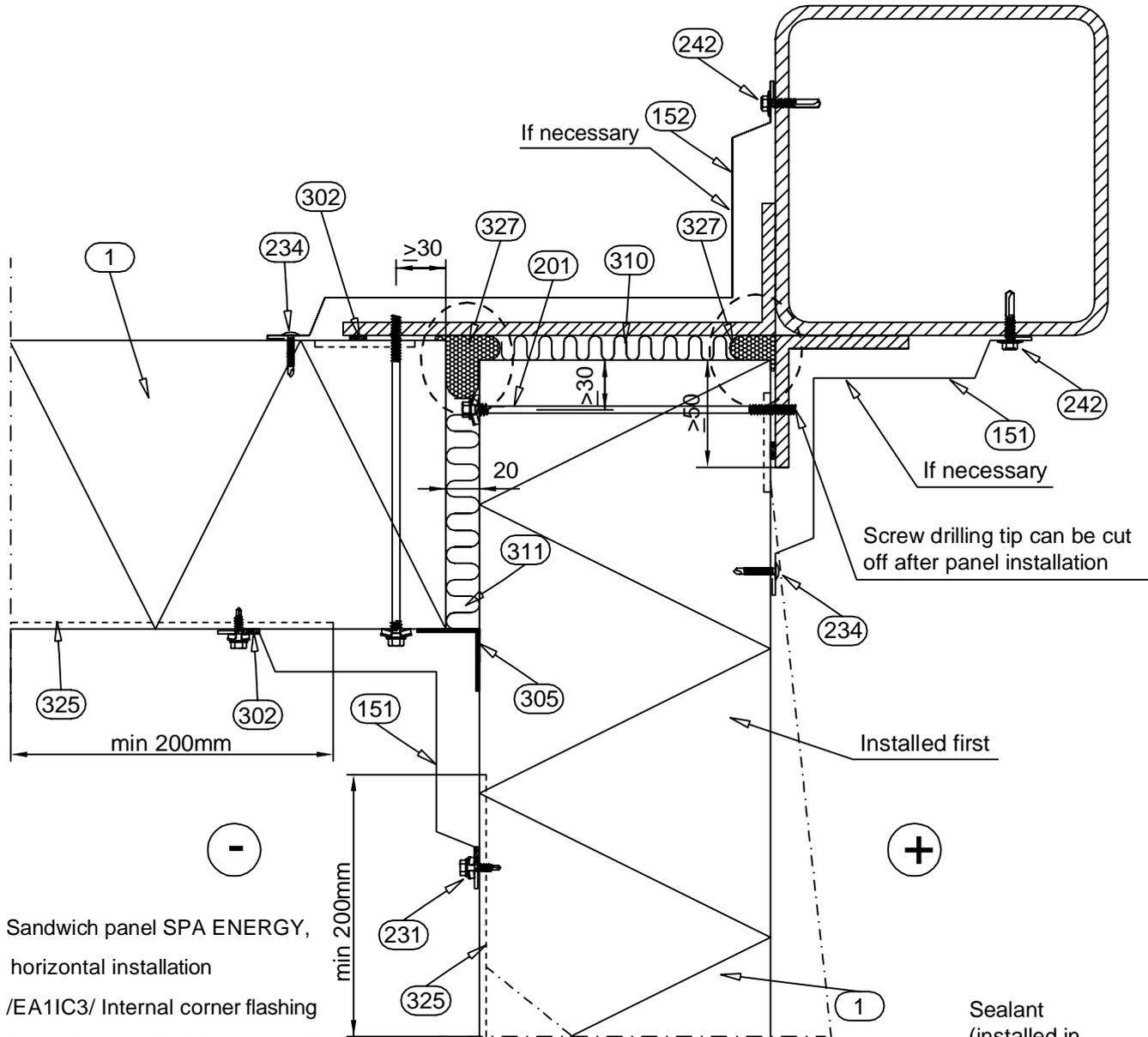
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA04-ENERGY-9E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:3	Building		File nr. SPA04-ENERGY-9E-EN.dwg	



- 001. Sandwich panel SPA ENERGY, horizontal installation
- 139. /EA1JV3/ Vertical joint flashing
- 145. /EA1EC10-___/ Cover flashing, t=1mm/1.2mm, (limited variation of colours)
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 302. /EA3SS410/ Sealing band
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery



Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr.
Drawn by Ruukki	Rev. B	.	SPA05-ENERGY-1E-EN
Scale 1:4	Building		File nr. SPA05-ENERGY-1E-EN.dwg

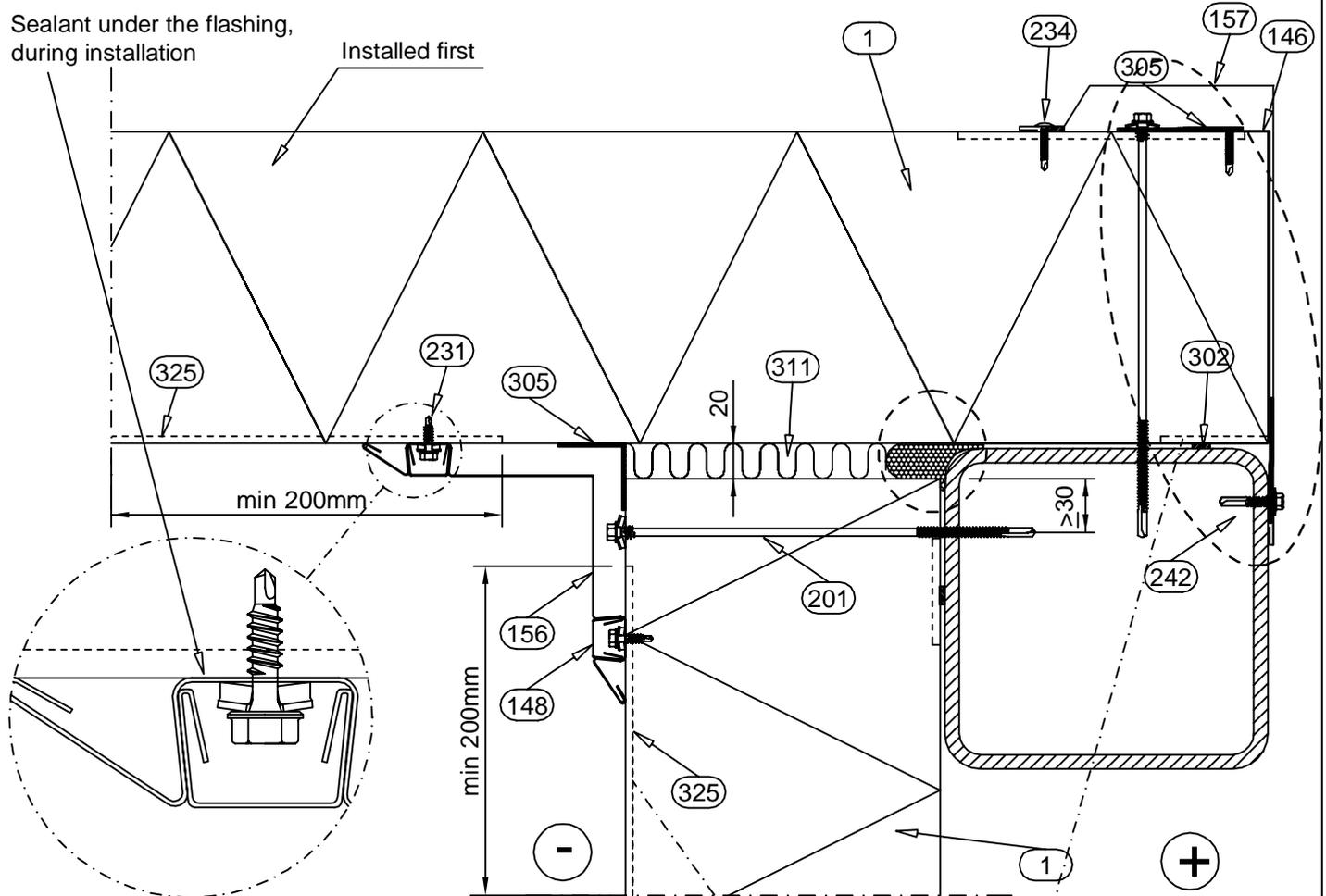


- 001. Sandwich panel SPA ENERGY, horizontal installation
- 151. /EA1IC3/ Internal corner flashing
- 152. Internal corner flashing, according to project
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 234. Flat headed screw
- 242. Fastener
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane
- Ruukki's delivery

Sealant during installation

Sealant (installed in the factory)

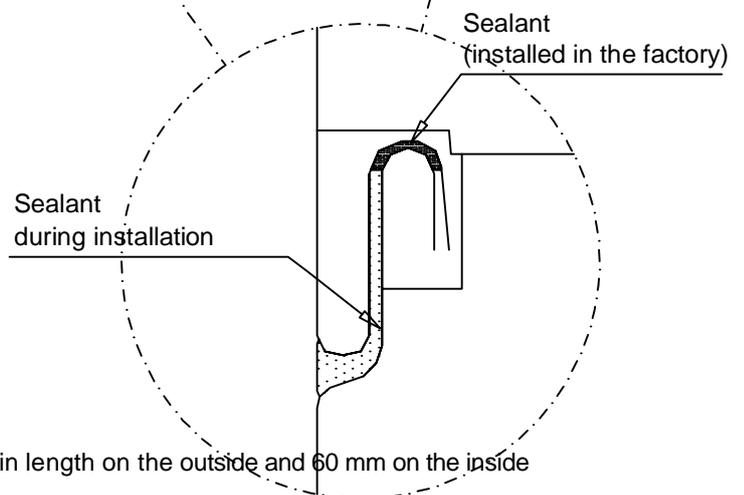
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr.
Drawn by Ruukki	Rev. B	.	SPA05-ENERGY-2E-EN
Scale 1:4	Building		File nr. SPA05-ENERGY-2E-EN.dwg



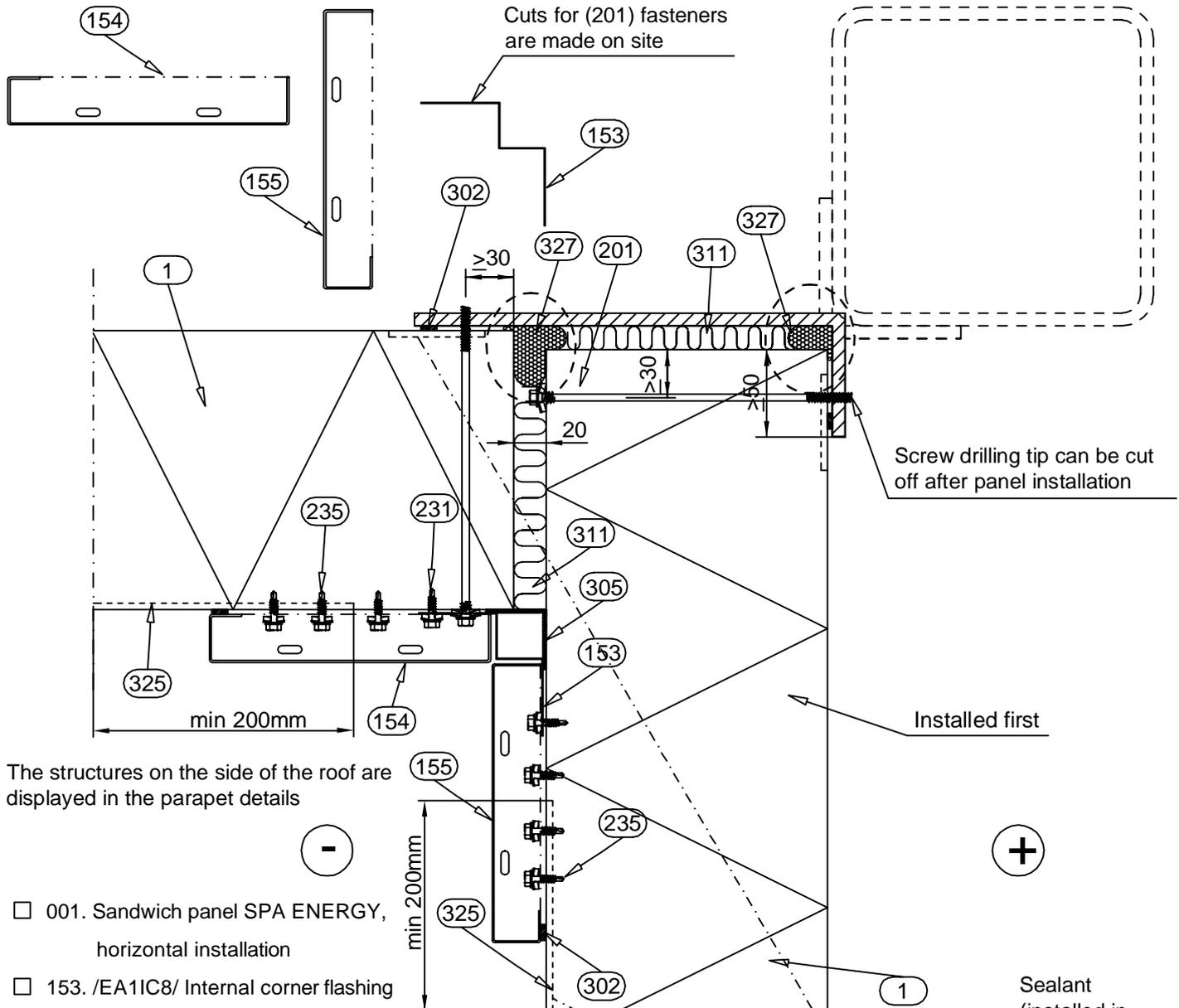
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 146. /EA1EC9-___/ External corner flashing
- 148. /EA1VCO/ Vertical cover flashing
- 156. /EA1IC9/ Internal corner flashing
- 157. Cover flashing, t=0.6mm, according to project
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 234. Flat headed screw
- 242. Fastener
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length on the outside and 60 mm on the inside
- 327. Elastic polyurethane

Ruukki's delivery

Remember that under internal corner flashing EA1IC9 butt joints must be butt strap EA1CJP2



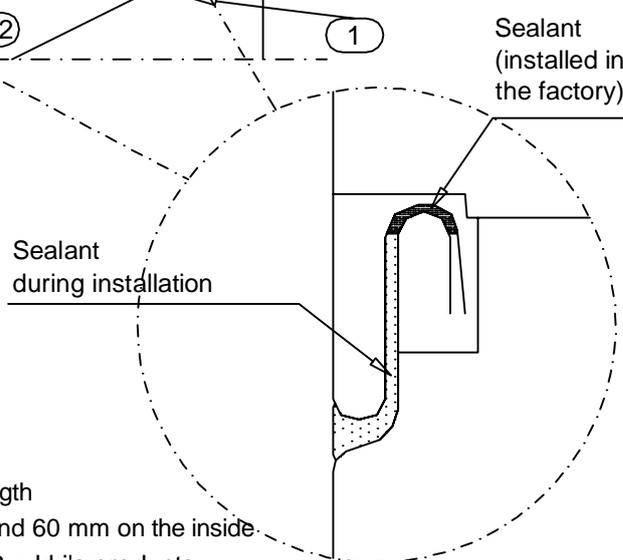
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA05-ENERGY-3E-EN
Drawn by Ruukki	Rev. B		
Scale 1:4	Building		File nr. SPA05-ENERGY-3E-EN.dwg



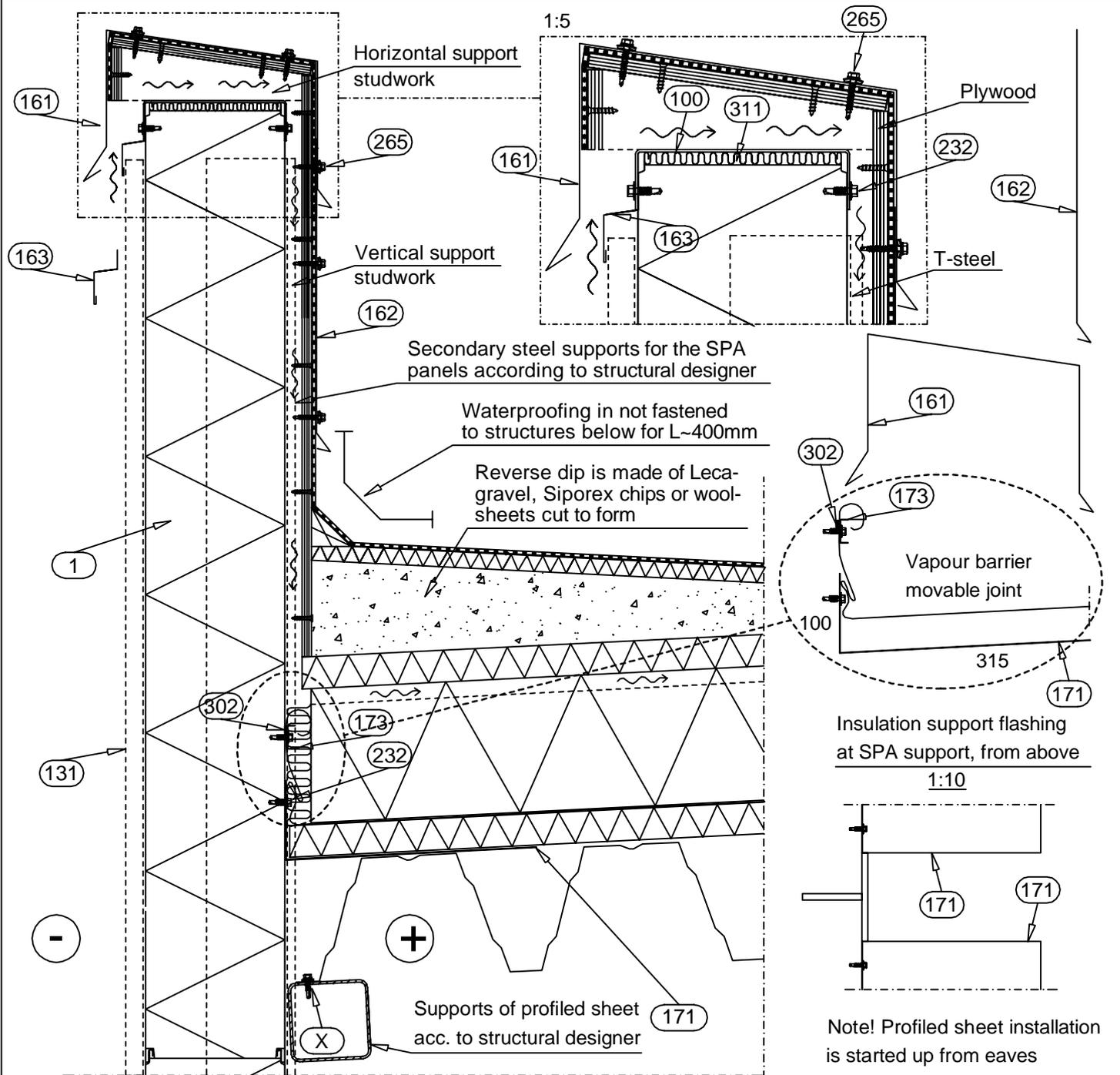
The structures on the side of the roof are displayed in the parapet details

- 001. Sandwich panel SPA ENERGY, horizontal installation
- 153. /EA1IC8/ Internal corner flashing
- 154. /EA1IC10/12 (left)/ Internal corner rain screen panel
- 155. /EA1IC11/13 (right)/ Internal corner rain screen panel
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 235. Joint panel fastener, stainless steel
- 302. /EA3SS410/ Sealing band
- 305. /EA3RBS06/ Butyl rubber sealant
- 311. /EAWS30565/ Mineral wool
- 327. Elastic polyurethane
- 325. /EA3SM310___/ Sealant to male groove ≥ 200 mm in length

Ruukki's delivery on the outside and 60 mm on the inside.
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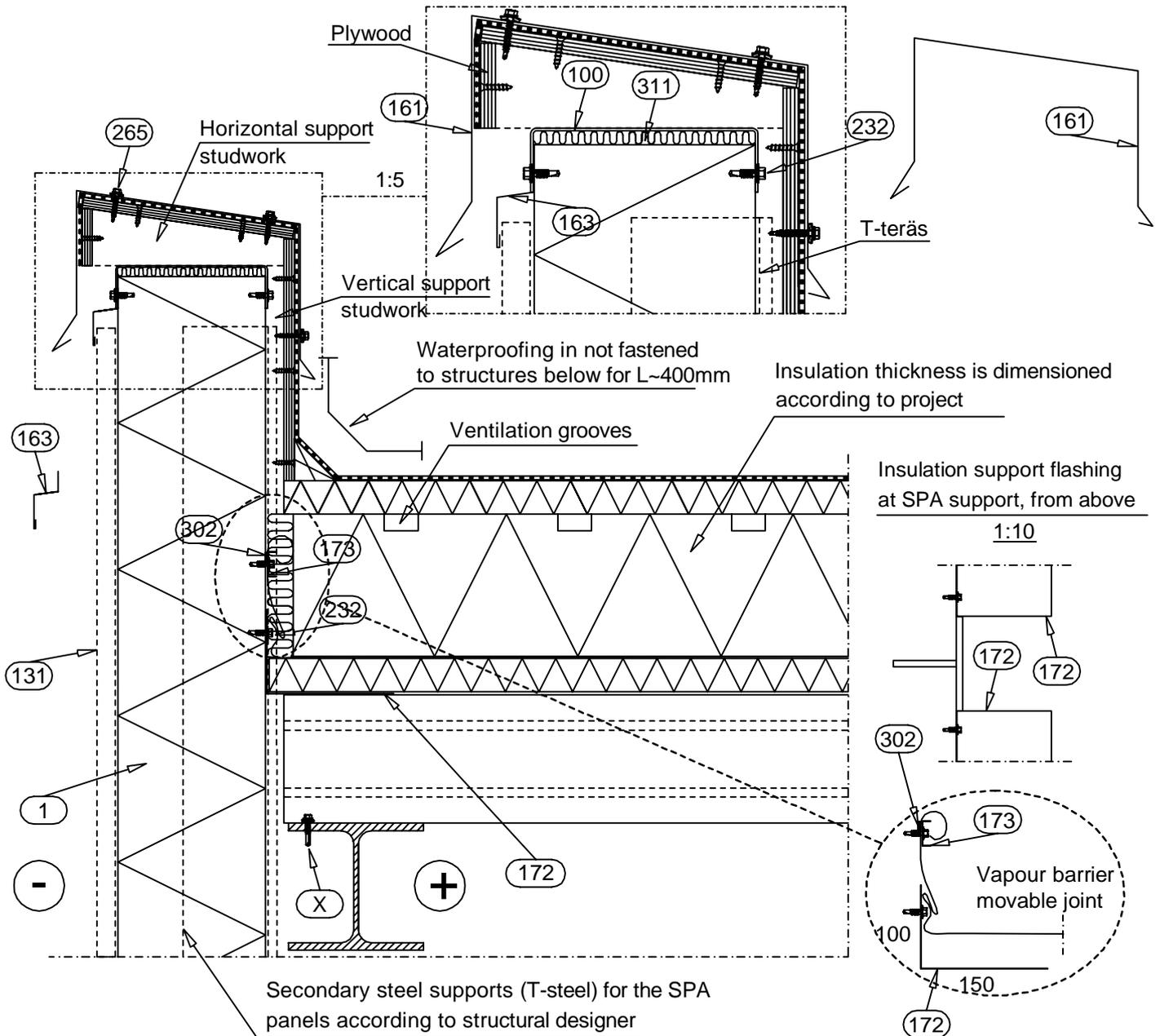
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-1E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:7.5	Building		File nr. SPA06-ENERGY-1E-EN.dwg	



- | | |
|--|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 171. Insulation support flashing, t=0.6 mm |
| <input type="checkbox"/> 100. /EA1D___/ Purlin | <input type="checkbox"/> 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order |
| <input type="checkbox"/> 131. /EA1JV1/ Vertical joint flashing | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 161. Eave flashing, t=0.6mm, according to project | <input type="checkbox"/> 265. Fastener for wood, washer with sealing |
| <input type="checkbox"/> 162. Protective flashing, t=0.6mm, acc. to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band, between SPA and vapour barrier |
| <input type="checkbox"/> 163. Storm flashing, t=0.6mm, according to project | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> X. Fastening of profiled sheet according to special designs | <input checked="" type="checkbox"/> Ruukki's delivery |
- Copyright © Rautaruukki Oyj. Allowed only for designs with Ruukki's products.

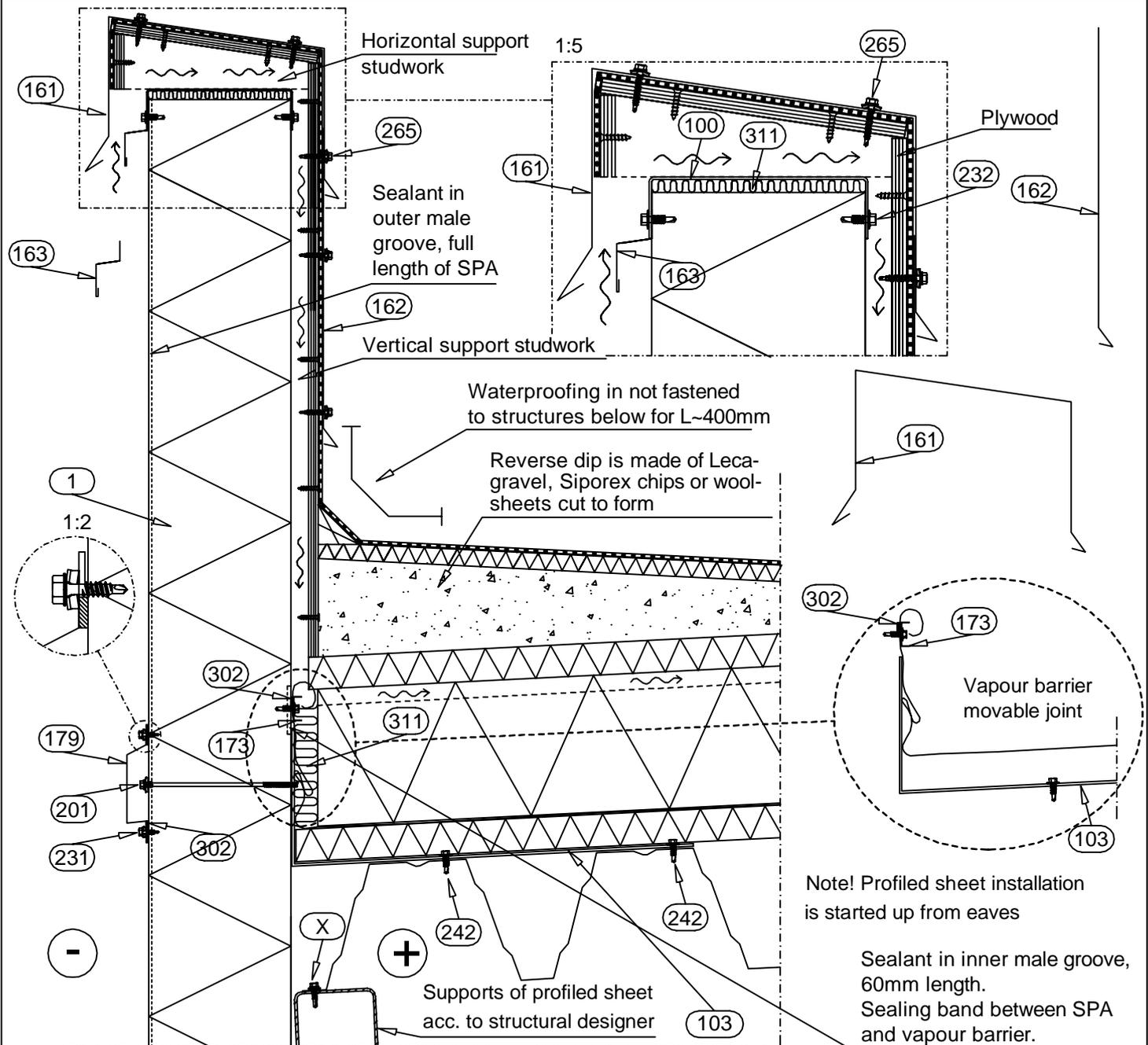
Note! Profiled sheet installation is started up from eaves

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-2E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:7.5	Building		File nr. SPA06-ENERGY-2E-EN.dwg	



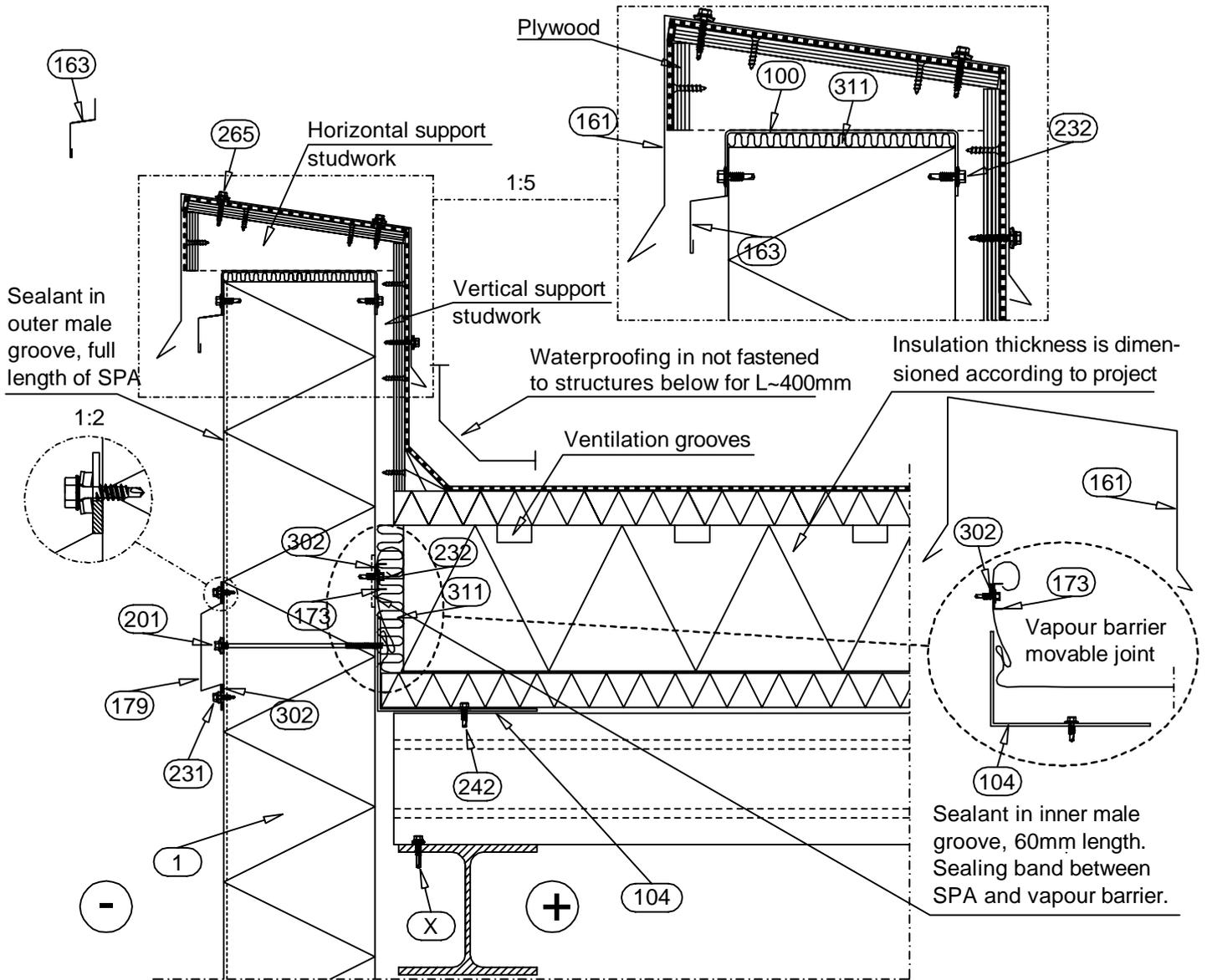
- | | |
|--|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order |
| <input type="checkbox"/> 100. /EA1D___/ Purlin | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 131. /EA1JV1/ Vertical joint flashing | <input type="checkbox"/> 265. Fastener for wood, washer with sealing |
| <input type="checkbox"/> 161. Eave flashing, t=0.6mm, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band, between SPA and vapour barrier |
| <input type="checkbox"/> 163. Storm flashing, t=0.6mm, according to project | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> 172. Insulation support flashing, t=0.6 mm | <input checked="" type="checkbox"/> Ruukki's delivery |
- X. fastening of profiled sheet according to special designs

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-3E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:7.5	Building		File nr. SPA06-ENERGY-3E-EN.dwg	



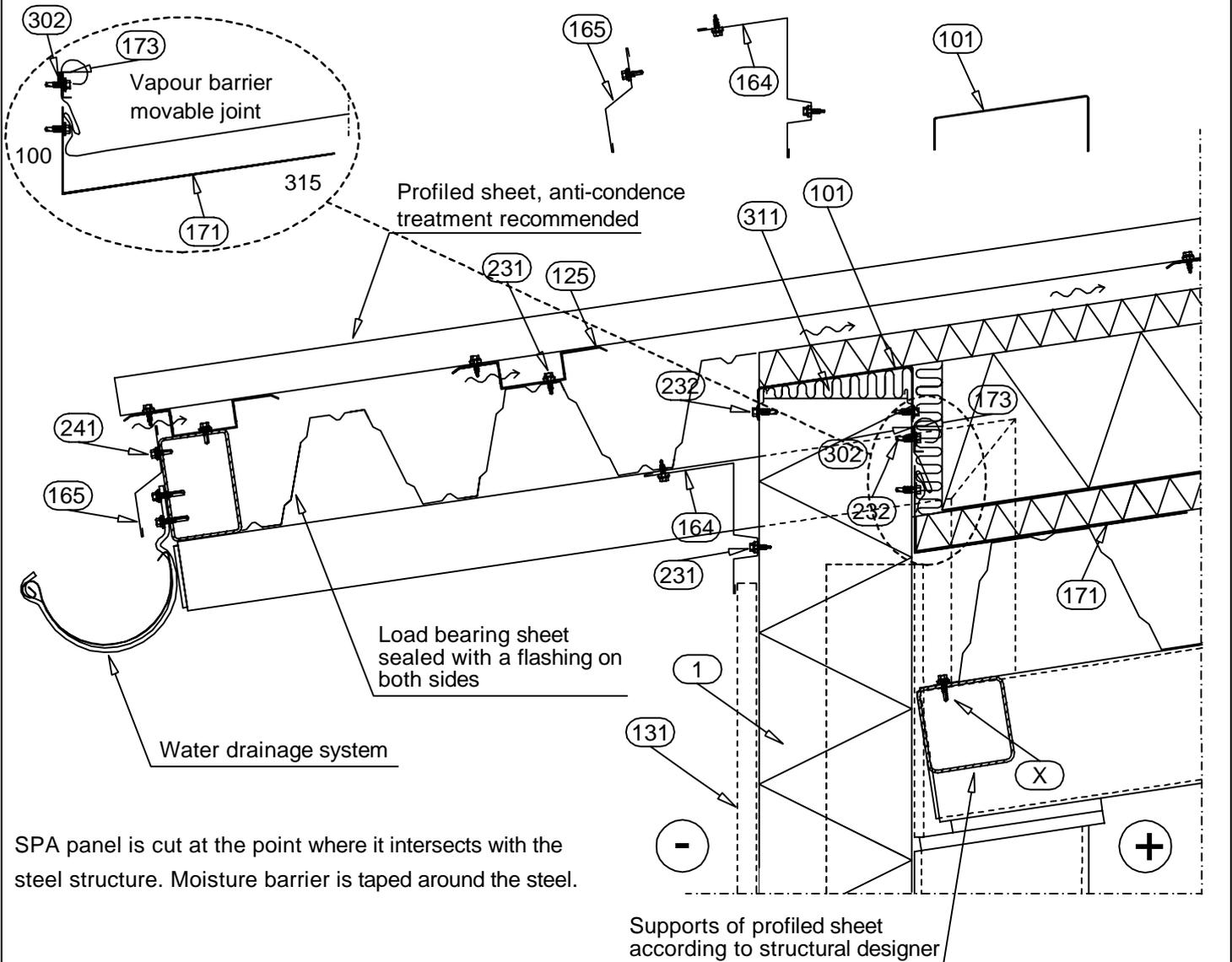
- | | |
|--|--|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, vertical and diagonal installation | <input type="checkbox"/> 201. Self-drilling panel screw, washer with sealing |
| <input type="checkbox"/> 100. /EA1D___/ Purlin | <input type="checkbox"/> 231. Fastener for flashing, washer with sealing |
| <input type="checkbox"/> 103. Flashing for fastening/insulation support flashing, t=3 mm, according to project | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 161. Eave flashing, t=0.6mm, according to project | <input type="checkbox"/> 242. Fastener |
| <input type="checkbox"/> 162. Protective flashing, t=0.6mm, acc. to project | <input type="checkbox"/> 265. Fastener for wood, washer with sealing |
| <input type="checkbox"/> 163. Storm flashing, t=0.6mm, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> 179. Cover flashing, t=0.6mm, according to project | <input checked="" type="checkbox"/> Ruukki's delivery |
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| | X. Fastening of profiled sheet according to special designs |

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-4E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:7.5	Building		File nr. SPA06-ENERGY-4E-EN.dwg	



- | | |
|---|--|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, vertical and diagonal installation | <input type="checkbox"/> 231. Fastener for flashing, washer with sealing |
| <input type="checkbox"/> 100. /EA1D___/ Purlin | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 104. Flashing for fastening/insulation support flashing, t=3mm, according to project | <input type="checkbox"/> 242. Fastener, washer with sealing |
| <input type="checkbox"/> 161. Eave flashing, t=0.6mm, according to project | <input type="checkbox"/> 265. Fastener for wood, washer with sealing |
| <input type="checkbox"/> 163. Storm flashing, t=0.6mm, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> 179. Cover flashing, t=0.6mm, according to project | X. Fastening of profiled sheet according to special designs |
| <input type="checkbox"/> 201. Self-drilling panel screw, washer with sealing | <input checked="" type="checkbox"/> Ruukki's delivery |

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-5E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:7.5	Building		File nr. SPA06-ENERGY-5E-EN.dwg	



SPA panel is cut at the point where it intersects with the steel structure. Moisture barrier is taped around the steel.

Supports of profiled sheet according to structural designer

- | | |
|--|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order |
| <input type="checkbox"/> 101. Eave purlin, t=1.2mm, according to project | <input type="checkbox"/> 231. Fastener for flashing, washer with sealing |
| <input type="checkbox"/> 125. /EA1HP1/ Ventilated hat purlin purlin | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 131. /EA1JV1/ Vertical joint flashing | <input type="checkbox"/> 241. Fastener, washer with sealing |
| <input type="checkbox"/> 164. Eave flashing, t=0.6mm, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band, between SPA and vapour barrier |
| <input type="checkbox"/> 165. Storm flashing, t=0.6mm, according to project | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> 171. Insulation support flashing, t=0.6 mm | X. Fastening of profiled sheet according to special designs |
| | <input checked="" type="checkbox"/> Ruukki's delivery |

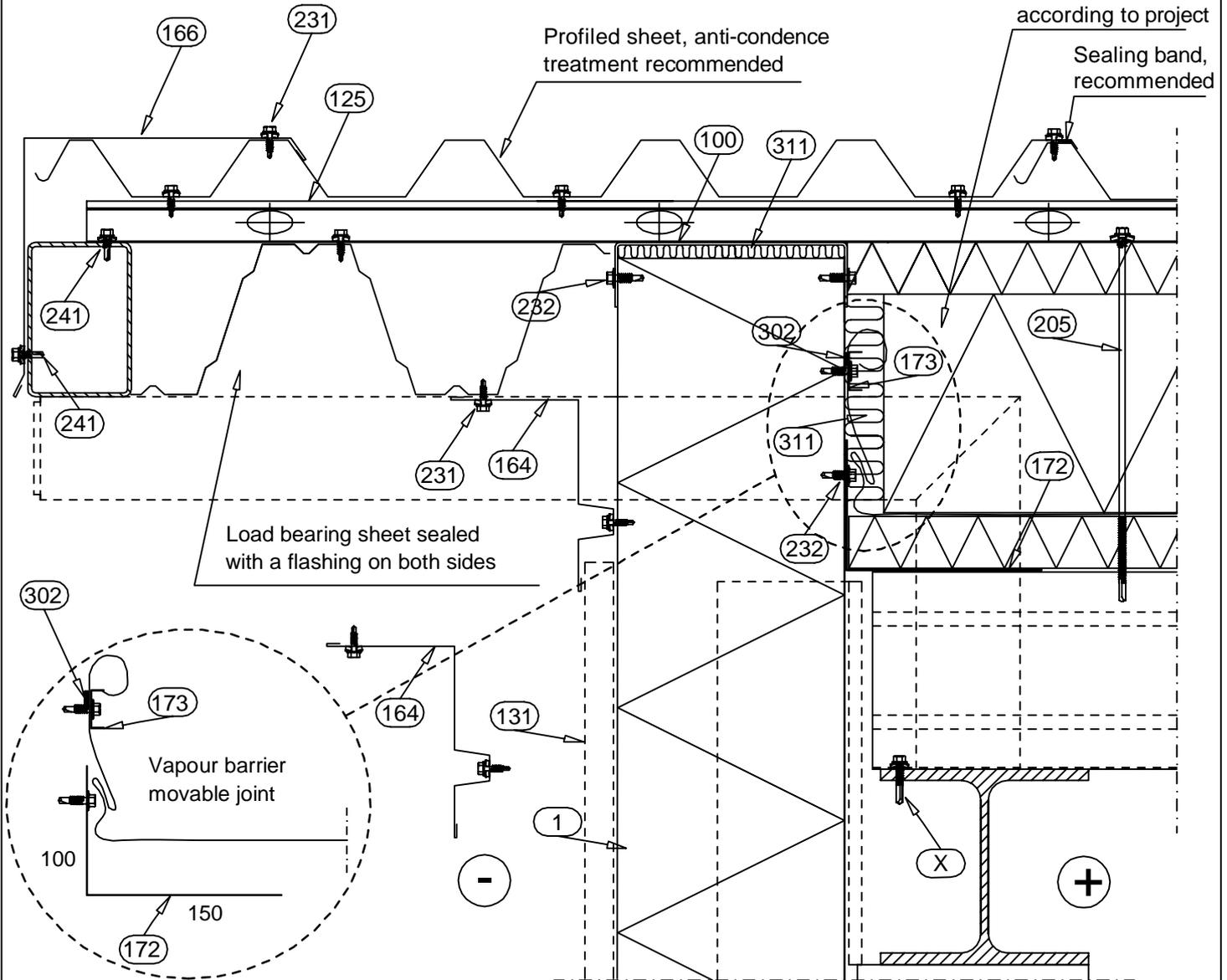
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-6E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:5	Building		File nr. SPA06-ENERGY-6E-EN.dwg	

SPA panel is cut from the part where it intersects with the steel structure. Moisture barrier is taped around the steel.

Insulation thickness is dimensioned according to project

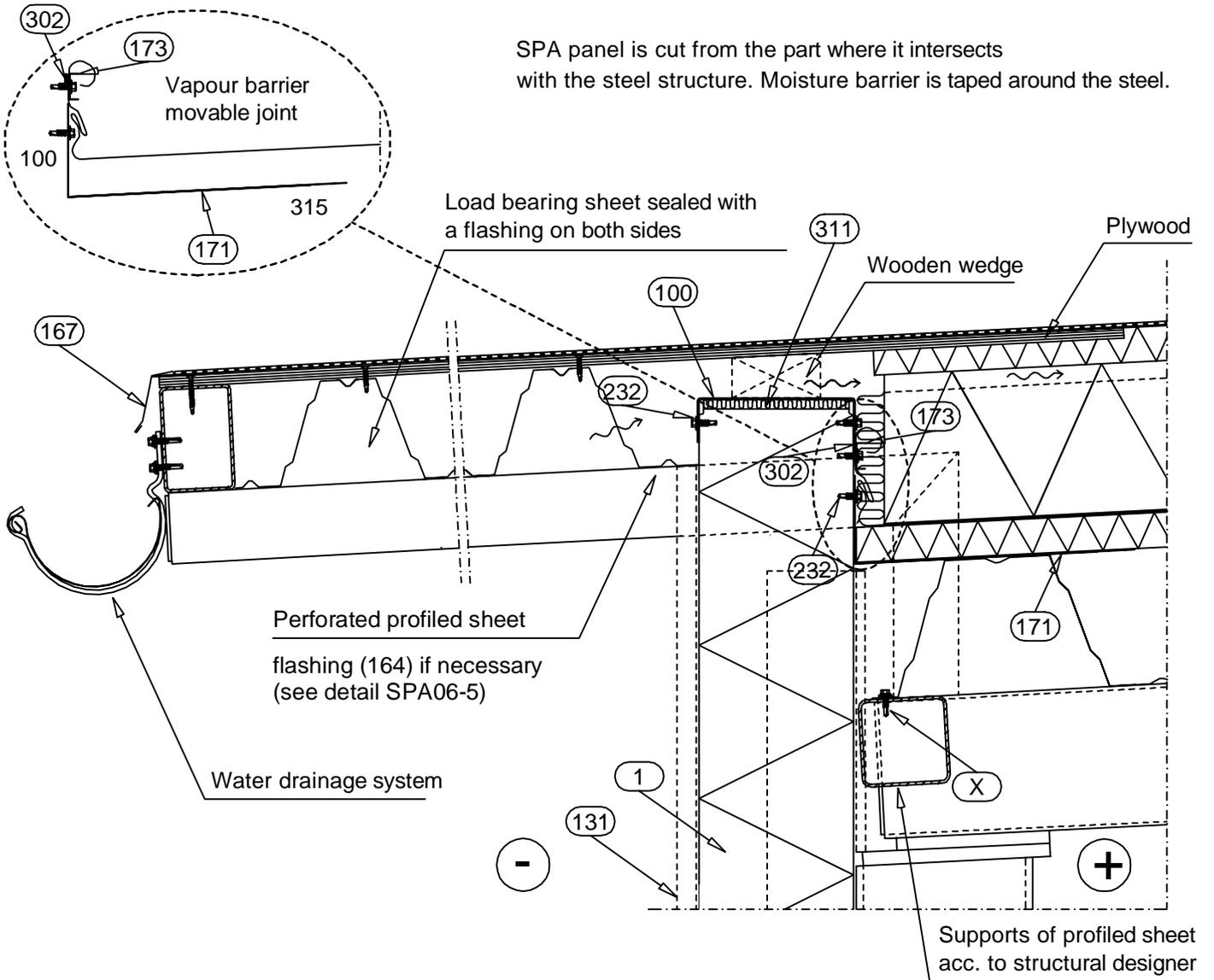
Profiled sheet, anti-condence treatment recommended

Sealing band, recommended



- 001. Sandwich panel SPA ENERGY, horizontal installation
- 100. /EA1D___/ Purlin
- 125. /EA1HP1/ Ventilated hat purlin
- 131. /EA1JV1/ Vertical joint flashing
- 164. Eave flashing, t=0.6mm, according to project
- 166. Storm flashing, t=0.6mm, according to project
- 172. Insulation support flashing, t=0.6 mm
- 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order
- 205. Self-drilling panel screw / roofing screw
- 231. Fastener for flashing, washer with sealing
- 232. Fastener for flashing
- 241. Fastener
- 302. /EA3SS410/ Sealing band, between SPA and vapour barrier
- 311. /EAWS30565/ Mineral wool
- X. Fastening of profiled sheet according to special designs

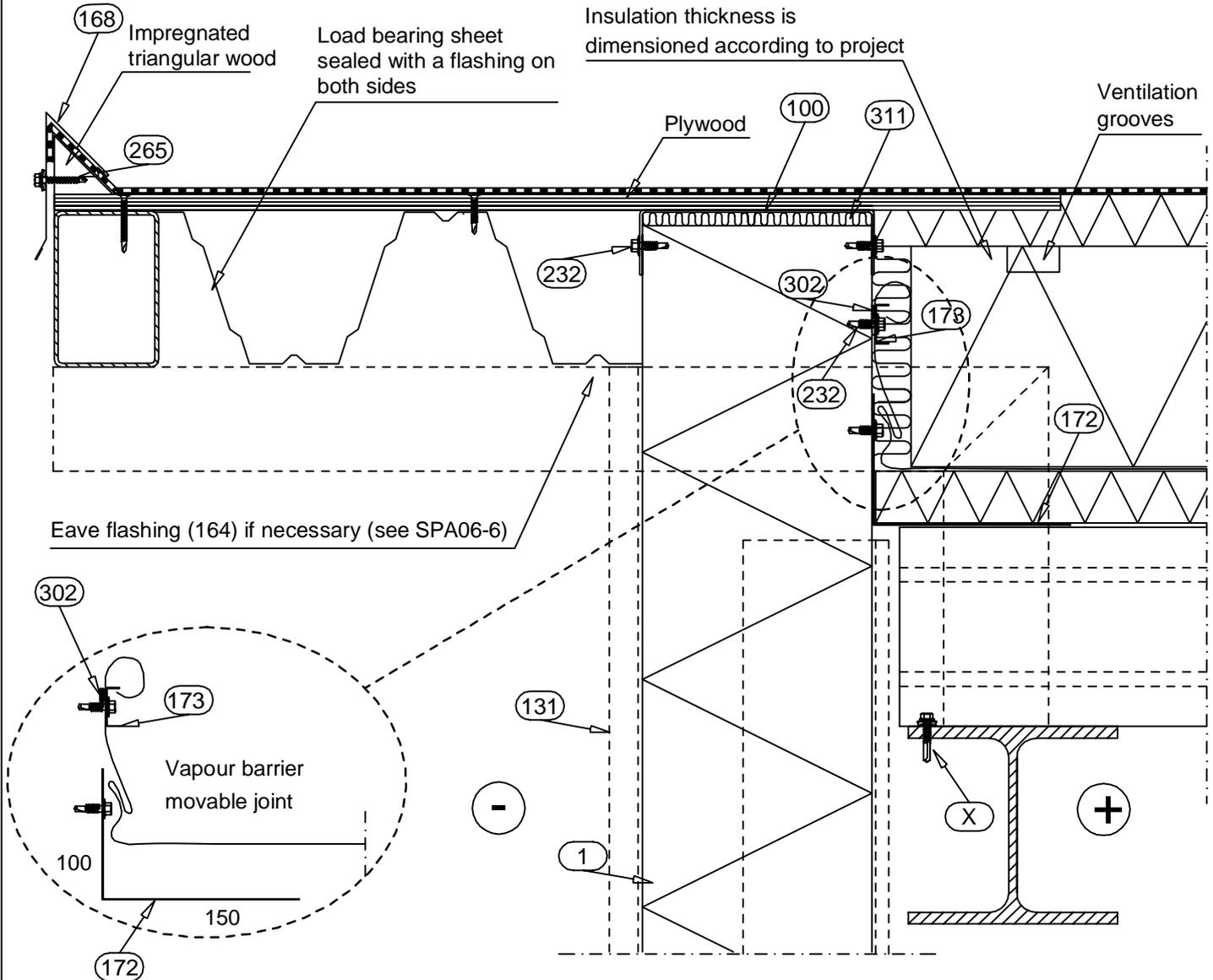
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-7E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:7.5	Building		File nr. SPA06-ENERGY-7E-EN.dwg	



- | | |
|--|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order |
| <input type="checkbox"/> 100. /EA1D___/ Purlin | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 131. /EA1JV1/ Vertical joint flashing | <input type="checkbox"/> 302. /EA3SS410/ Sealing band, between SPA and vapour barrier |
| <input type="checkbox"/> 167. Storm flashing, t=0.6mm, according to project | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> 171. Insulation support flashing, t=0.6 mm | X. Profiled sheet fastening according to special designs |
| | <input checked="" type="checkbox"/> Ruukki's delivery |

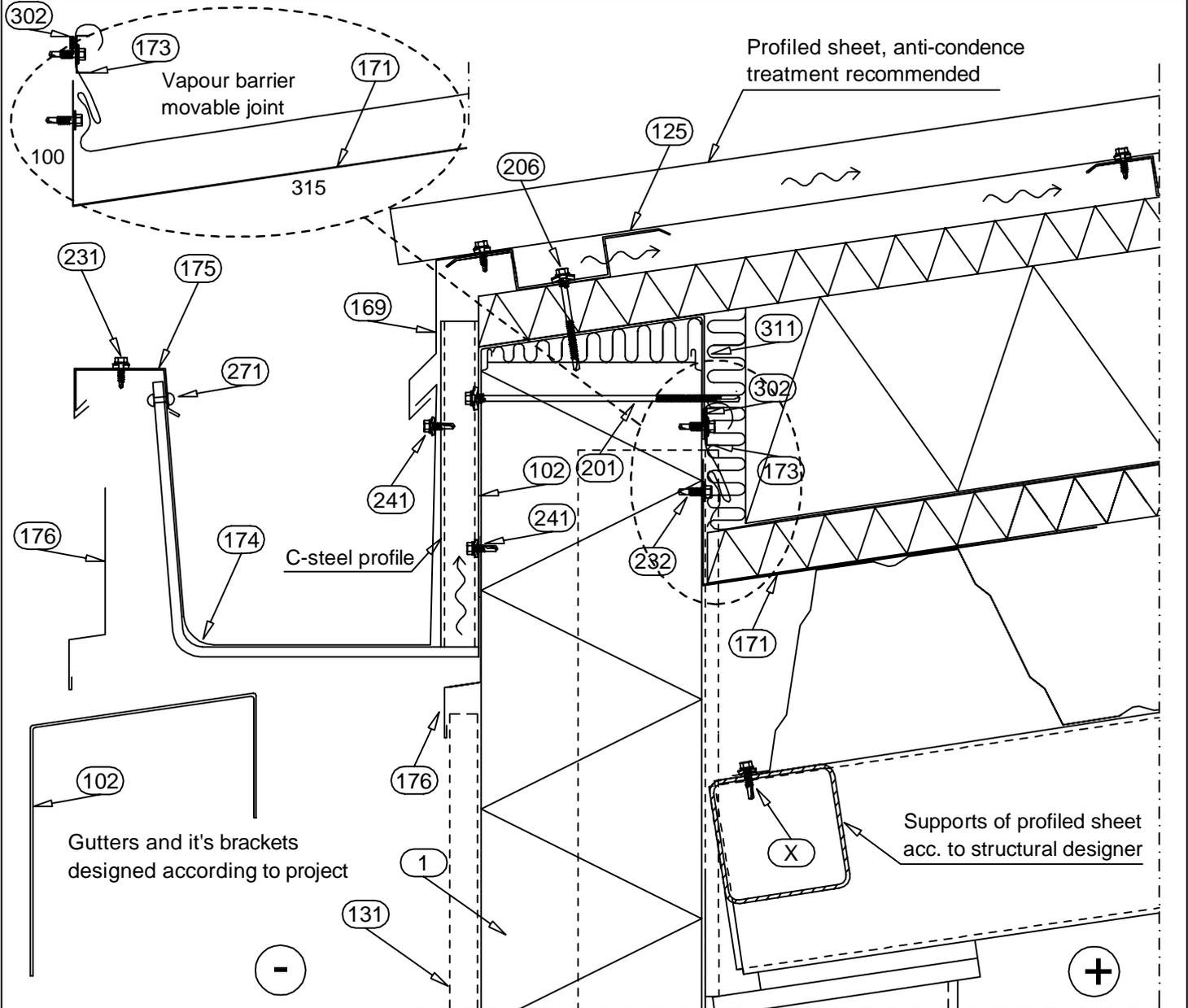
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-8E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:5	Building		File nr. SPA06-ENERGY-8E-EN.dwg	

SPA panel is cut from the part where it intersects with the steel structure. Moisture barrier is taped around the steel.



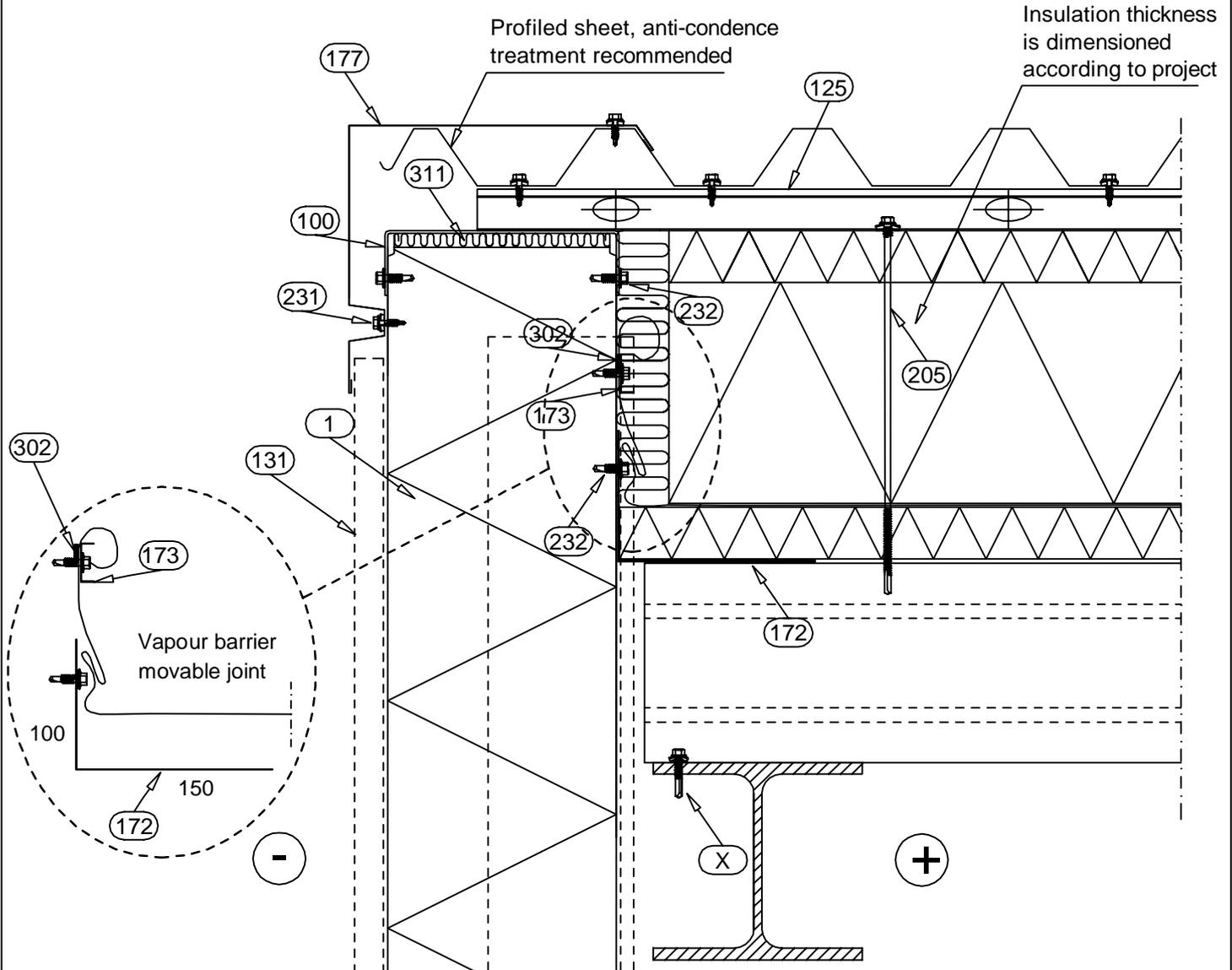
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 100. /EA1D___/ Door frame stud
- 131. /EA1JV1/ Vertical joint flashing
- 168. Drip flashing, t=0.6mm, according to project
- 172. Insulation support flashing, t=0.6 mm
- 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order
- 232. Fastener for flashing
- 265. Fastener for wood, washer with sealing
- 302. /EA3SS410/ Sealing band, between SPA and vapour barrier
- 311. /EAWS30565/ Mineral wool
- X. Fastening of profiled sheet according to special designs
- Ruukki's delivery

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-9E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:5	Building		File nr. SPA06-ENERGY-9E-EN.dwg	



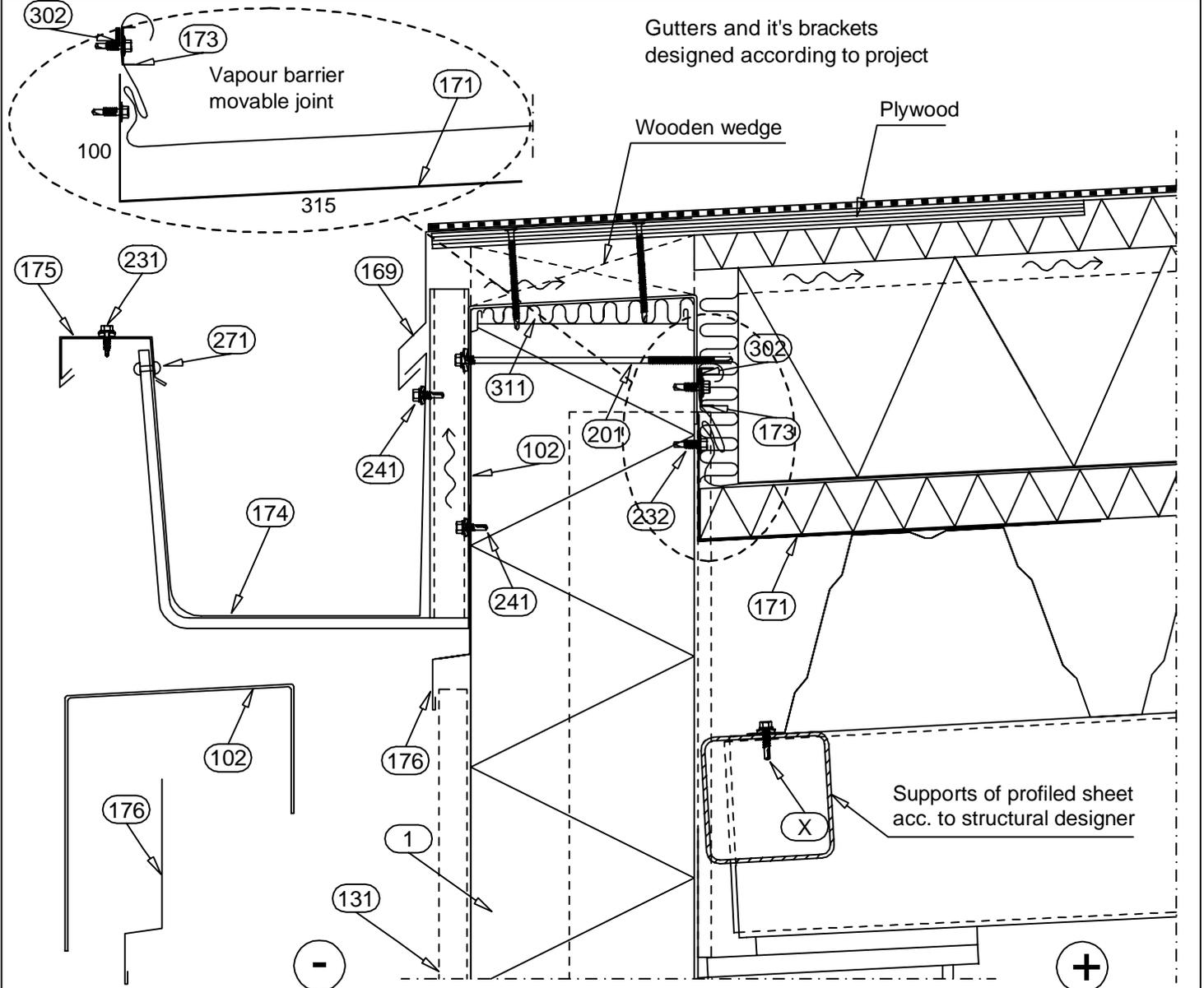
- | | |
|---|--|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horiz. install. | <input type="checkbox"/> 176. Storm flashing, t=0.6mm, according to project |
| <input type="checkbox"/> 102. Eave purlin, t=2mm, according to project | <input type="checkbox"/> 201. Self-drilling panel screw, washer with sealing |
| <input type="checkbox"/> 125. /EA1HP1/ Ventilated hat purlin | <input type="checkbox"/> 206. Self-drilling panel screw / roofing screw |
| <input type="checkbox"/> 131. /EA1JV1/ Vertical joint flashing | <input type="checkbox"/> 231. Fastener for flashing, washer with sealing |
| <input type="checkbox"/> 169. Eave flashing, t=0.6mm, according to project | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 171. Insulation support flashing, t=0.6 mm | <input type="checkbox"/> 241. Fastener, washer with sealing |
| <input type="checkbox"/> 173. U-profile for vapour barrier fixing, t=0.6mm | <input type="checkbox"/> 302. /EA3SS410/ Sealing band, between SPA and vapour barrier |
| <input type="checkbox"/> 174. Gutter flashing, t=0.6mm, according to project | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> 175. Cover flashing, t=0.6mm, according to project | <input checked="" type="checkbox"/> Ruukki's delivery |
| Copyright © Rautaruukki Oyj. Allowed only for designs with Ruukki's products. | X. Fastening of profiled sheet according to special designs |

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-10E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:5	Building		File nr. SPA06-ENERGY-10E-EN.dwg	



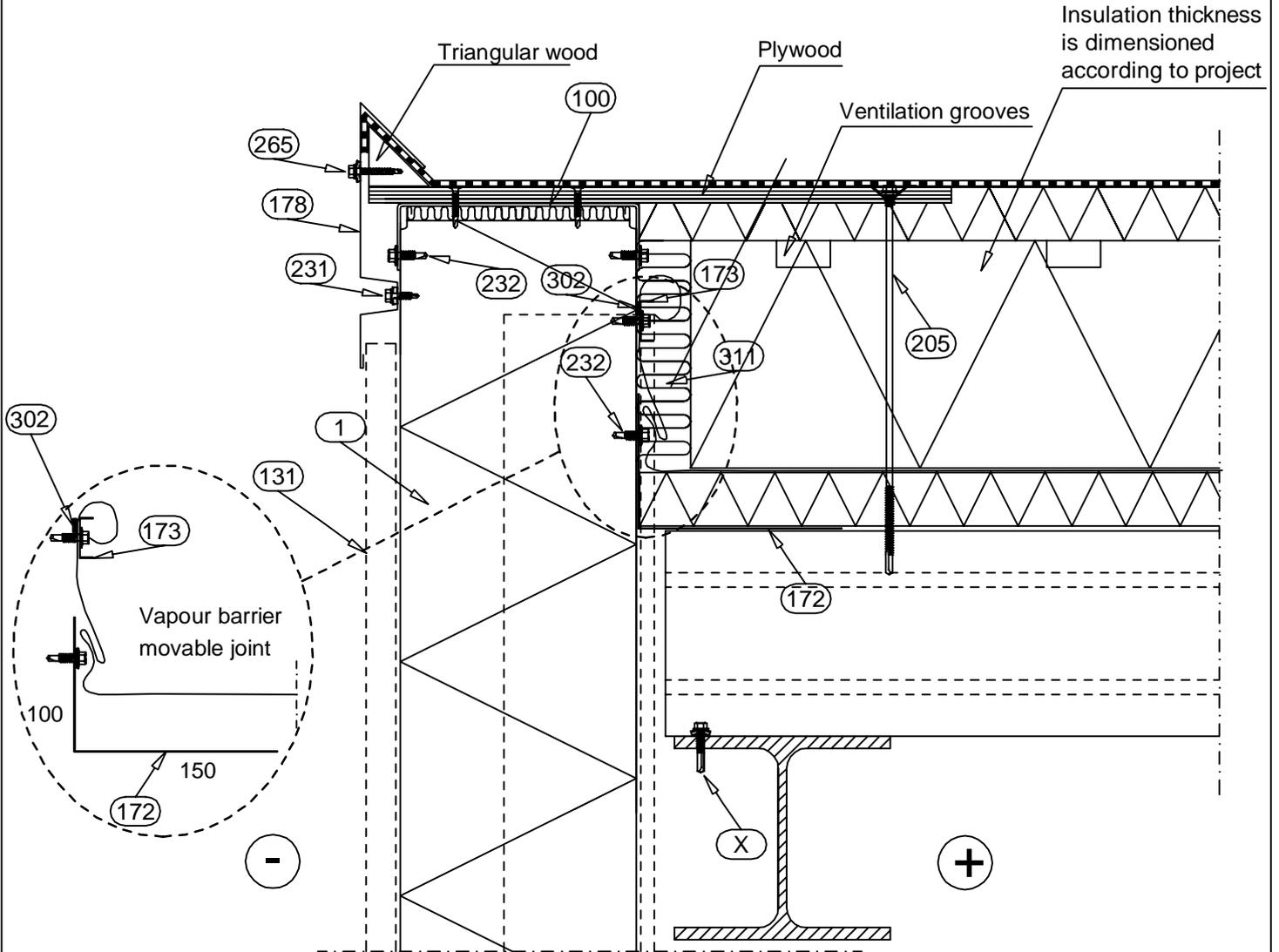
- | | |
|---|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 205. Self-drilling panel screw / roofing screw |
| <input type="checkbox"/> 100. /EA1D___/ Purlin | <input type="checkbox"/> 231. Fastener for flashing, washer with sealing |
| <input type="checkbox"/> 125. /EA1HP1/ Ventilated hat purlin | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 131. /EA1JV1/ Vertical joint flashing | <input type="checkbox"/> 302. /EA3SS410/ Sealing band, between SPA and vapour barrier |
| <input type="checkbox"/> 172. Insulation support flashing, t=0.6 mm | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order | X. Fastening of profiled sheet according to special designs |
| <input type="checkbox"/> 177. Eave flashing, t=0.6mm, according to project | <input checked="" type="checkbox"/> Ruukki's delivery |

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-11E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:5	Building		File nr. SPA06-ENERGY-11E-EN.dwg	



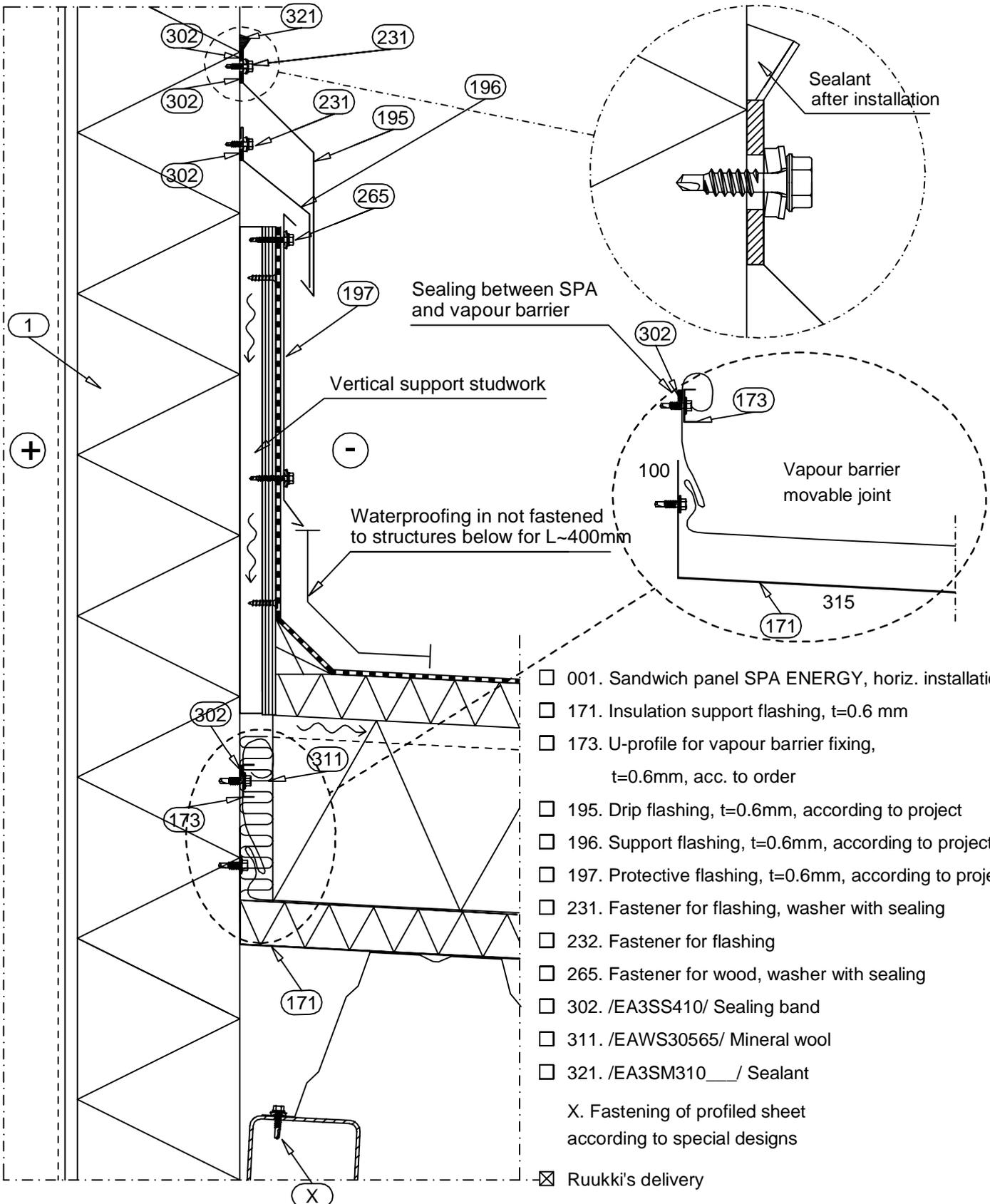
- | | |
|--|--|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 201. Self-drilling panel screw, washer with sealing |
| <input type="checkbox"/> 102. Eave purlin, t=2.0mm, according to project | <input type="checkbox"/> 231. Fastener for flashing, washer with sealing |
| <input type="checkbox"/> 131. /EA1JV1/ Vertical joint flashing | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 169. Eave flashing, t=0.6mm, according to project | <input type="checkbox"/> 241. Fastener, washer with sealing |
| <input type="checkbox"/> 171. Insulation support flashing, t=0.6 mm | <input type="checkbox"/> 271. Rivet |
| <input type="checkbox"/> 173. U-profile for vapour barrier fixing,
t=0.6mm, acc. to order | <input type="checkbox"/> 302. /EA3SS410/ Sealing band, between SPA
and vapour barrier |
| <input type="checkbox"/> 174. Gutter, t=0.6mm, according to project | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> 175. Cover flashing, t=0.6mm, according to project | X. Fastening of profiled sheet according to special designs |
| <input type="checkbox"/> 176. Drip flashing, t=0.6mm, according to project | <input checked="" type="checkbox"/> Ruukki's delivery |

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA06-ENERGY-12E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:5	Building		File nr. SPA06-ENERGY-12E-EN.dwg	



- | | |
|---|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 231. Fastener for flashing, washer with sealing |
| <input type="checkbox"/> 100. /EA1D___/ Purlin | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 131. /EA1JV1/ Vertical joint flashing | <input type="checkbox"/> 265. Fastener for wood, washer with sealing |
| <input type="checkbox"/> 172. Insulation support flashing, t=0.6 mm | <input type="checkbox"/> 302. /EA3SS410/ Sealing band, between SPA and vapour barrier |
| <input type="checkbox"/> 173. U-profile for vapour barrier fixing, t=0.6mm, acc. to order | <input type="checkbox"/> 311. /EAWS30565/ Mineral wool |
| <input type="checkbox"/> 178. Eave flashing, t=0.6mm, according to project | X. Fastening of profiled sheet according to special designs |
| <input type="checkbox"/> 205. Self-drilling panel screw / roofing screw | <input checked="" type="checkbox"/> Ruukki's delivery |

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA07-ENERGY-1E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:5	Building		File nr. SPA07-ENERGY-1E-EN.dwg	



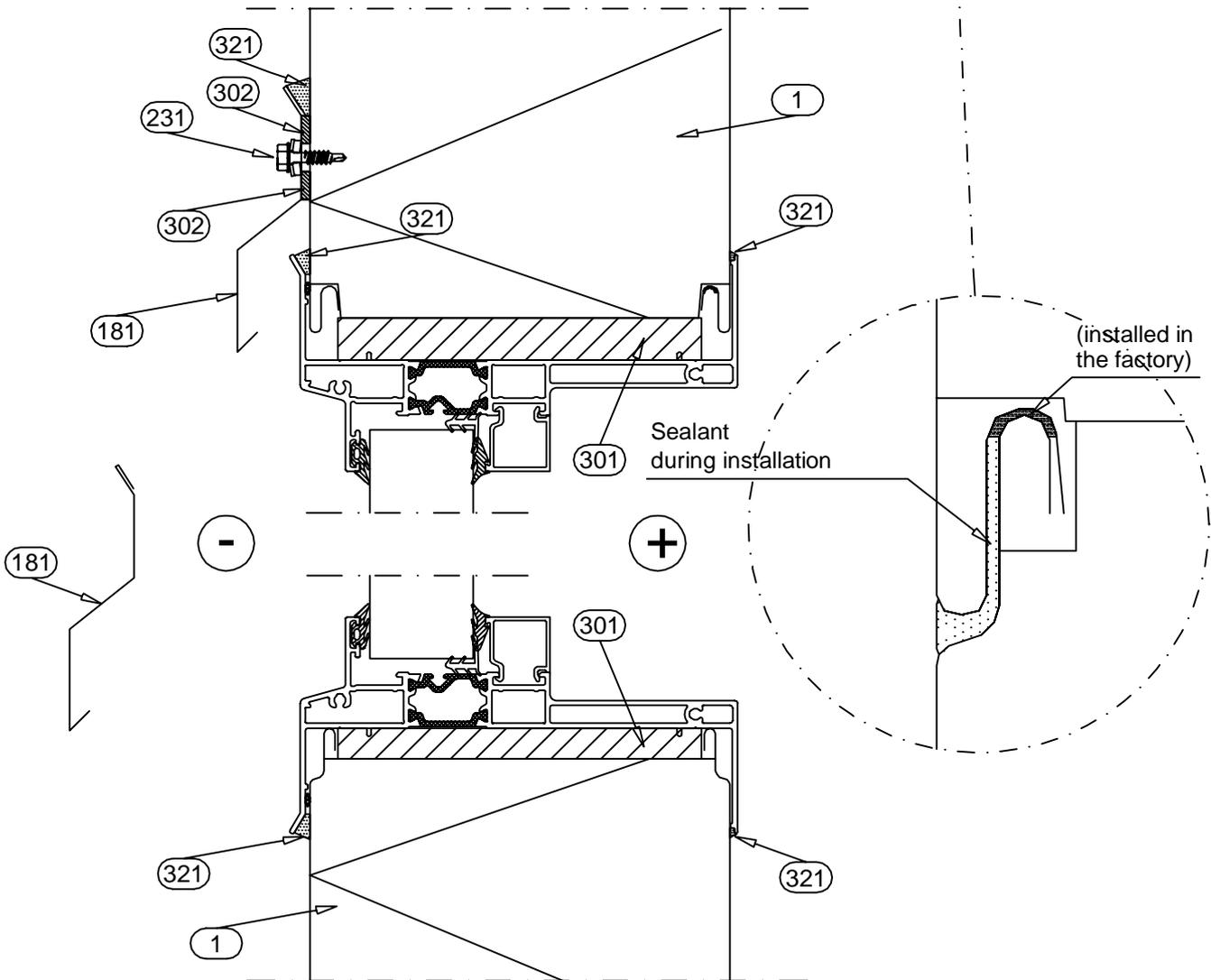
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA08-ENERGY-1E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:2.5	Building		File nr. SPA08-ENERGY-1E-EN.dwg	

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! System window is installed during installation of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the window during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

System window fastening according to manufacturer recommendations



- | | |
|--|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 301. Expandable sealing band |
| <input type="checkbox"/> 181. Drip flashing, t=0.6mm, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 231. Fastener for flashing, washer with sealing | <input type="checkbox"/> 321. /EA3SM310___/ Sealant |

Ruukki's delivery

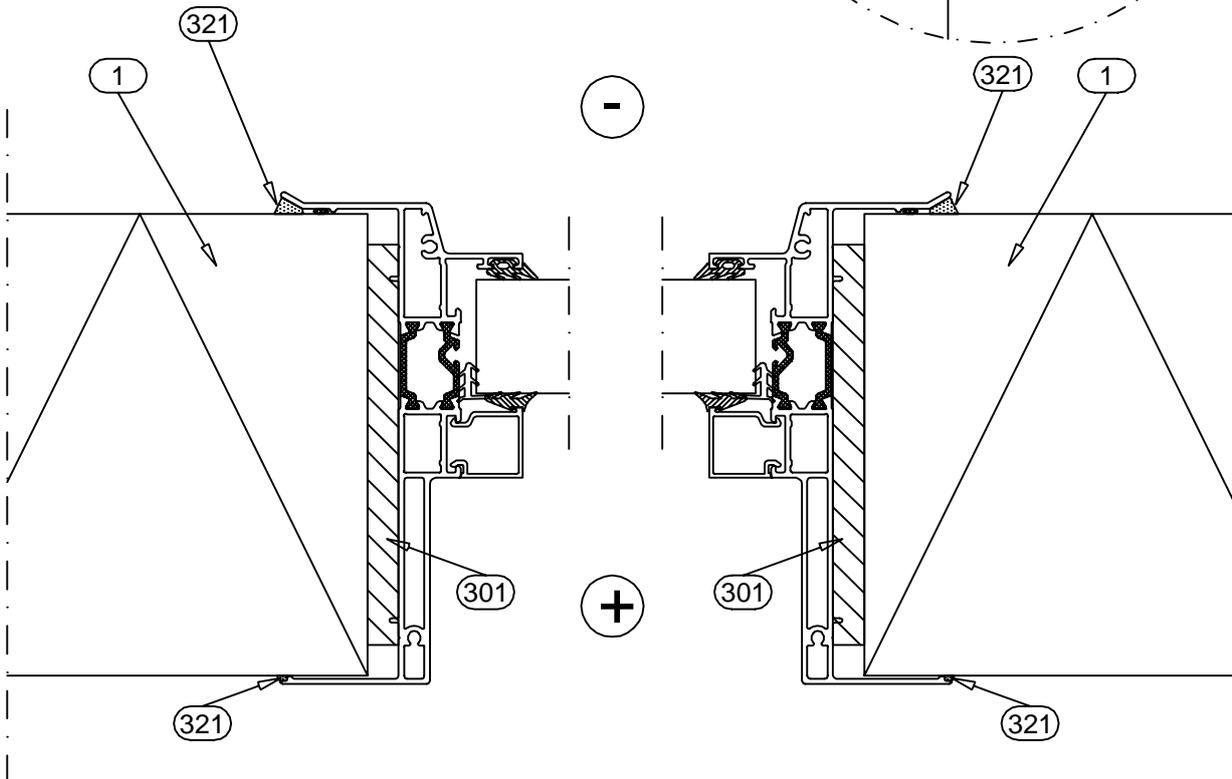
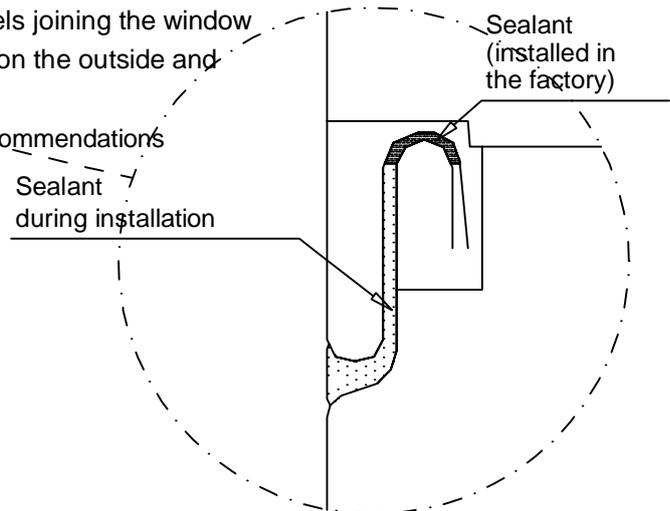
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA08-ENERGY-2E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:2.5	Building		File nr. SPA08-ENERGY-2E-EN.dwg	

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! System window is installed during installation of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the window during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

System window fastening according to manufacturer recommendations



- 001. Sandwich panel SPA ENERGY, horizontal installation
- 301. Expandable sealing band
- 321. /EA3SM310___/ Sealant
- Ruukki's delivery

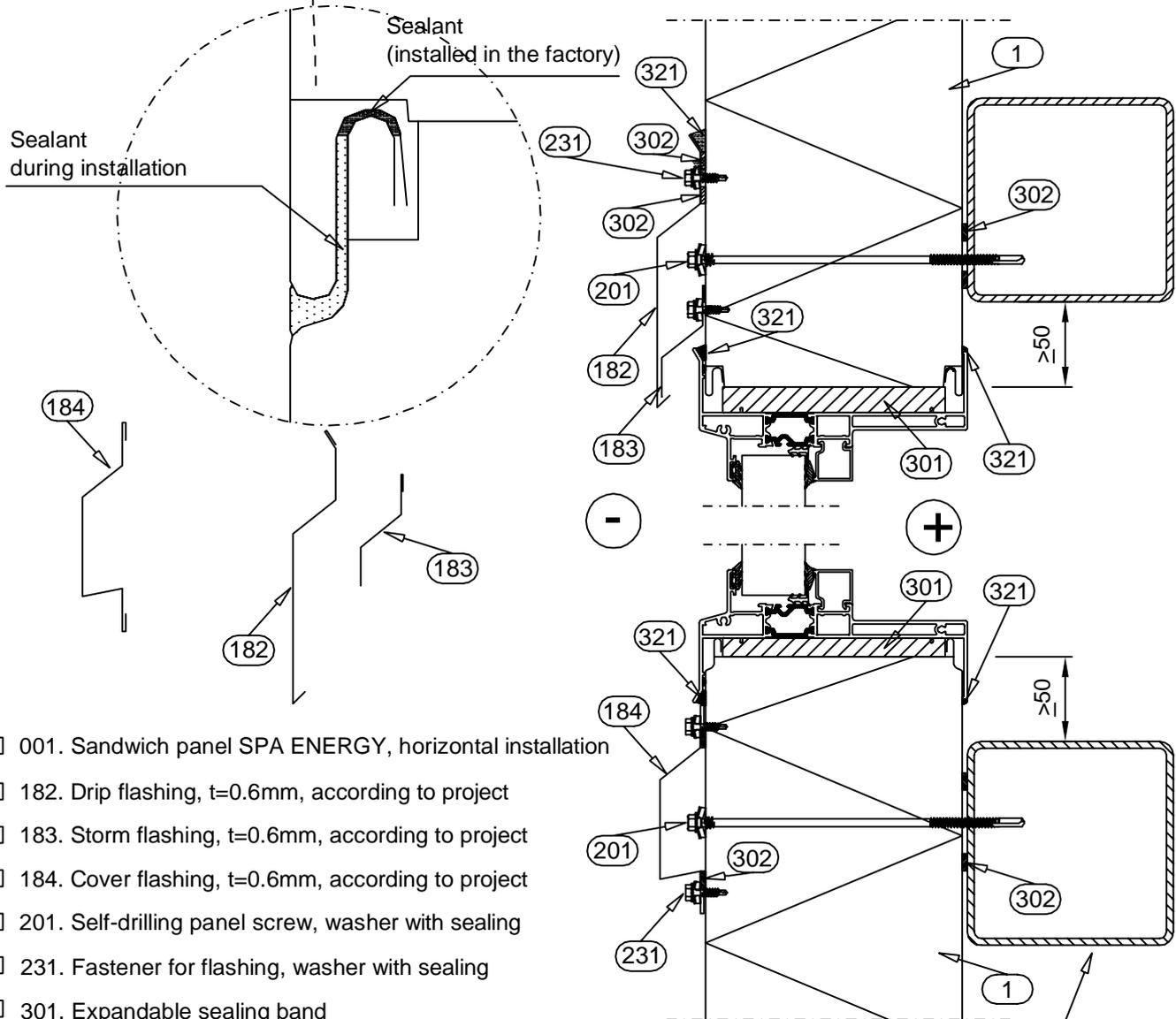
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr.
Drawn by Ruukki	Rev. B	.	SPA08-ENERGY-3E-EN
Scale 1:4	Building		File nr. SPA08-ENERGY-3E-EN.dwg

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! System window is installed during installation of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the window during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

System window fastening according to manufacturer recommendations



- 001. Sandwich panel SPA ENERGY, horizontal installation
- 182. Drip flashing, $t=0.6\text{mm}$, according to project
- 183. Storm flashing, $t=0.6\text{mm}$, according to project
- 184. Cover flashing, $t=0.6\text{mm}$, according to project
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 301. Expandable sealing band
- 302. /EA3SS410/ Sealing band
- 321. /EA3SM310___/ Sealant

Supporting structures according to structural designer

Ruukki's delivery

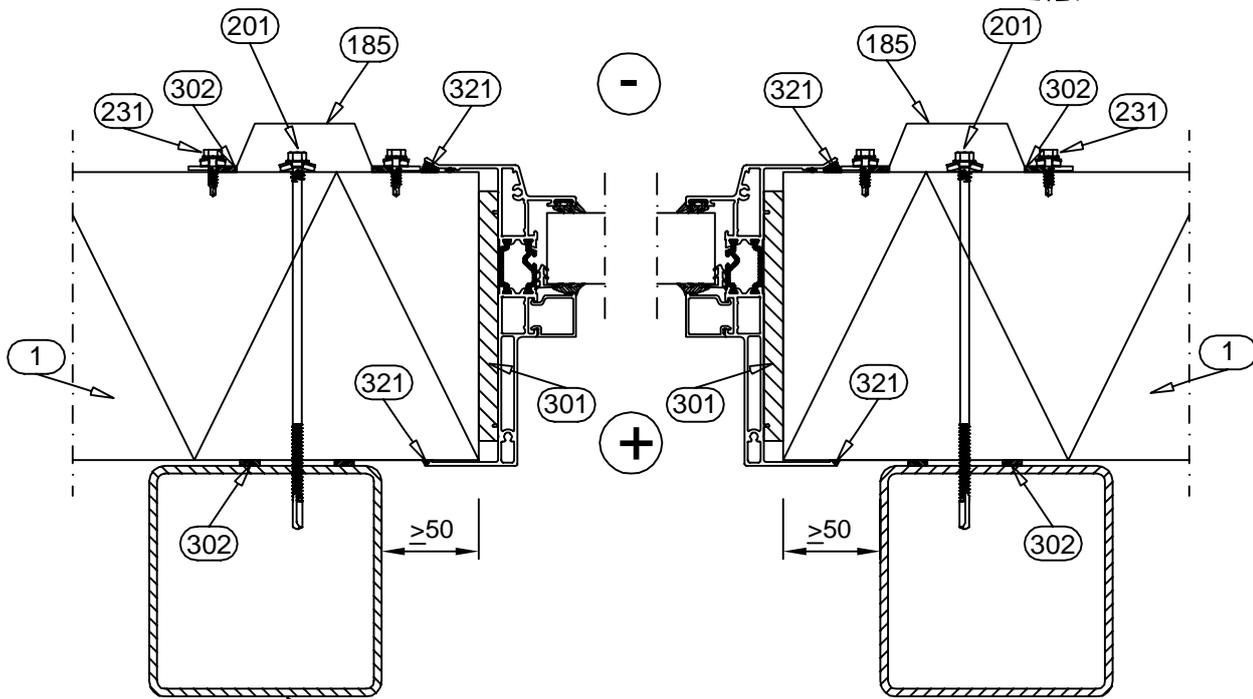
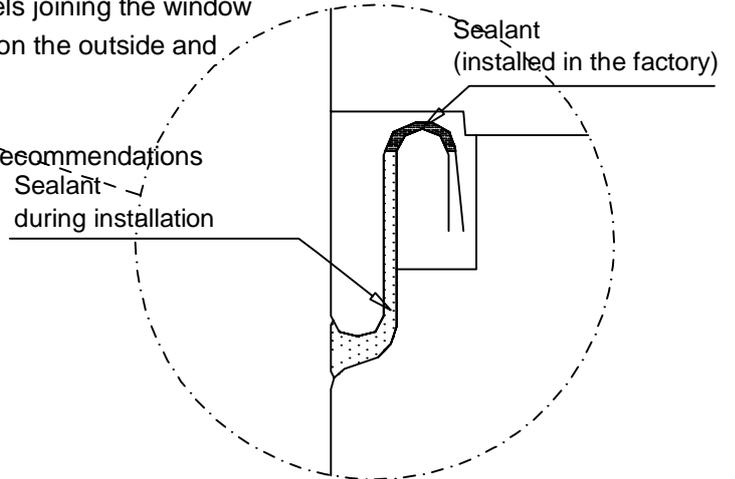
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr.
Drawn by Ruukki	Rev. B	.	SPA08-ENERGY-4E-EN
Scale 1:4	Building		File nr. SPA08-ENERGY-4E-EN.dwg

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! System window is installed during installation of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the window during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

System window fastening according to manufacturer recommendations



Supporting structures according to structural designer

- 001. Sandwich panel SPA ENERGY, horizontal installation
- 185. Cover flashing, $t=0.6\text{mm}$, according to project
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 301. Expandable sealing band
- 302. /EA3SS410/ Sealing band
- 321. /EA3SM310___/ Sealant

Ruukki's delivery

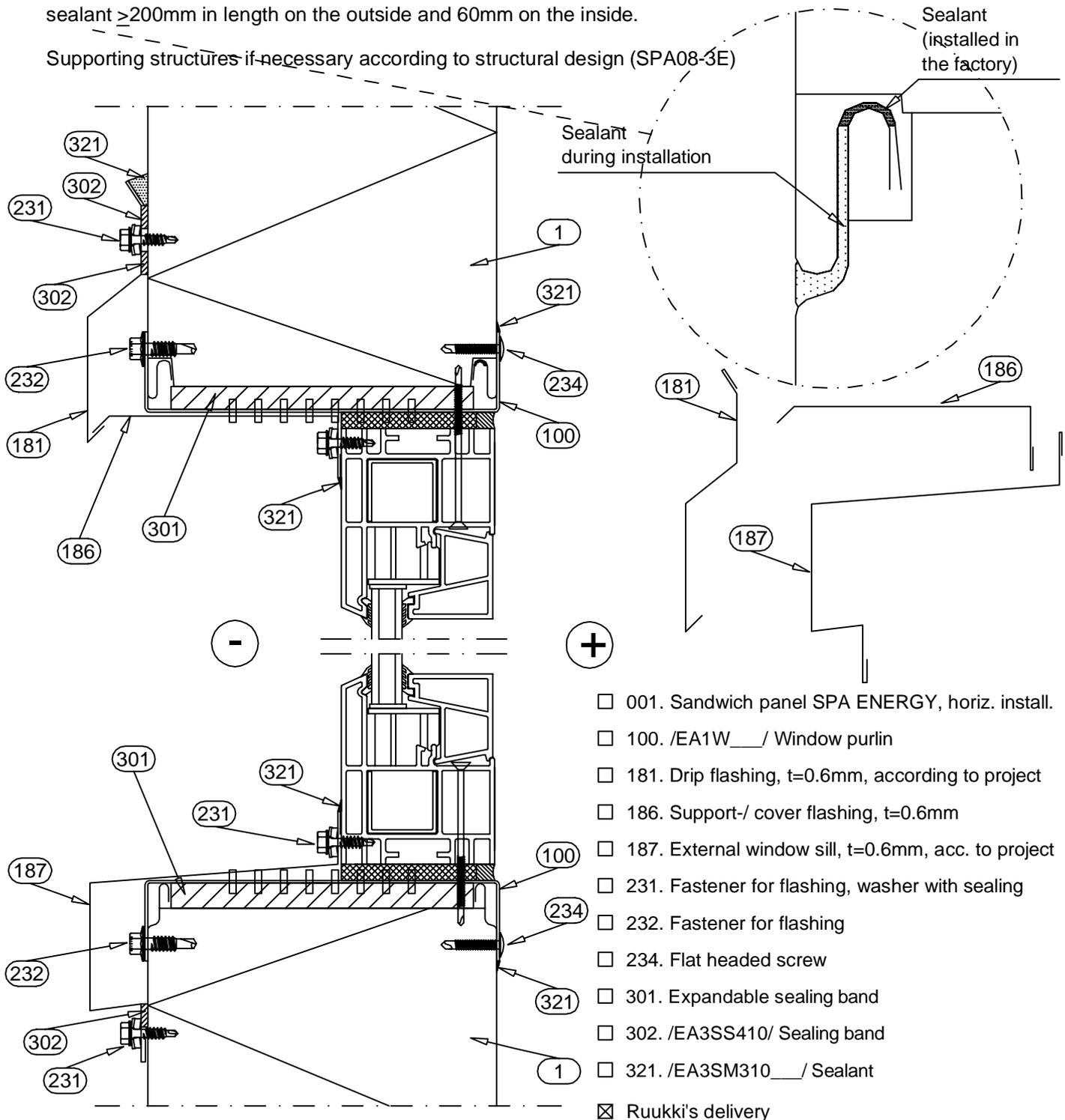
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA08-ENERGY-5E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:2.5	Building		File nr. SPA08-ENERGY-5E-EN.dwg	

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! When thermal purlin (Window purlin, for example) is used around the opening, the thermal holes in the purlin must be sealed with tape (aluminium tape, for example) from the inside of the purlin.

Note! Remember to seal the grooves of the SPA panels joining the window during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

Supporting structures if necessary according to structural design (SPA08-3E)



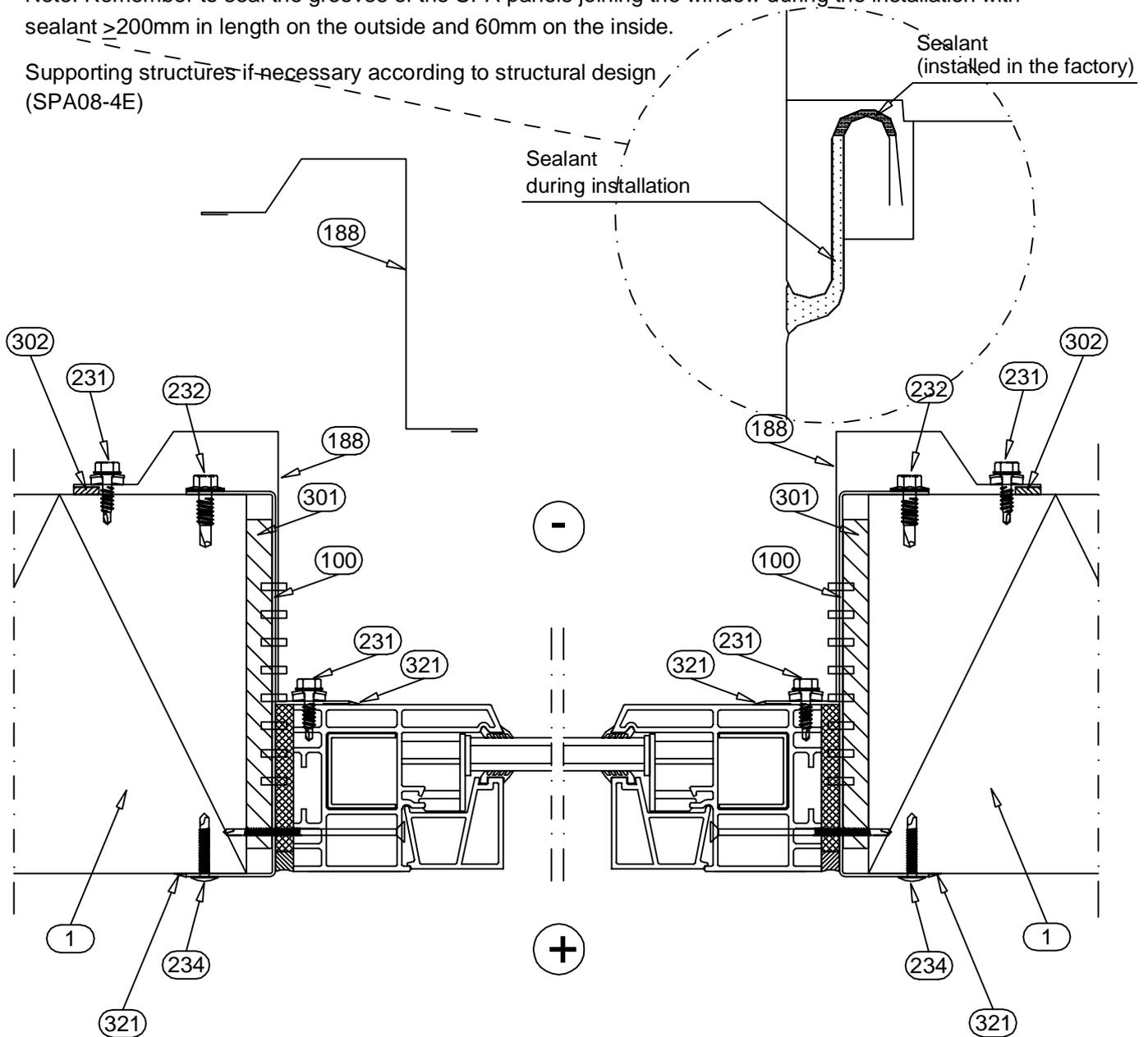
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA08-ENERGY-6E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA08-ENERGY-6E-EN.dwg	

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! When thermal purlin (Window purlin, for example) is used around the opening, the thermal holes in the purlin must be sealed with tape (aluminium tape, for example) from the inside of the purlin.

Note! Remember to seal the grooves of the SPA panels joining the window during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

Supporting structures if necessary according to structural design (SPA08-4E)



- | | |
|--|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 234. Flat headed screw |
| <input type="checkbox"/> 100. /EA1W___/ Window purlin | <input type="checkbox"/> 301. Expandable sealing band |
| <input type="checkbox"/> 188. Cover flashing, t=0.6mm, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 231. Fastener for flashing, washer with sealing | <input type="checkbox"/> 321. /EA3SM310___/ Sealant |
| <input type="checkbox"/> 232. Fastener for flashing | <input checked="" type="checkbox"/> Ruukki's delivery |

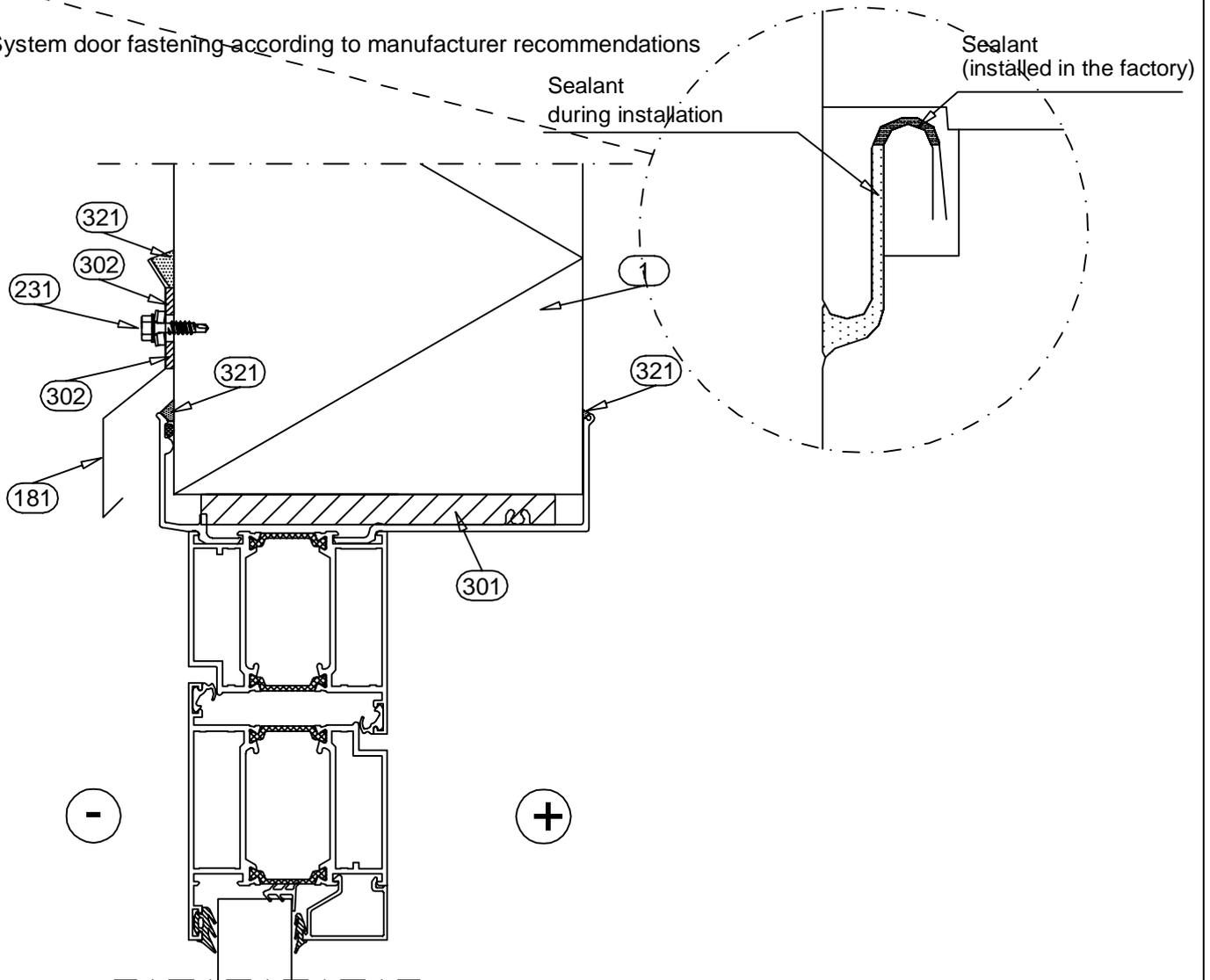
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA09-ENERGY-1E-EN	Rev.
Drawn by Ruukki	Rev. B			
Scale 1:2.5	Building		File nr. SPA09-ENERGY-1E-EN.dwg	

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! System door is installed during installation of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the door during the installation with sealant >200mm in length on the outside and 60mm on the inside.

System door fastening according to manufacturer recommendations



- | | |
|--|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 301. Expandable sealing band |
| <input type="checkbox"/> 181. Drip flashing, t=0.6mm, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 231. Fastener for flashing, washer with sealing | <input type="checkbox"/> 321. /EA3SM310___/ Sealant |
| | <input checked="" type="checkbox"/> Ruukki's delivery |

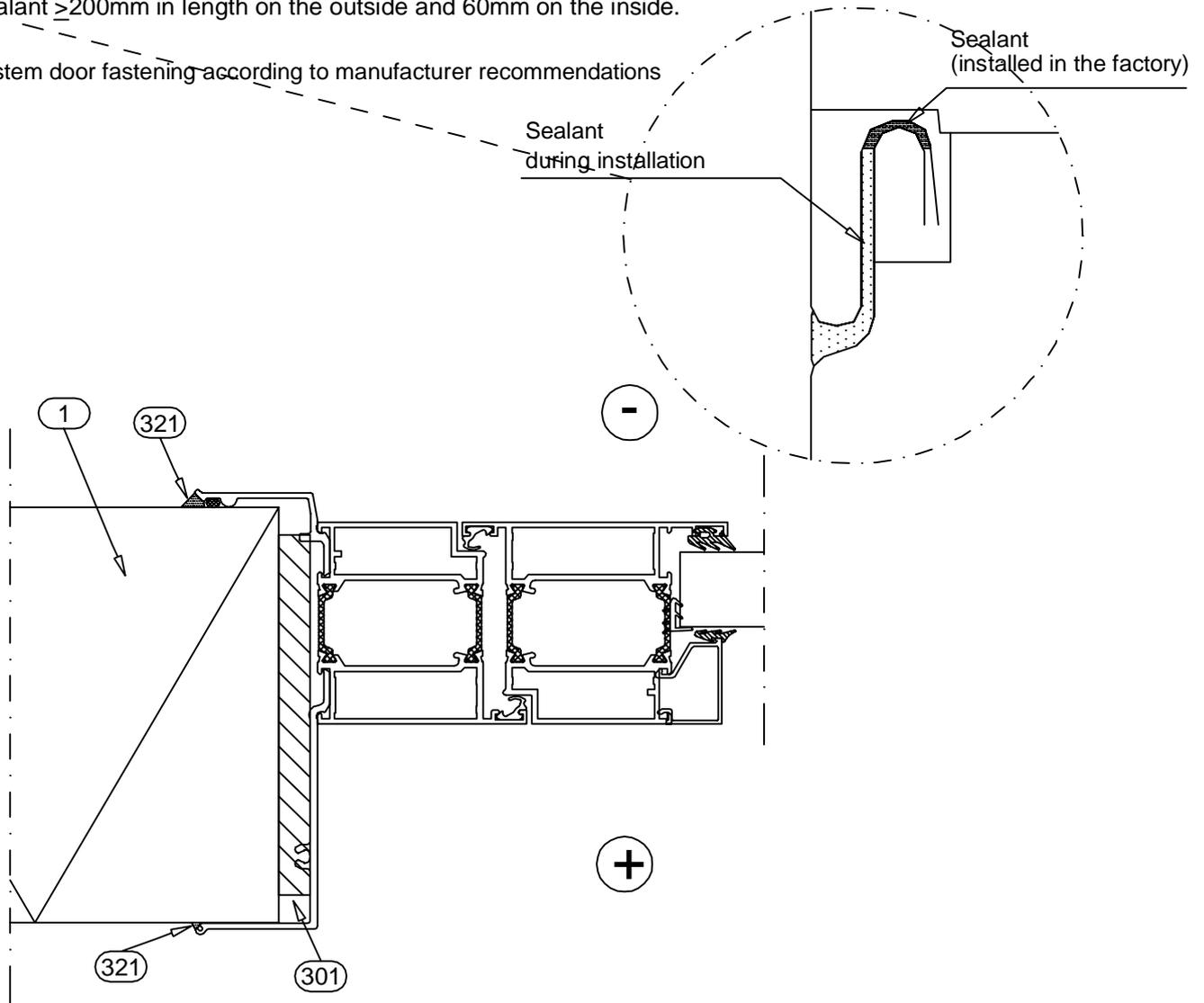
Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA09-ENERGY-2E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:2.5	Building		File nr. SPA09-ENERGY-2E-EN.dwg	

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! System door is installed during installation of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the door during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

System door fastening according to manufacturer recommendations



- 001. Sandwich panel SPA ENERGY, horizontal installation
- 301. Expandable sealing band
- 321. /EA3SM310___/ Sealant
- Ruukki's delivery

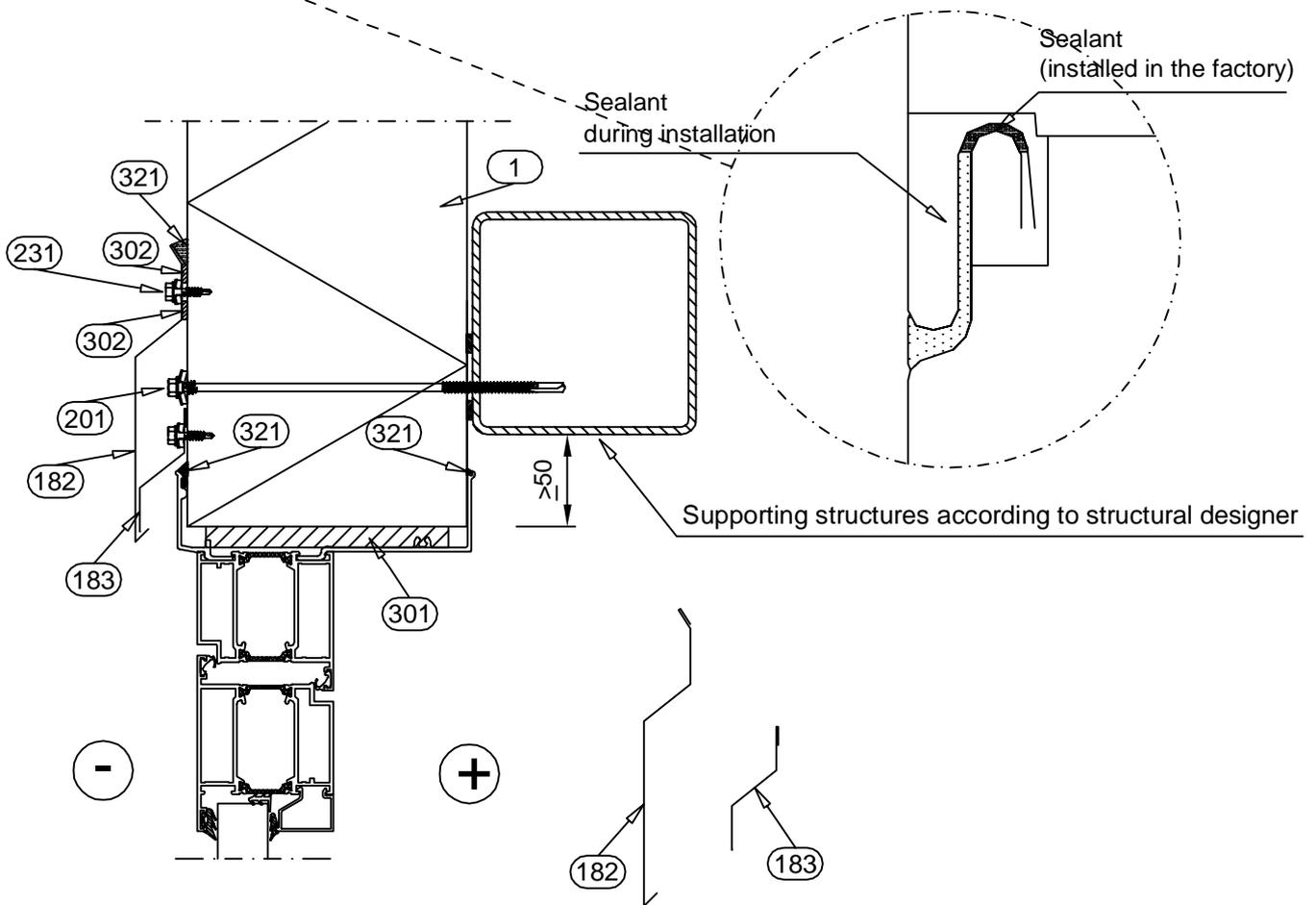
Date 15.06.2011	Rev. date 04.06.2012	Work nr. .	Drawing nr. SPA09-ENERGY-3E-EN
Drawn by Ruukki	Rev. B		File nr. SPA09-ENERGY-3E-EN.dwg
Scale 1:4	Building .		

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! System door is installed during installation of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the door during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

System door fastening according to manufacturer recommendations



- | | |
|---|--|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 231. Fastener for flashing, washer with sealing |
| <input type="checkbox"/> 182. Drip flashing, $t=0.6\text{mm}$, according to project | <input type="checkbox"/> 301. Expandable sealing band |
| <input type="checkbox"/> 183. Storm flashing, $t=0.6\text{mm}$, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 201. Self-drilling panel screw, washer with sealing | <input type="checkbox"/> 321. /EA3SM310___/ Sealant |
| | <input checked="" type="checkbox"/> Ruukki's delivery |

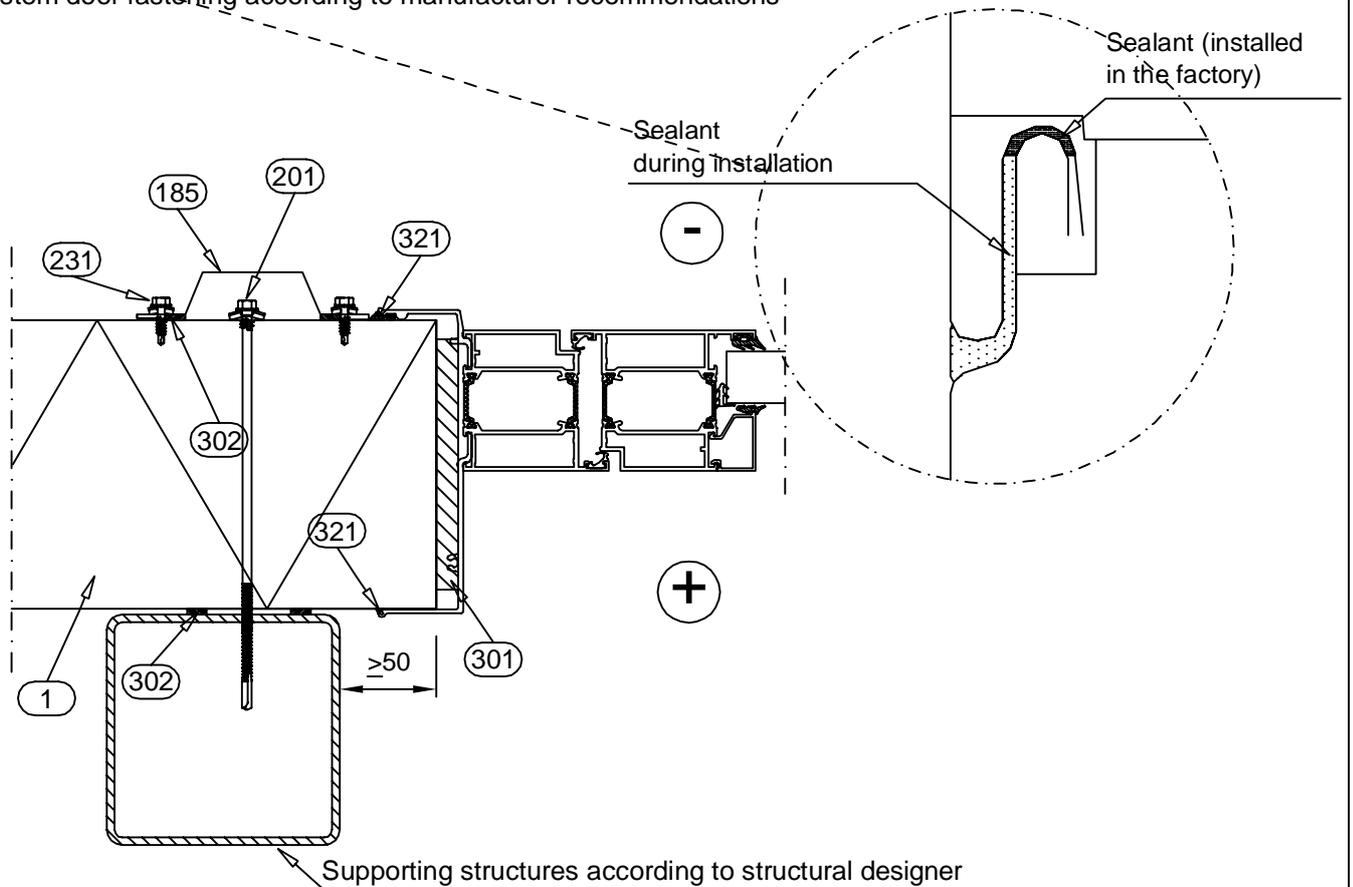
Date 15.06.2011	Rev. date 04.06.2012	Work nr. .	Drawing nr. SPA09-ENERGY-4E-EN
Drawn by Ruukki	Rev. B		File nr. SPA09-ENERGY-4E-EN.dwg
Scale 1:4	Building .		

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! System door is installed during installation of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the door during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

System door fastening according to manufacturer recommendations



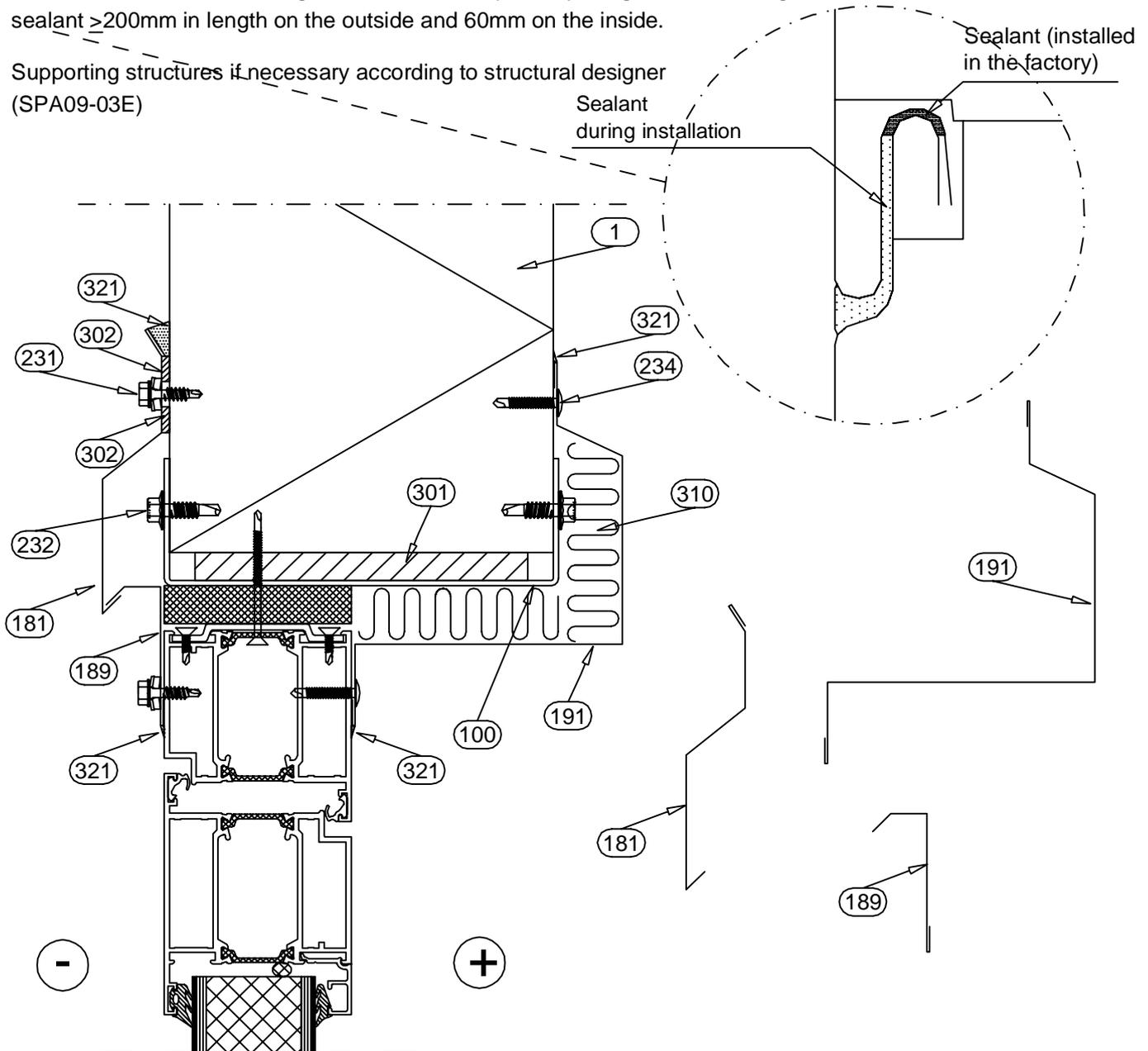
- 001. Sandwich panel SPA ENERGY, horizontal installation
- 185. Cover flashing, $t=0.6\text{mm}$, according to project
- 201. Self-drilling panel screw, washer with sealing
- 231. Fastener for flashing, washer with sealing
- 301. Expandable sealing band
- 302. /EA3SS410/ Sealing band
- 321. /EA3SM310___/ Sealant
- Ruukki's delivery

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA09-ENERGY-5E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:2.5	Building		File nr. SPA09-ENERGY-5E-EN.dwg	

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the door during the installation with sealant >200mm in length on the outside and 60mm on the inside.

Supporting structures if necessary according to structural designer (SPA09-03E)



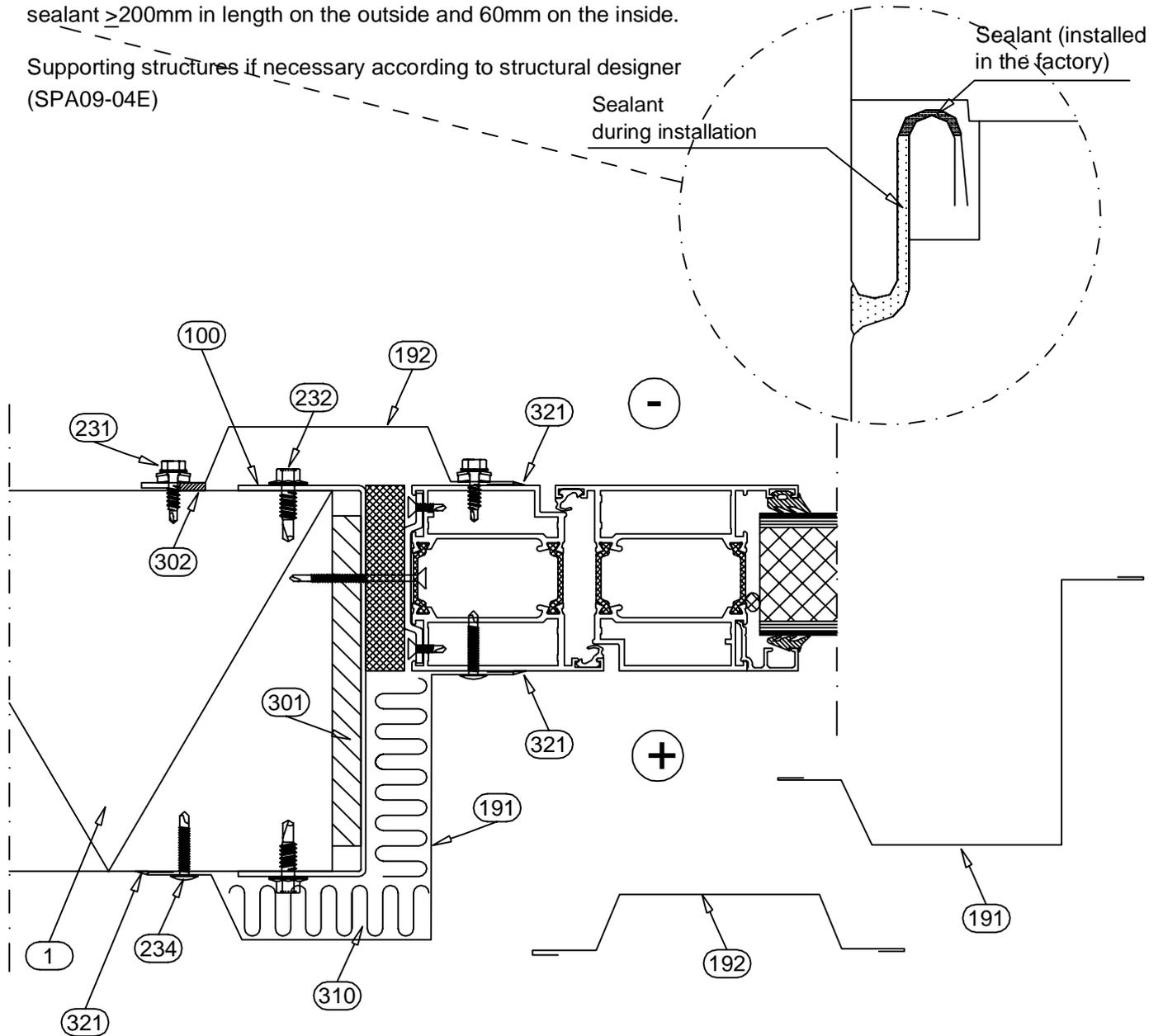
- | | |
|--|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 232. Fastener for flashing |
| <input type="checkbox"/> 100. /EA1D___/ Purlin | <input type="checkbox"/> 234. Flat headed screw |
| <input type="checkbox"/> 181. Drip flashing, t=0.6mm, according to project | <input type="checkbox"/> 301. Expandable sealing band |
| <input type="checkbox"/> 189. Cover flashing, t=0.6mm, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 191. Cover flashing, t=0.6mm, according to project | <input type="checkbox"/> 310. /EA____/ Mineral wool |
| <input type="checkbox"/> 231. Fastener for flashing, washer with sealing | <input type="checkbox"/> 321. /EA3SM310___/ Sealant |
| | <input checked="" type="checkbox"/> Ruukki's delivery |

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA09-ENERGY-6E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:2.5	Building		File nr. SPA09-ENERGY-6E-EN.dwg	

Note! Openings must be taken into account in SPA dimensioning.

Note! Remember to seal the grooves of the SPA panels joining the door during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

Supporting structures if necessary according to structural designer (SPA09-04E)



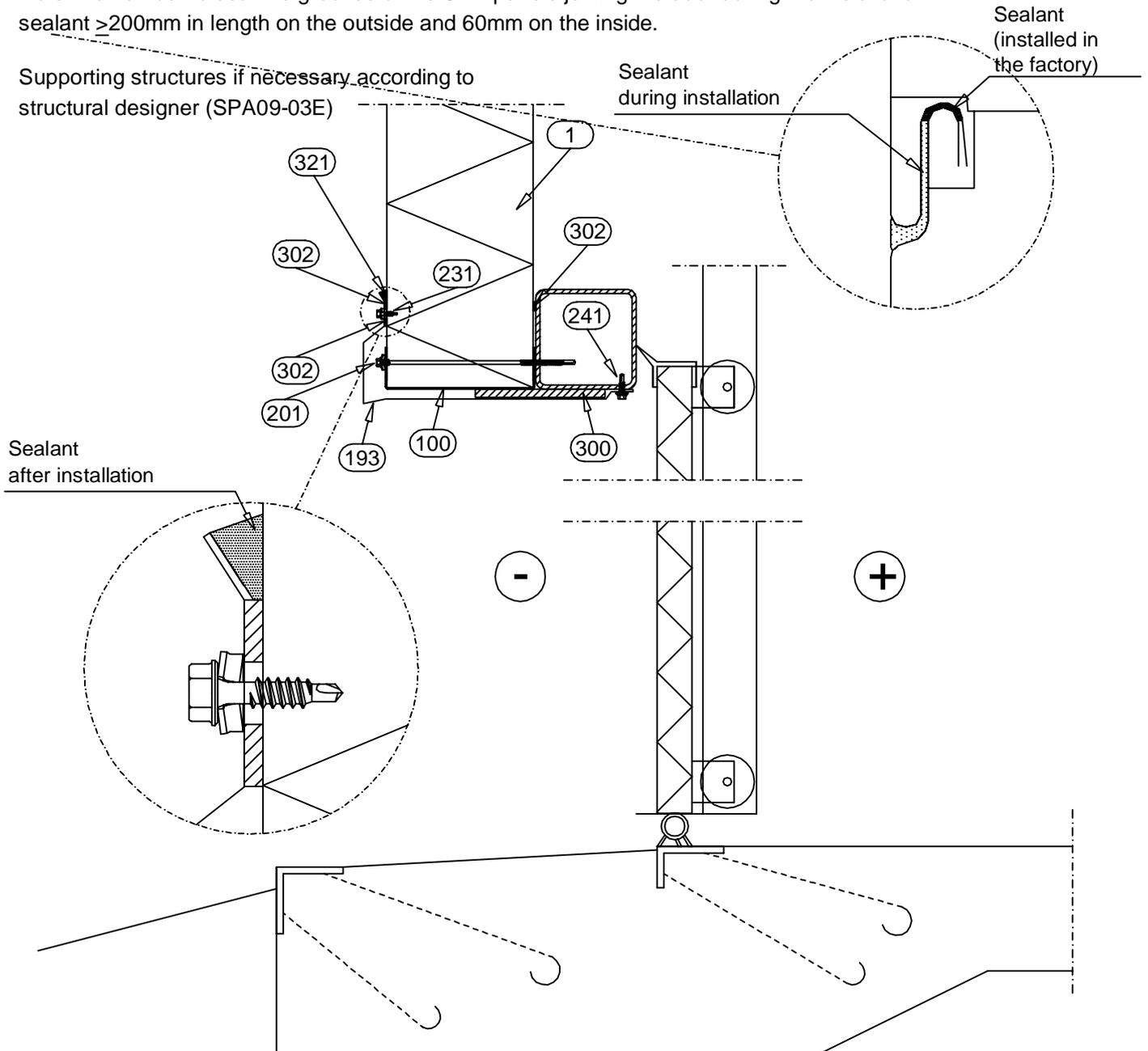
- | | |
|---|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 234. Flat headed screw |
| <input type="checkbox"/> 100. /EA1D___/ Purlin | <input type="checkbox"/> 301. Expandable sealing band |
| <input type="checkbox"/> 191. Cover flashing, $t=0.6\text{mm}$, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 192. Cover flashing, $t=0.6\text{mm}$, according to project | <input type="checkbox"/> 310. /EA___/ Mineral wool |
| <input type="checkbox"/> 231. Fastener for flashing, washer with sealing | <input type="checkbox"/> 321. /EA3SM310___/ Sealant |
| <input type="checkbox"/> 232. Fastener for flashing | <input checked="" type="checkbox"/> Ruukki's delivery |

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr. SPA09-ENERGY-7E-EN	Rev.
Drawn by Ruukki	Rev. B	.		
Scale 1:7.5	Building		File nr. SPA09-ENERGY-7E-EN.dwg	

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the door during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.

Supporting structures if necessary according to structural designer (SPA09-03E)

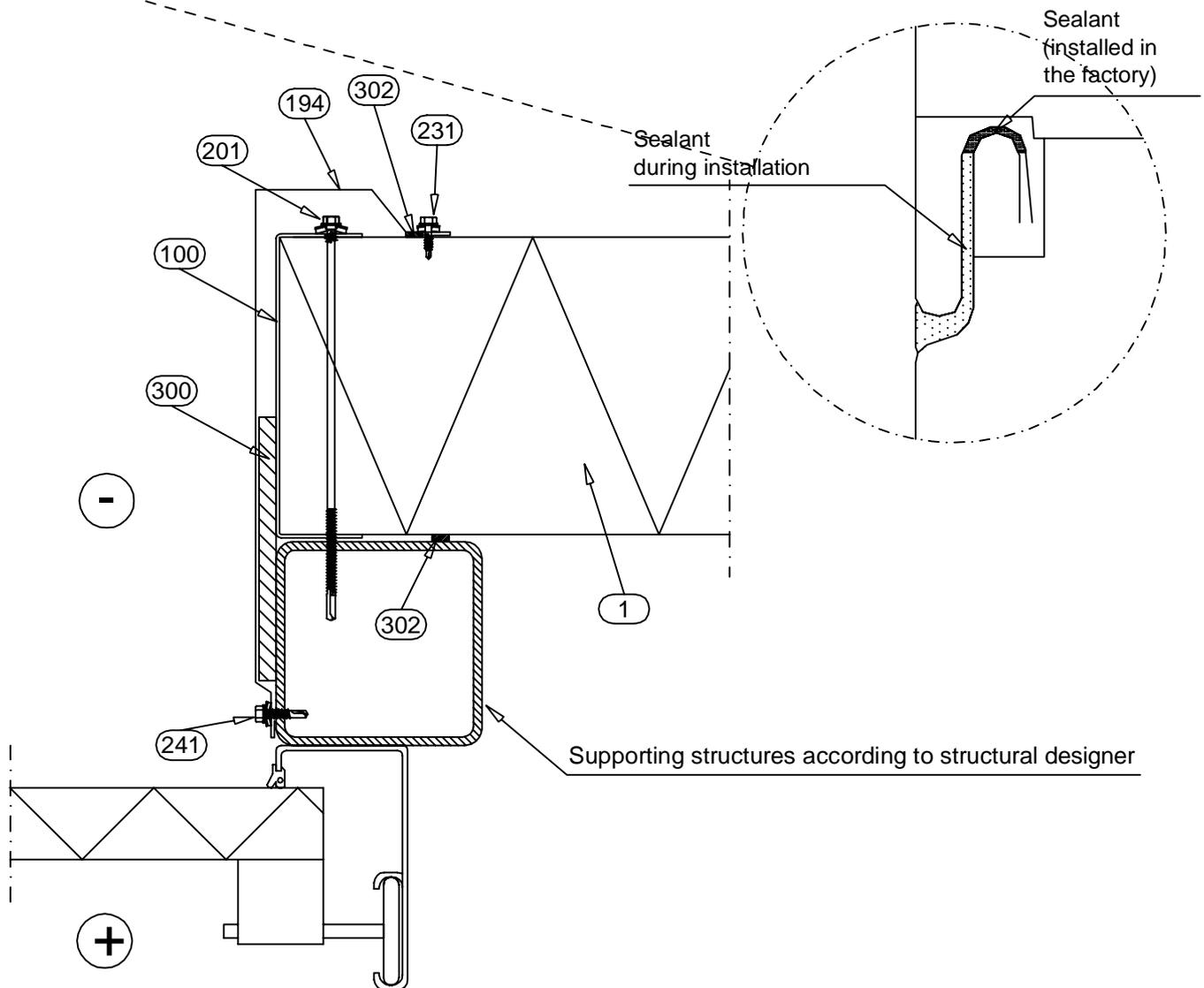


- | | |
|---|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 241. Fastener, washer with sealing |
| <input type="checkbox"/> 100. /EA1D___/ Door frame stud, if necessary | <input type="checkbox"/> 300. /EA3SP___10/ Sealing band, if necessary |
| <input type="checkbox"/> 193. Drip-/cover flashing, $t=0.6\text{mm}$, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 201. Self-drilling panel screw, washer with sealing | <input type="checkbox"/> 321. /EA3SM310___/ Sealant |
| <input type="checkbox"/> 231. Fastener for flashing, washer with sealing | |
| | <input checked="" type="checkbox"/> Ruukki's delivery |

Date 15.06.2011	Rev. date 04.06.2012	Work nr.	Drawing nr.
Drawn by Ruukki	Rev. B	.	SPA09-ENERGY-8E-EN
Scale 1:4	Building		File nr. SPA09-ENERGY-8E-EN.dwg

Note! Openings must be taken into account in dimensioning of SPA panels.

Note! Remember to seal the grooves of the SPA panels joining the door during the installation with sealant $\geq 200\text{mm}$ in length on the outside and 60mm on the inside.



- | | |
|--|---|
| <input type="checkbox"/> 001. Sandwich panel SPA ENERGY, horizontal installation | <input type="checkbox"/> 241. Fastener, washer with sealing |
| <input type="checkbox"/> 100. /EA1D___/ Door frame stud, if necessary | <input type="checkbox"/> 300. /EA3SP___10/ Sealing band, if necessary |
| <input type="checkbox"/> 194. Cover flashing, t=0.6mm, according to project | <input type="checkbox"/> 302. /EA3SS410/ Sealing band |
| <input type="checkbox"/> 201. Self-drilling panel screw, washer with sealing | |
| <input type="checkbox"/> 231. Fastener for flashing, washer with sealing | <input checked="" type="checkbox"/> Ruukki's delivery |