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**Sandwich panel SPA ENERGY**

**PRINCIPLE DETAIL DRAWINGS**

External walls (71 pcs)
## Contents of drawing

**Sandwich panel SPA ENERGY**

Accessory numbers in details

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### SANDWICH PANELS

- 001. Sandwich panel SPA ENERGY 150-230
- 002. Sandwich panel SPA ENERGY corner element

### FLASHINGS

- 100. Standard purlins and starter tracks
- 101-109. Purlins and other t ≥ 2 mm fastening flashings
- 110-119. Plinth flashings
- 120-124. Fastening plates (for vemo-fastenings)
- 125-129. Purlins
- 131-159. Vertical seam-, external- and internal corner flashings
- 161-179. Eave flashings
- 181-194. Window- and door flashings
- 195-199. Flashings used in uplifted roofs

### FASTENERS

- 201. Self-drilling element screw, washer with sealing
- 202. Self-drilling element screw, without washer
- 205. Self-drilling element screw / fastener screw for roof
- 206. Self-drilling element screw / fastener screw for roof
- 211. Self-threading element screw, washer with sealing
- 212. Self-threading element screw, without washer
- 215. Countersink washer
- 221. Internal thread socket and hex bolt (for vemo fastenings)
- 231. Flashing fastener, washer with sealing
- 232. Flashing fastener, without washer
- 233. Flashing fastener, washer with sealing
- 234. Flat headed flashing fastener
- 235. Joint panel fastener, stainless steel, washer with sealing
- 241. Fastener screw, washer with sealing
- 242. Fastener screw, without washer
- 251. Spike element fastener, washer with sealing
- 255. Spike fastener, without washer

- 261. Self-drilling element screw to wood, washer with sealing
- 262. Self-drilling element screw to wood, without washer
- 265. Fastener screw to wood, washer with sealing
- 271. Rivet

### SEALANTS AND INSULATIONS

- 300. Expandable sealing band
- 301. Plinth sealing expanding
- 302. Sealing band for flashings
- 303. Sealing band for frame
- 305. Joint sealing
- 306. Joint sealing
- 307. Joint sealing
- 308. Joint sealing
- 309. Joint sealing
- 310. Mineral- / stonewool
- 311. Mineral wool
- 312. Mineral wool band
- 321. Elastic sealant
- 322. Elastic sealant
- 325. Elastic sealant during installation
- 326. Elastic sealant to male groove
- 327. Elastic polyurethane, eg. Illbruck FM330 tai FM637
- 330. PU insulation
- 331. EPDM sealing
- 341. Plywood
- 342. L-profile
Contents of drawing

Sandwich panel SPA ENERGY, horizontal inst.
Plinth, vertical section
Option 1

- **001.** Sandwich panel SPA ENERGY
- **100.** /EA1U___/ Starter track
- **111.** /EA1P3___/ Cill flashing (installed simultaneously with elements)
- **131.** /EA1JV1/ Vertical joint flashing
- **255.** /S5R48038/ Spike-fastener, concrete c/c600
- **265.** /S3H55042WA4B/ Fastener, wood c/c600
- **301.** /EA3PSE/ Plinth sealing expanding
- **312.** /EAWS___/ Mineral wool band
- **341.** Plywood, if necessary

Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm

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001. Sandwich panel SPA ENERGY
000 ./EA1U___/ Starter track
112./EA1P1-___/ Cill flashing (can be installed after element installation)
134./EA1JV10-11/ Vertical joint panel
149./EA1SF1/ Joint panel starting fillet
231. Flashing fastener, washer with sealing
235. Joint panel fastener, stainless steel, washer with sealing
255./S5R48038/ Spike-fastener, concrete c/c600
265./S3H55042WA4B/ Fastener, wood c/c600
301./EA3PSE/ Plinth sealing expanding
312./EAWS___/ Mineral wool band
321./EA3SM310___/ Elastic sealant

Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm
Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm

- 001. Sandwich panel SPA ENERGY
- 100. /EA1U___/ Starter track
- 113. /EA1P4___/ Cill flashing (can be installed after element installation)
- 114. /EA1PS1___/ Support flashing (installed simultaneously with elements)
- 131. /EA1JV1/ Vertical joint flashing
- 231. Flashing fastener, washer with sealing
- 255. /S5R48038/ Spike-fastener, concrete c/c600
- 265. /S3H55042WA4B/ Fastener, wood c/c600
- 301. /EA3PSE/ Plinth sealing expanding
- 312. /EAWS___/ Mineral wool band

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**Contents of drawing**
Sandwich panel SPA ENERGY, horizontal inst.
Plinth, vertical section
Option 4

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**Drawn by**
Ruukki

**Scale**
1:2

**Options**

- 001. Sandwich panel SPA ENERGY
- 100. /EA1U___/ Starter track
- 111. /EA1P3-___/ Cill flashing (installed simultaneously with elements)
- 115. Support flashing, L200 k1000, according to project (installed simultaneously with elements)
- 133. /EA1JV9/ Vertical joint flashing
- 255. /S5R48038/ Spike-fastener, concrete c/c600
- 265. /S3H55042WA4B/ Fastener, wood c/c600
- 301. /EA3PSE/ Plinth sealing expanding
- 312. /EAWS___/ Mineral wool band

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Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm

---

- 001. Sandwich panel SPA ENERGY
- 100. /EA1U___/ Starter track
- 111. /EA1P3-___/ Cill flashing (installed simultaneously with elements)
- 115. Support flashing, L200 k1000, according to project (installed simultaneously with elements)
- 133. /EA1JV9/ Vertical joint flashing
- 255. /S5R48038/ Spike-fastener, concrete c/c600
- 265. /S3H55042WA4B/ Fastener, wood c/c600
- 301. /EA3PSE/ Plinth sealing expanding
- 312. /EAWS___/ Mineral wool band

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001. Sandwich panel SPA ENERGY
100. /EA1W___/ Purlin
131. /EA1JV1/ Vertical joint flashing (can be installed after element installation)
116. /EA1P5-___/ Cill flashing (can be installed after element installation)
231. Flashing fastener, washer with sealing
234. Flat head flashing fastener
265. /S5R48038/ Spike-fastener, concrete c/c600
312. /EAWS___/ Mineral wool band
302. /EA3SS410/ Sealing strip
321. /EA3SM310___/ Elastic sealant
255. /S3H55042WA4B/ Fastener, wood c/c600
265. /S3H55042WA4B/ Fastener, wood c/c600
301. /EA3PSE/ Plinth sealing expanding
302. /EA3SS410/ Sealing strip
312. /EAWS___/ Mineral wool band
321. /EA3SM310___/ Elastic sealant

Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm

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Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm

- 001. Sandwich panel SPA ENERGY
- 105. /EA1L7530ZN/ Support L-purlin, (t=3mm)
- 115. Support flashing, L200 k1000, according to project (installed simultaneously with elements)
- 116. /EA1P5-___/Cill flashing (can be installed after element installation)
- 117. Cover flashing, according to project (installed simultaneously with elements)
- 118. Cover flashing, according to project
- 131. /EA1JV1/ Vertical joint flashing
- 201. Self-drilling element screw, washer with sealing
- 231. Flashing fastener, washer with sealing
- 234. Flat head flashing fastener
- 255. /S5R48038/ Spike-fastener, concrete c/c600
- 301. /EA3PSE/ Plinth sealing expanding
- 302. /EA3SS410/ Sealing strip
- 321. /EA3SM310___/ Elastic sealant
- 326. /EA3SM310___/ Elastic sealant during inst.
- 234. Flat head flashing fastener

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**Contents of drawing**

Sandwich panel SPA ENERGY, horizontal installation
Plinth, detail

- **Elastic sealing strip, installed in the factory**
- **Drain holes in the corner of starter track Ø12 c/c300**
- **Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm**

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Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm.

Elastic sealing strip, installed in the factory

Elastic sealant during installation

Drain holes in the corner of starter track Ø12 c/c300
Drain holes in the corner of starter track Ø12 c/c300

Elastic sealing strip, installed in the factory

Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm
Elastic sealing strip, installed in the factory

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

Drain holes in the corner of starter track Ø12 c/c300

Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm.
Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm

Elastic sealant after installation
Special care should be taken to ensure the smoothness of the top of plinth, tolerance ± 5 mm.

Elastic sealant to female groove during installation

Elastic sealant after installation
Elastic sealing strip is installed in the outer groove joint as a standard in the factory.

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

- 001
- 325
- 1200 ±2

- 001
- 001

□ 001. Sandwich panel SPA ENERGY
□ 325. /EA3SM310___/ Elastic sealant during installation to outer female groove to length equivalent to vertical joint flashing width

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

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

- 001. Sandwich panel SPA ENERGY
- 326./EA3SM310. Elastic sealant during installation to outer female groove in full length of element and inner female groove 60 mm from panel end

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Horizontal installation:
Elastic mastic sealant during installation to outer female groove. Length equivalent to width of vertical joint flashing. It is important that the groove is completely filled with mastic sealant, i.e. it must be applied before interlocking the joint.

Vertical installation:
Elastic mastic sealant during installation to outer female groove in full length of panel and inner female groove 60 mm in length. It is important that the groove is completely filled with mastic sealant, i.e. it must be applied before interlocking the joint.
Contents of drawing

Sandwich panel SPA ENERGY, horizontal inst.
Vertical joint, horizontal section
Rectangle hollow section column, option 1

001. Sandwich panel SPA ENERGY
131. /EA1JV1/ Vertical joint flashing
201. Self-drilling element screw, washer with sealing
231. Flashing fastener, washer with sealing
302. /EA3SS410/ Sealing strip
303. /EA3SS510/ Sealing band EPDM for flashing
(for demanding climate conditions e.g. coastal areas)

325. /EA3SM310___/ Elastic sealant during inst.
327. Elastic polyurethane foam
307. /EA3JSN7525/ Joint sealing Nordic
312. /EAWS5657850/ Mineral wool band

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001. Sandwich panel SPA ENERGY
140. /EA1JVB4/ Vertical bottom flashing invisible
144. /EA1JVI/ Vertical joint flashing invisible
212. Self-threading element screw, without washer
302. /EA3SS410/ Sealing strip
215. /EA2W40-910S/ Countersink washer
234. /S1E42013GE/ Flat head flashing fastener
303. /EA3SS1210/ Sealing strip
312. /EAWS5657850/ Mineral wool band
325. /EA3SM310___/ Elastic sealant during inst.
327. Elastic polyurethane foam

Screw drilling tip can be cut off after element installation

Self-threading screw when material is thick (> 10-14 mm), requires pre-drilled holes. Optional way is to pre-drill the material enough to be able to continue with self-drilling screws.

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<tr>
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<td>Self-drilling element screw, washer with sealing</td>
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<tr>
<td>235</td>
<td>Joint panel fastener, stainless steel, washer with sealing</td>
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<tr>
<td>302</td>
<td>Sealing strip</td>
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<td>303</td>
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<td>307</td>
<td>Joint sealing Nordic</td>
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<tr>
<td>312</td>
<td>Joint sealing Nordic</td>
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<tr>
<td>325</td>
<td>Elastic sealant during inst. to outer female groove in length equivalent to vertical joint flashing width</td>
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<tr>
<td>327</td>
<td>Elastic polyurethane foam</td>
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Sandwich panel SPA ENERGY, horizontal inst.
Vertical joint, horizontal section
Concrete column, option 4

- 001. Sandwich panel SPA ENERGY
- 135. /EA1JV4/ Vertical joint flashing
- 148. /EA1VCO/ Vertical cover flashing
- 251. Spike panel fastener, washer with sealing
- Ruukki's delivery
- 312. /EAWS5657850/ Mineral wool band
- 325. /EA3SM310___/ Elastic sealant during inst.
- 327. Elastic polyurethane foam
- 307. /EA3JSN7525/ Joint sealing Nordic
- 303. /EA3SS1210/ Sealing strip

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<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Sandwich panel SPA ENERGY</td>
</tr>
<tr>
<td>136</td>
<td>/EA1JV7/ Vertical joint flashing</td>
</tr>
<tr>
<td>137</td>
<td>/EA1JVB2/ Vertical joint bottom flashing</td>
</tr>
<tr>
<td>148</td>
<td>/EA1VCO/ Vertical cover flashing</td>
</tr>
<tr>
<td>215</td>
<td>/EA2W40-910S/ Countersink washer</td>
</tr>
<tr>
<td>231</td>
<td>Flashing fastener, washer with sealing</td>
</tr>
<tr>
<td>237</td>
<td>~ 35</td>
</tr>
<tr>
<td>262</td>
<td>Self-drilling element screw to wood, without washer</td>
</tr>
<tr>
<td>302</td>
<td>/EA3SS410/ Sealing strip</td>
</tr>
<tr>
<td>312</td>
<td>/EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)</td>
</tr>
<tr>
<td>317</td>
<td>/EA3SS1210/ Sealing strip</td>
</tr>
<tr>
<td>325</td>
<td>/EA3SM310___/ Elastic sealant during inst. to outer female groove in length equivalent to vertical joint flashing width</td>
</tr>
<tr>
<td>327</td>
<td>Elastic polyurethane foam</td>
</tr>
</tbody>
</table>

Ruuikki's delivery

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Every 5th element vertically and elements above an opening must be fixed to support by fasteners going through the element.

Concrete casting is made in the factory or for a construction site related reason made at site before the element installation.

- 001. Sandwich panel SPA ENERGY
- 121. /EA6FP_/ Fastening plate
- 138. /EA1JV2/ Vertical joint flashing
- 221. Internal threaded socket and hex bolt
- 231. Flashing fastener, washer with sealing
- 307. /EA3JSN7525/ Joint sealing Nordic to outer female groove in length equivalent to vertical joint flashing width
- 303. /EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)
- 302. /EA3SS410/ Sealing strip
- 327. Elastic polyurethane foam
- 325. /EA3SM310___/ Elastic sealant during inst.
- 307. /EA3JSN7525/ Joint sealing Nordic
- 312. /EAWS5657850/ Mineral wool band
- 325. /EA3SM310___/ Elastic sealant during inst.

Ruukki's delivery

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001. Sandwich panel SPA ENERGY
139. /EA1JV3/ Vertical joint flashing
201. Self-drilling element screw, washer with sealing
302. /EA3SS410/ Sealing strip
312. /EAWS5657850/ Mineral wool band
325. /EA3SM310/ Elastic sealant during inst.
327. Elastic polyurethane foam
303. /EA3SS1210/ Sealing strip

Screw drilling tip can be cut off after element installation

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Contents of drawing
Sandwich panel SPA ENERGY, horizontal inst.
Vertical joint, horizontal section
Rectangle hollow section column, option 8

Ruukki's delivery

001. Sandwich panel SPA ENERGY
147. /EA1JVM/ Vertical joint flashing module
201. Self-drilling element screw, washer with sealing
233. /S1T48020L02A0RR___/ Flashing fastener
302. /EA3SS410/ Sealing strip
303. /EA3SS510/ Sealing band EPDM for flashing
   (for demanding climate conditions e.g. coastal areas)
325. /EA3JSN7525/ Joint sealing Nordic
to outer female groove in length equivalent to
vertical joint flashing width
307. /EA3JSN7525/ Joint sealing Nordic
312. /EAWS657850/ Mineral wool band
325. /EA3SM310___/ Elastic sealant during inst.
327. Elastic polyurethane foam

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001. Sandwich panel SPA ENERGY
141. /EA1EC1-3/ External corner flashing, recommended element thickness ≤ 150 mm
201. Self-drilling element screw, washer with sealing
231. Flashing fastener, washer with sealing
302. /EA3SS410/ Sealing strip
/EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)

- Ruukki's delivery

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Facing sheet cutting at site by length b = element thickness

001. Sandwich panel SPA ENERGY
131. /EA1JV1/ Vertical joint flashing
145. /EA1EC10-___/External corner flashing, (limited range of colours)
201. Self-drilling element screw, washer with sealing
211. Self-threading element screw, washer with sealing
231. Flashing fastener, washer with sealing
302. /EA3SS410/ Sealing strip
325. /EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)

- Ruukki’s delivery

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Facing sheet cutting at site
by length b = element thickness

- 001. Sandwich panel SPA ENERGY
- 142. /EA1EC11-14/ External corner panel
- 146. /EA1EC9-___/External corner flashing
- 231. Flashing fastener, washer with sealing
- 235. Joint panel fastener, stainless steel, washer with sealing
- 251. Spike panel fastener, washer with sealing
- 302. /EA3SS410/ Sealing strip
- 321. /EA3SM310___/ Elastic sealant during inst.
- 325. /EA3SM310___/ Elastic sealant
- 327. Elastic polyurethane foam
- 303. /EA3SS1210/ Sealing strip
- 312. /EAWS567850/ Mineral wool band
- 325. /EA3SM10___/ Elastic sealant during inst.
  to outer female groove in length equivalent to vertical joint flashing width

Ruuksi’s delivery

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001. Sandwich panel SPA ENERGY
143. /EA1EC5/ External corner flashing, recommended element thickness ≤ 150 mm
148. /EA1VCO/ Vertical cover flashing
201. Self-drilling element screw, washer with sealing
231. Flashing fastener, washer with sealing
303. /EA3JSCN30025/ Joint sealing corner Nordic
to outer female groove in length equivalent to vertical joint flashing width
308. /EA3SS1210/ Sealing strip
312. /EAWS5657850/ Mineral wool band
321. /EA3SM310___/ Elastic sealant during inst.
to outer female groove in length equivalent to vertical joint flashing width
325. /EA3SM310___/ Elastic sealant
327. Elastic polyurethane foam

Ruukki’s delivery

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Facing sheet cutting at site by length b = element thickness

- 321, sealant under the flashing during installation

- 001. Sandwich panel SPA ENERGY
- 135. /EA1JV4/ Vertical joint flashing
- 145. /EA1C10-___/ Vertical joint flashing, t = 1 mm / 1.2 mm (limited range of colours)
- 148. /EA1VCO/ Vertical cover flashing
- 261. Self-drilling element screw to wood, washer with sealing
- 231. Flashing fastener, washer with sealing
- 303. /EA3SS1210/ Sealing strip
- 312. /EAWS5657850/ Mineral wool band
- 325. /EA3SM310___/ Elastic sealant during installation to outer female groove in length equivalent to vertical joint flashing width
- 327. Elastic polyurethane foam

儘管是手動撰寫的文本，但可能仍存在疏漏。
Concrete casting is made in the factory or for a construction site related reason made at site before the element installation.

Every 5th element vertically and elements above an opening must be fixed to support by fasteners going through the element.

- 001. Sandwich panel SPA ENERGY
- 121. /EA6FP_/ Fastening plate
- 138. /EA1JV2/ Vertical joint flashing
- 145. /EA1C10-___/ External corner flashing, t = 1 mm / 1.2 mm (limited range of colours)
- 221. Internal threaded socket and hex bolt
- 231. Flashing fastener, washer with sealing
- 302. /EA3SS1210/ Sealing strip
- 303. /EAWS5657850/ Mineral wool band
- 325. /EA3SM310___/ Elastic sealant during installation to outer female groove in length equivalent to vertical joint flashing width
- 327. Elastic polyurethane foam

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001. Sandwich panel SPA ENERGY
002. Sandwich panel SPA ENERGY corner element, (SPA150 - 200 external dimension 300 - 2400 mm, SPA230 external dimension 350 - 2400 mm)
140. /EA1JVB4/ Vertical bottom flashing invisible
144. /EA1JVI/ Vertical joint flashing invisible
212. Self-drilling element screw, without washer
215. /EA2W40-910S/ Countersink washer
234. /S1E42013GE/ Flat head flashing fastener
302. /EA3SS410/ Sealing strip
303. /EA3SS410/ Sealing strip
306. /EA3JSN15025/ Joint sealing Nordic
312. /EAWS5657850/ Mineral wool band
325. /EA3SM310/ Elastic sealant during installation
to outer female groove in length equivalent to vertical joint flashing width
327. Elastic polyurethane foam

Ruukki's delivery

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Facing sheet cutting at site by length \( b = \text{element thickness} \)

Screw drilling tip can be cut off after element installation

Secondary steel supports for elements according to structural designer.

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

- 001. Sandwich panel SPA ENERGY
- 139. /EA1JV3/ Vertical joint flashing
- 145. /EA1C10___/ Vertical joint flashing, \( t = 1 \text{ mm} / 1.2 \text{ mm} \) (limited range of colours)
- 201. Self-drilling element screw, washer with sealing
- 231. Flashing fastener, washer with sealing
- 302. /EA3SS410/ Sealing strip
- 303. /EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)
- 303. /EA3SS1210/ Sealing strip
- 312. /EAWS5657850/ Mineral wool band
- 325. /EA3SM310___/ Elastic sealant during installation to outer female groove in length equivalent to vertical joint flashing width
- 327. Elastic polyurethane foam

Ruukki’s delivery

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001. Sandwich panel SPA ENERGY
151. /EA1IC3/ Internal corner flashing
152. Internal corner flashing, t = 0.6 mm, according to project
201. Self-drilling element screw, washer with sealing
231. Flashing fastener, washer with sealing
234. Flat head flashing fastener
303. /EA3SS1210/ Sealing strip
307. /EA3JSN7525/ Joint sealing Nordic
312. /EAWS5657850/ Mineral wool band
325. /EA3SM310___/ Elastic sealant during installation
327. Elastic polyurethane foam

Ruukki's delivery

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001. Sandwich panel SPA ENERGY
146. /EA1EC9-___/ External corner flashing
148. /EA1VCO/ Vertical cover flashing
201. Self-drilling element screw, washer with sealing
231. Flashing fastener, washer with sealing
234. Flat head flashing fastener
303. /EA3SS1210/ Sealing strip
307. /EA3JSN7525/ Joint sealing Nordic
312. /EAWS5657850/ Mineral wool band
321. /EA3SM310___/ Elastic sealant during installation
325. /EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)
307. /EA3JSN7525/ Joint sealing Nordic
312. /EAWS5657850/ Mineral wool band
321. /EA3SM310___/ Elastic sealant
325. /EA3SM310___/ Elastic sealant during installation
to outer female groove in length equivalent to vertical joint flashing width
327. Elastic polyurethane foam

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

Ruukki’s delivery

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001. Sandwich panel SPA ENERGY
0153. /EA1IC8/ Internal corner flashing
0154. /EA1IC10/12 (left)/ Internal corner panel
0155. /EA1IC11/13 (right)/ Internal corner panel
0201. Self-drilling element screw, washer with sealing
0231. Flashing fastener, washer with sealing
0235. Joint panel fastener, stainless steel, washer with sealing
0302. /EA3SS410/ Sealing strip
0303. /EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)
0307. /EA3JSN7525/ Joint sealing Nordic
0312. /EAWS5657850/ Mineral wool band
0325. /EA3SM310___/ Elastic sealant during installation
to outer female groove in length equivalent to vertical joint flashing width
0327. Elastic polyurethane foam

Ruukki's delivery

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Sandwich panel SPA ENERGY, horizontal inst.
Parapet, side eaves
Bitumen roofing felt, vertical section

- Insulation thickness is dimensioned according to project.
- Supports and fastening of profiled sheet according to structural designer.
- Secondary steel supports (t-steel) for the element according to structural designer.
- Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E

- Reverse dip is made of Leca-gravel, Siporex chips or woolsheets cut to form

- Horizontal support studwork
- Plywood
- Vertical support studwork
- T-steel
- Waterproofing is not fastened to structures below L~400 mm
- Insulation support flashing, t = 0.6 mm, according to project
- 232. Flashing fastener, without washer
- 265. Fastener screw to wood, washer with sealing
- 311. /EAWS30565/ Mineral wool
- 100. /EA1EP___/ Purlin
- 131. /EA1JV1/ Vertical joint flashing
- 161. Eave flashing, t = 0.6 mm, according to project
- 162. Cover flashing, t = 0.6 mm, according to project
- 163. Storm flashing, t = 0.6 mm, according to project

Ruukki’s delivery

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Sandwich panel SPA ENERGY, horizontal inst.
Parapet, end eaves
Bitumen roofing felt, vertical section

- 001. Sandwich panel SPA ENERGY
- 100. /EA1EP_/ Purlin
- 131. /EA1JV1/ Vertical joint flashing
- 163. Storm flashing, t = 0.6 mm, according to project
- 161. Eave flashing, t = 0.6 mm, according to project
- 232. Flashing fastener, without washer
- 265. Fastener screw to wood, washer with sealing
- 311. /EAWS30565/ Mineral wool
- 172. Insulation support flashing, t = 0.6 mm

Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E

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Insulation thickness is dimensioned according to project.

Supports and fastening of profiled sheet according to structural designer.

Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E

Reverse dip is made of Leca-gravel, Siporex chips or wool sheets cut to form

- Ruukki's delivery

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Contents of drawing
Sandwich panel SPA ENERGY, vertical- and diagonal inst. Parapet, end eaves
Bitumen roofing felt, vertical section

Date 15.06.2011  Rev. date 04.05.2017  Work nr.  
Drawn by Ruukki  Rev.  
Scale 1:5  Building  
Drawing nr. SPA06-ENERGY-4E-EN

001. Sandwich panel SPA ENERGY
100. /EA1EP___/ Purlin
104. Flashing for fastening / insulation support flashing, t=3 mm, according to project
161. Eave flashing, t = 0.6 mm, according to project
163. Storm flashing, t = 0.6 mm, according to project
179. Cover flashing, t = 0.6 mm, according to project
201. Self-drilling element screw, washer with sealing
231. Flashing fastener, washer with sealing
311. /EAWS30565/ Mineral wool
326. /EA3SM310___/ Elastic sealant during inst.
to outer male groove full length of element and inner female groove 60 mm in length of element
201. Storm flashing, t = 0.6 mm, according to project
232. Flashing fastener, without washer
242. Fastener screw, without washer
265. Fastener screw to wood, washer with sealing
302. /EA3SS410/ Sealing strip
311. /EAWS30565/ Mineral wool
326. /EA3SM310___/ Elastic sealant during inst.
to outer male groove full length of element and inner female groove 60 mm in length of element

Insulation thickness is dimensioned according to project.
Supports and fastening of profiled sheet according to structural designer.
Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E

Horizontal support studwork
Plywood
Vertical support studwork
Waterproofing is not fastened to structures below L~400 mm
Ventilation grooves

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Profiled sheet, anti-condence treatment recommended

Load bearing profiled sheet sealed with a flashing on both sides

Water drainage system

- 001. Sandwich panel SPA ENERGY
- 101. Eave purlin, t = 1.2 mm, according to project
- 125. /EA1HP1/ Ventilated hat purlin
- 131. /EA1JV1/ Vertical joint flashing
- 164. Storm flashing, t = 0.6 mm, according to project
- 165. Eave flashing, t = 0.6 mm, according to project
- 171. Insulation support flashing, t = 0.6 mm, according to project
- 231. Flashing fastener, washer with sealing
- 232. Flashing fastener, without washer
- 241. Fastener screw, washer with sealing
- 311. /EAWS30565/ Mineral wool
- 312. /EAWS___/ Mineral wool band

- Ruukki’s delivery

Insulation thickness is dimensioned according to project.

Supports and fastening of profiled sheet according to structural designer.

Element is cut at the point where it intersects with the steel structure. Vapour barrier is taped around the steel.

Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E
001. Sandwich panel SPA ENERGY
100. /EA1D__/Purlin
125. /EA1HP1/ Ventilated hat purlin
131. /EA1JV1/ Vertical joint flashing
164. Storm flashing, t = 0.6 mm, according to project
166. Eave flashing, t = 0.6 mm, according to project
172. Insulation support flashing, t = 0.6 mm
205. Self-drilling element screw / fastener screw for roof
231. Flashing fastener, washer with sealing
232. Flashing fastener, without washer
241. Fastener screw, washer with sealing
311. /EAWS30565/ Mineral wool
312. /EAWS__/Mineral wool band

Ruuksi’s delivery

Insulation thickness is dimensioned according to project.

Supports and fastening of profiled sheet according to structural designer.

Element is cut at the point where it intersects with the steel structure. Vapour barrier is taped around the steel.

Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E
001. Sandwich panel SPA ENERGY
100. /EA1D___/ Purlin
131./EA1JV1/ Vertical joint flashing
167. Eave flashing, t = 0.6 mm, according to project
171. Insulation support flashing, t = 0.6 mm, according to project
232. Flashing fastener, without washer
311./EAWS30565/ Mineral wool
312./EAWS___/ Mineral wool band

Ruuksi's delivery

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Contents of drawing

Sandwich panel SPA ENERGY, horizontal inst.
Cantilever eaves, end eaves
Bitumen roofing felt, vertical section

001. Sandwich panel SPA ENERGY
100. /EA1D___/ Purlin
131. /EA1JV1/ Vertical joint flashing
168. Eave flashing, t = 0.6 mm, according to project
172. Insulation support flashing, t = 0.6 mm
232. Flashing fastener, without washer
265. Fastener screw to wood, washer with sealing
311. /EAWS30565/ Mineral wool
312. /EAWS___/ Mineral wool band
Ruukki's delivery

Insulation thickness is dimensioned according to project.
Supports and fastening of profiled sheet according to structural designer.
Element is cut at the point where it intersects with the steel structure. Vapour barrier is taped around the steel.
Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E

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Sandwich panel SPA ENERGY, horizontal inst.
Eaves, side eaves
Profiled sheet roof deck, vertical section

Insulation thickness is dimensioned according to project.

Supports and fastening of profiled sheet according to structural designer.

Gutters and it's brackets designed according to project.

Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E

- 001. Sandwich panel SPA ENERGY
- 102. Eave purlin, t = 2mm, according to project
- 125. /EA1HP1/ Ventilated hat purlin
- 131. /EA1JV1/ Vertical joint flashing
- 169. Eave flashing, t = 0.6 mm, according to project
- 171. Insulation support flashing, t = 0.6 mm, according to project
- 174. Gutter, t = 0.6 mm, according to project
- 175. Cover flashing, t = 0.6 mm, according to project
- 176. Storm flashing, t = 0.6 mm, according to project
- 201. Self-drilling element screw, washer with sealing
- 206. Self-drilling element screw / fastener screw for roof
- 231. Flashing fastener, washer with sealing
- 241. Fastener screw, washer with sealing
- 271. Rivet
- 311. /EAWS30565/ Mineral wool
- 312. /EAWS___/ Mineral wool band
- 311. /EAWS30565/ Ventilated hat purlin
- 312. /EAWS___/ Mineral wool band

Ruukki's delivery

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Insulation thickness is dimensioned according to project.

Supports and fastening of profiled sheet according to structural designer.

Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E

- 001. Sandwich panel SPA ENERGY
- 100. /EA1D__/ Purlin
- 125. /EA1HP1/ Ventilated hat purlin
- 131. /EA1JV1/ Vertical joint flashing
- 172. Insulation support flashing, t = 0.6 mm
- 177. Eave flashing, t = 0.6 mm, according to project
- 205. Self-drilling element screw / fastener screw for roof
- 231. Flashing fastener, washer with sealing
- 232. Flashing fastener, without washer
- 311. /EAWS30565/ Mineral wool
- 312. /EAWS__/ Mineral wool band

Ruukki’s delivery

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Insulation thickness is dimensioned according to project.

Supports and fastening of profiled sheet according to structural designer.

Gutters and it's brackets designed according to project.

Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E

- 001. Sandwich panel SPA ENERGY
- 102. Eave purlin, t=2mm, according to project
- 131./EA1JV1/ Vertical joint flashing
- 169. Eave flashing, t = 0.6 mm, according to project
- 171. Insulation support flashing, t = 0.6 mm, according to project
- 174. Gutter, t = 0.6 mm, according to project
- 175. Cover flashing, t = 0.6 mm, according to project
- 176. Storm flashing, t = 0.6 mm, according to project
- 201. Self-drilling element screw, washer with sealing
- 231. Flashing fastener, washer with sealing
- 241. Fastener screw, washer with sealing
- 241. Fastener screw, washer with sealing
- 271. Rivet
- 311./EAWS30565/ Mineral wool
- 312./EAWS__/ Mineral wool band

Ruukki’s delivery

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Insulation thickness is dimensioned according to project.

Supports and fastening of profiled sheet according to structural designer.

Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E
171. Insulation support flashing, $t = 0.6$ mm, according to project
172. Insulation support flashing, $t = 0.6$ mm
173. U-flashing to vapour barrier fastening, $t = 0.6$ mm, according to project
232. Flashing fastener, without washer
302. /EA3SS410/ Sealing, between panel and vapour barrier

Ruukki's delivery

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197. Cover flashing, $t = 0.6$ mm, according to project
195. Drip flashing, $t = 0.6$ mm, according to project
196. Support flashing, $t = 0.6$ mm, according to project
231. Flashing fastener, washer with sealing

302. /EA3SS510/ Sealing band EPDM for flashing
(for demanding climate conditions e.g. coastal areas)

311. /EAWS30565/ Mineral wool

321. /EA3SM310___/ Elastic sealant

Insulation thickness is dimensioned according to project.

Supports and fastening of profiled sheet according to structural designer.

Vapour barrier and insulation support fastening, see SPA06-ENERGY-13E

Waterproofing is not fastened to structures below $L \sim 400$ mm

Ruukki's delivery

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

Note! System window is installed during installation of elements. Fastening according to window manufacturers instructions.

Note! Remember to seal the grooves of the elements joining the window during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

- 001. Sandwich panel SPA ENERGY
- 181. Drip flashing, $t = 0.6$ mm, according to project
- 231. Flashing fastener, washer with sealing
- 300. Expandable sealing band, included in Ruukki energy window delivery
- 321. /EA3SM310/ Elastic sealant
- 323. Elastic sealant

- Ruukki’s delivery

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

Note! System window is installed during installation of elements. Fastening according to window manufacturers instructions.

Note! Remember to seal the grooves of the elements joining the window during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

- 001. Sandwich panel SPA ENERGY
- 300. Expandable sealing band included in Ruukki energy window delivery
- 323. Elastic sealant
- 325. /EA3SM310___/ Elastic sealant during installation to outer and inner female grooves

Ruuikki’s delivery

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

Note! System window is installed during installation of elements. Fastening according to window manufacturers instructions.

Note! Remember to seal the grooves of the elements joining the window during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures according to structural designer.

- 001. Sandwich panel SPA ENERGY
- 182. Drip flashing, t = 0.6 mm, according to project
- 183. Storm flashing, t = 0.6 mm, according to project
- 184. Cover flashing, t = 0.6 mm, according to project
- 201. Self-drilling element screw, washer with sealing
- 231. Flashing fastener, washer with sealing
- 300. Expandable sealing band included in Ruukki energy window delivery

- 302. /EA3SS410/ Sealing strip
- 303. /EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)
- 303. /EA3SS1210/ Sealing strip
- 321. /EA3SM310__/ Elastic sealant
- 323. Elastic sealant

Ruukki's delivery

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

Note! System window is installed during installation of elements. Fastening according to window manufacturers instructions.

Note! Remember to seal the grooves of the elements joining the window during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures according to structural designer.

- 001. Sandwich panel SPA ENERGY
- 185. Cover flashing, t = 0.6 mm, according to project
- 201. Self-drilling element screw, washer with sealing
- 231. Flashing fastener, washer with sealing
- 300. Expandable sealing band included in Ruukki energy window delivery
- 302. /EA3SS410/ Sealing strip
- /EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)
- 303. /EA3SS1210/ Sealing strip
- 323. Elastic sealant
- 325. /EA3SM310 / Elastic sealant during inst. to outer and inner female grooves

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

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

Note! Remember to seal the grooves of the elements joining the window during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures, if necessary, according to structural designer (SPA08-ENERGY-3E).

- 001. Sandwich panel SPA ENERGY
- 100. /EA1W/ Window purlin
- 181. Drip flashing, t = 0.6 mm, according to project
- 186. Support- / cover flashing, t = 0.6 mm, acc. to project
- 187. External window sill, t = 0.6 mm, acc. to project
- 231. Flashing fastener, washer with sealing
- 234. Flat head flashing fastener
- 300. /EA3SPBSK/ Expandable sealing band
- 302. /EA3SS410/ Sealing strip
- /EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)
- 321. /EA3SM310/ Elastic sealant

Ruukki’s delivery

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

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

Note! Remember to seal the grooves of the elements joining the window during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures, if necessary, according to structural designer (SPA08-ENERGY-4E).

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

Note! System door is installed during installation of elements. Fastening according to door manufacturers instructions.

Note! Remember to seal the grooves of the elements joining the door during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

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

Note! System door is installed during installation of elements. Fastening according to door manufacturers instructions.

Note! Remember to seal the grooves of the elements joining the door during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).
Note! Openings must be taken into account in dimensioning of elements.

Note! System door is installed during installation of elements. Fastening according to door manufacturers instructions.

Note! Remember to seal the grooves of the elements joining the door during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures according to structural designer.

- 001. Sandwich panel SPA ENERGY
- 182. Drip flashing, \( t = 0.6 \text{ mm} \), according to project
- 183. Storm flashing, \( t = 0.6 \text{ mm} \), according to project
- 201. Self-drilling element screw, washer with sealing
- 231. Flashing fastener, washer with sealing
- 300. Expandable sealing band included in Ruukki energy door delivery
- 302. /EA3SS410/ Sealing strip
- /EA3SS510/ Sealing band EPDM for flashing
  (for demanding climate conditions e.g. coastal areas)
- 303. /EA3SS1210/ Sealing strip
- 321. /EA3SM310__/ Elastic sealant
- 323. Elastic sealant

Ruukki's delivery

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

Note! System door is installed during installation of elements. Fastening according to door manufacturers instructions.

Note! Remember to seal the grooves of the elements joining the door during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures according to structural designer.

- 001. Sandwich panel SPA ENERGY
- 185. Cover flashing, t = 0.6 mm, according to project
- 201. Self-drilling element screw, washer with sealing
- 231. Flashing fastener, washer with sealing
- 300. Expandable sealing band included in Ruukki energy door delivery
- 303. /EA3SS1210/ Sealing strip
- 325. /EA3SM310___/ Elastic sealant during inst. Ruukki energy door delivery
- ≥ 50
- 323. Elastic sealant
- 325. /EA3SS510/ Sealing band EPDM for flashing (for demanding climate conditions e.g. coastal areas)
- 302. /EA3SS410/ Sealing strip
- 303. /EA3SS1210/ Sealing strip

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

Note! Remember to seal the grooves of the elements joining the door during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures, if necessary, according to structural designer (SPA09-ENERGY-3E).
Note! Openings must be taken into account in dimensioning of elements.

Note! Remember to seal the grooves of the elements joining the door during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures, if necessary, according to structural designer (SPA09-ENERGY-4E).
Note! Openings must be taken into account in dimensioning of elements.

Note! Remember to seal the grooves of the elements joining the door during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures according to structural designer.

- 001. Sandwich panel SPA ENERGY
- 100. EA1D___/ Door frame stud
- 193. Drip-/cover flashing, t = 0.6 mm, acc. to project
- 201. Self-drilling element screw, washer with sealing
- 231. Flashing fastener, washer with sealing
- 232. Flashing fastener, without washer
- 302./EA3SS410/ Sealing strip
- 303. /EA3SS1210/ Sealing strip
- 312. /EAWS___/ Mineral wool band
- 321. . /EA3SM310___/ Elastic sealant
- 330. PU insulation
- 342. L-profile
- 331. EPDM sealing

Ruukki's delivery

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

Note! Remember to seal the grooves of the elements joining the door during the installation with elastic sealant to outer female groove to length equivalent to vertical joint flashing width (SPA02-ENERGY-1E).

Supporting structures according to structural designer.

- 001. Sandwich panel SPA ENERGY
- 100. EA1D___/ Door frame stud
- 194. Cover flashing, t = 0.6 mm, according to project
- 201. Self-drilling element screw, washer with sealing
- 231. Flashing fastener, washer with sealing
- 232. Flashing fastener, without washer
- 302. /EA3SS410/ Sealing band for flashing
  /EA3SS510/ Sealing band EPDM for flashing
  (for demanding climate conditions e.g. coastal areas)
- 325. /EA3SM310___/ Elastic sealant during inst.
  to outer and inner female grooves

- Ruukki’s delivery

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Sandwich panel SPA150 ENERGY

Cover width = 1200 ±2

152 ±2
Sandwich panel SPA200 ENERGY

Cover width = 1200 ±2

198 ±2
Sandwich panel SPA230 ENERGY

Cover width = 1200 ±2

232 ±2
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**Contents of drawing**

Sandwich panel SPA
Rib R150 surface profiling

Available for external and internal facings.

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Available for external and internal facings.
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**Contents of drawing**

Sandwich panel SPA  
L50 (Linear) surface profiling

**Scale** 1:10

Drawn by Ruukki

Ruukki

150 150 150

c/c 50

10

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