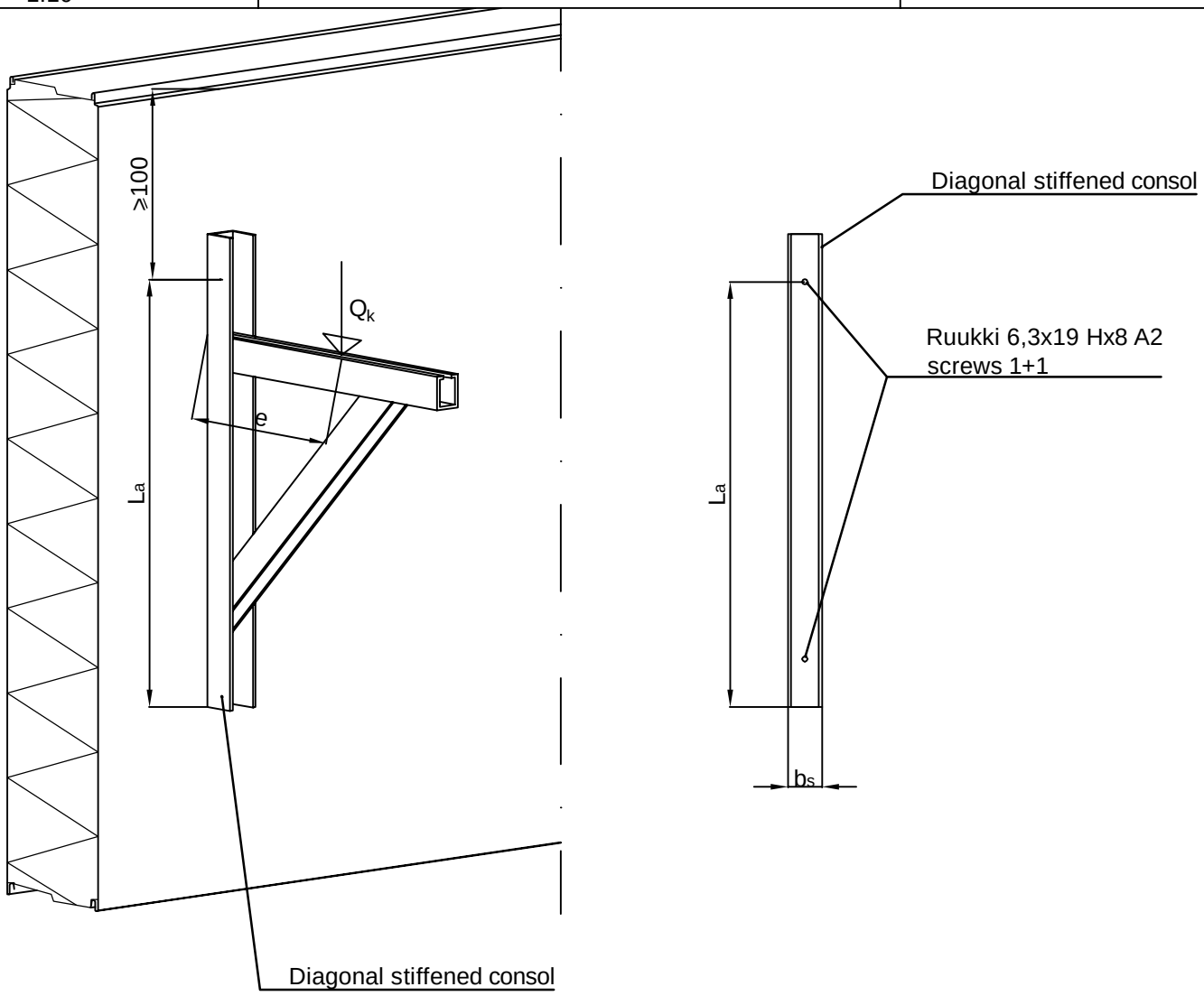
City sector	Block	Site/Reg. nr.	File nr.	
Building type			Drawing type	Nr.
Building, Name and address			Contents of drawing Sandwich panel SPA, nSPB and SP2B Attachments to panel surface	Scale

Ruukki Construction Oy
Panuntie 11
00620 HELSINKI
FINLAND
tel. +358 (0) 20 59 150
www.ruukki.com

Date	Designer	Work nr.	Work nr.	Drw. nr.	Rev.
22.06.2026					
Drawn by Ruukki	Checked				

RUUKKI		Contents of drawing Sandwich panel SPA, nSPB and SP2B Consol detail Direct	
Date 22.06.2026	Rev. date	Work nr.	Drawing nr. SP60-1A-EN
Drawn by Ruukki	Rev.		
Scale 1:10	Building		File nr.



L_a [mm] = Distance from the end of the support to the upper screw
e [mm] = Distance from the load center to the panel surface
b_s [mm] = Width of the support profile
Q_k [kN] = Characteristic load for one consol, always less than 0,5 kN.
q_k [kN] = Continuos characteristic load from several consols

RUUKKI		Contents of drawing Sandwich panel SPA, nSPB and SP2B Consol detail Direct	
Date 22.06.2026	Rev. date	Work nr.	Drawing nr. SP60-1B-EN
Drawn by Ruukki	Rev.		
Scale 1:1	Building		File nr.

Panel compression design strength values

Panel types	f_{Ccd} [N/mm^2]
SPA E	0,045
SPA F	0,071
SPA S	0,086
SPA I	0,045
SPA E Life	0,041
SPA EE	0,033
nSPB WEE	0,030
nSPB WE	0,041
nSPB W	0,068
SP2B E-PIR	0,068

Screw connection design values for different panel faces

Screw type	0,5 mm		0,6 mm	
	R_{td} [kN]	R_{vd} [kN]	R_{td} [kN]	R_{vd} [kN]
Ruukki 6,3x19 Hx8 A2	0,70	1,14	0,88	1,17

Resistance of one consol in panel sheet of 0,5 mm

Connection capacity:

$$Q_k\ [kN] \leqslant \frac{1}{0{,}60+2{,}31*\frac{e}{L_a}}$$

Compression capacity:

$$Q_k\ [kN] \leqslant \frac{0{,}15*f_{Cc,d}*L_a^{\,2}*(b_s+30)}{1000*e}$$

Resistance of one consol in panel sheet of 0,6 mm

Connection capacity:

$$Q_k\ [kN] \leqslant \frac{1}{0{,}58+1{,}84*\frac{e}{L_a}}$$

Compression capacity:

$$Q_k\ [kN] \leqslant \frac{0{,}15*f_{Cc,d}*L_a^{\,2}*(b_s+30)}{1000*e}$$

Minimum steel thickness must be 2mm.
The utilization rate of bending moment against wind pressure must be limited to 85%. Ruukki's dimensioning program TrayPan does the checking automatically.

Panel global capacity check for horizontal installed panels

Maximum moment criteria for SPA E, I, E life and nSPB WE, WEE panels:

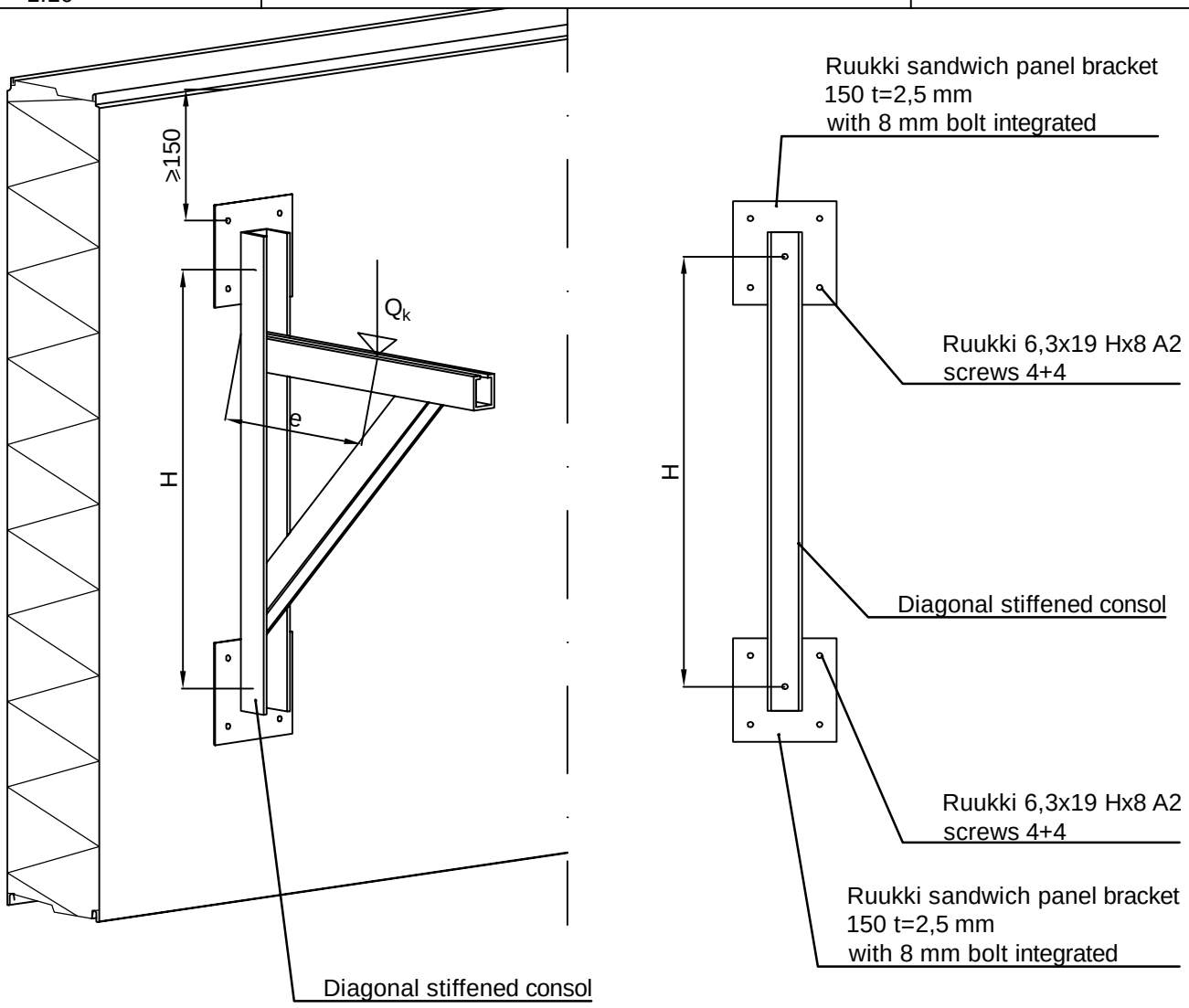
$$q_k\ [kN/m] \leqslant \frac{200}{e}$$

Maximum moment criteria for SPA S, F and nSPB W, SP2B E-PIR panels:

$$q_k\ [kN/m] \leqslant \frac{300}{e}$$

Panel support reaction capacity and panel screw connection capacity together with other loadings to be checked using Traypan program

Contents of drawing Sandwich panel SPA, nSPB and SP2B Consol detail Bracket			
Date 22.06.2026	Rev. date	Work nr.	Drawing nr. SP60-2A-EN
Drawn by Ruukki	Rev.		
Scale 1:10	Building		File nr.



H [mm] = Distance between the connection points
e [mm] = Distance from the load center to the panel surface
Q_k [kN] = Characteristic load for one consol, always less than 1,0 kN.
q_k [kN] = Continuos characteristic load from several consols

RUUKKI		Contents of drawing Sandwich panel SPA, nSPB and SP2B Consol detail Bracket	
Date 22.06.2026	Rev. date	Work nr.	Drawing nr. SP60-2B-EN
Drawn by Ruukki	Rev.		
Scale 1:1	Building		File nr.

Panel compression design strength values

Panel types	f_{Ccd} [N/mm^2]
SPA E	0,045
SPA F	0,071
SPA S	0,086
SPA I	0,045
SPA E Life	0,041
SPA EE	0,033
nSPB WEE	0,030
nSPB WE	0,041
nSPB W	0,068
SP2B E-PIR	0,068

Screw connection design values for different panel faces

Screw type	0,5 mm		0,6 mm	
	R_{td} [kN]	R_{vd} [kN]	R_{td} [kN]	R_{vd} [kN]
Ruukki 6,3x19 Hx8 A2	0,70	1,14	0,88	1,17

Resistance of one consol in panel sheet of 0,5 mm

Connection capacity:

$$Q_k\ [kN] \leqslant \frac{1}{0{,}96+\frac{e}{H+110}+0{,}15}$$

Compression capacity:

$$Q_k\ [kN] \leqslant \frac{12{,}35*f_{Cc,d}*(H+75)}{e}$$

Resistance of one consol in panel sheet of 0,6 mm

Connection capacity:

$$Q_k\ [kN] \leqslant \frac{1}{0{,}77+\frac{e}{H+110}+0{,}14}$$

Compression capacity:

$$Q_k\ [kN] \leqslant \frac{12{,}35*f_{Cc,d}*(H+75)}{e}$$

The utilization rate of bending moment against wind pressure must be limited to 85%. Ruukki's dimensioning program TrayPan does the checking automatically.

Panel global capacity check for horizontal installed panels

Maximum moment criteria for SPA E, I, E life and nSPB WE, WEE panels:

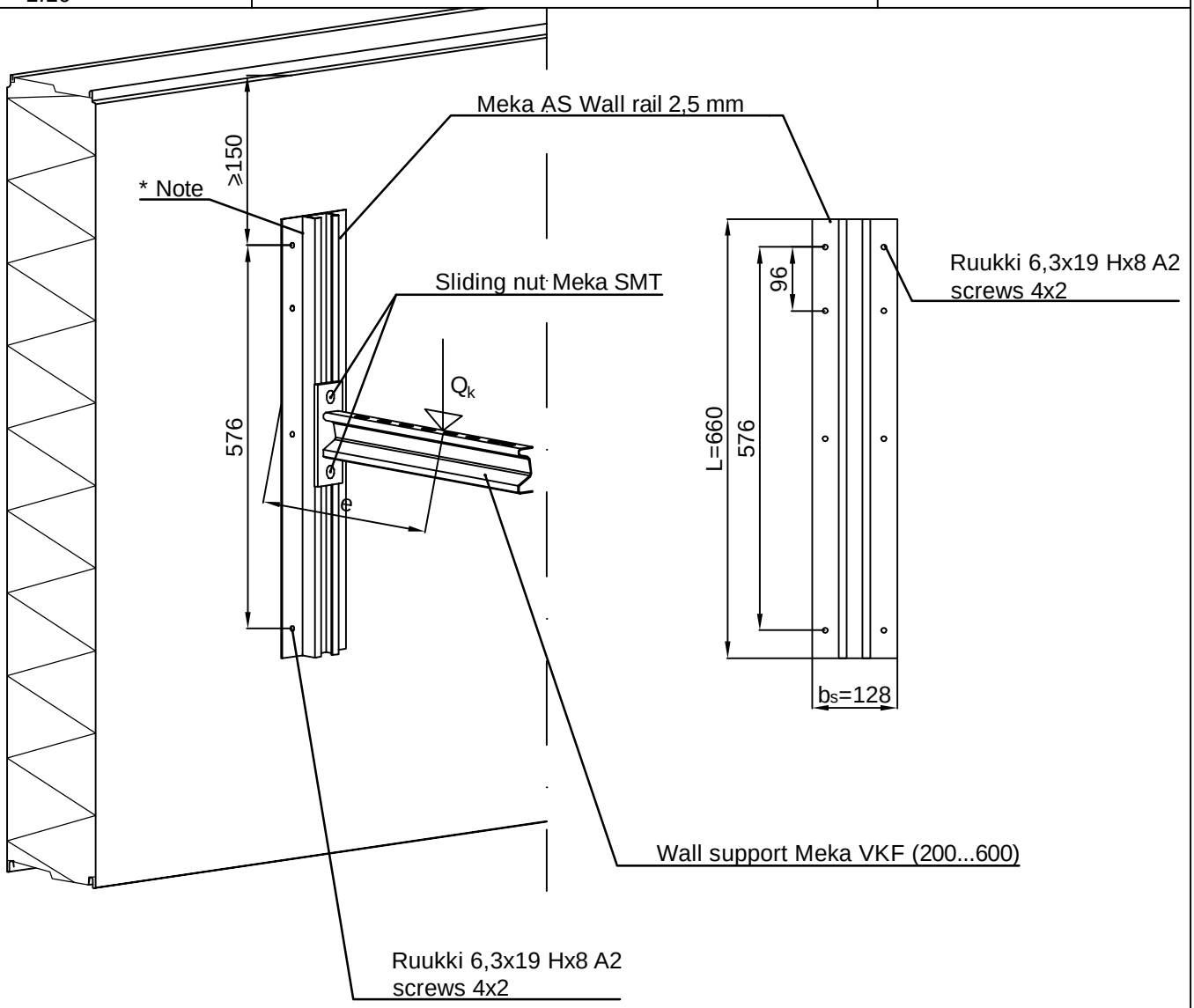
$$q_k\ [kN/m] \leqslant \frac{200}{e}$$

Maximum moment criteria for SPA S, F and nSPB W, SP2B E-PIR panels:

$$q_k\ [kN/m] \leqslant \frac{300}{e}$$

Panel support reaction capacity and panel screw connection capacity together with other loadings to be checked using Traypan program

RUUKKI		Contents of drawing Sandwich panel SPA, nSPB and SP2B Consol detail Meka	
Date 22.06.2026	Rev. date	Work nr.	Drawing nr. SP60-3A-EN
Drawn by Ruukki	Rev.		
Scale 1:10	Building		File nr.



* Note! 660 mm rail is cut from 1980 mm long rail. Please check that welding point is always at the top of the profile.

See Meka products: www.meka.eu

e [mm] = Distance from the load center to the panel surface
Q_k [kN] = Characteristic load for one consol, always less than 1,0 kN.
q_k [kN] = Continuos characteristic load from several consols

RUUKKI		Contents of drawing Sandwich panel SPA, nSPB and SP2B Consol detail Meka	
Date 22.06.2026	Rev. date	Work nr.	Drawing nr. SP60-3B-EN
Drawn by Ruukki	Rev.		
Scale 1:1	Building		File nr.

Panel compression design strength values

Panel types	f_{Ccd} [N/mm^2]
SPA E	0,045
SPA F	0,071
SPA S	0,086
SPA I	0,045
SPA E Life	0,041
SPA EE	0,033
nSPB WEE	0,030
nSPB WE	0,041
nSPB W	0,068
SP2B E-PIR	0,068

Screw connection design values for different panel faces

Screw type	0,5 mm		0,6 mm	
	R_{td} [kN]	R_{vd} [kN]	R_{td} [kN]	R_{vd} [kN]
Ruukki 6,3x19 Hx8 A2	0,70	1,14	0,88	1,17

Resistance of one consol in panel sheet of 0,5 mm

Connection capacity:

$$Q_k\ [kN] \leqslant \frac{1}{0{,}15+0{,}0012*e}$$

Compression capacity:

$$Q_k\ [kN] \leqslant \frac{9000*f_{Cc,d}}{e}$$

Resistance of one consol in panel sheet of 0,6 mm

Connection capacity:

$$Q_k\ [kN] \leqslant \frac{1}{0{,}15+0{,}0009*e}$$

Compression capacity:

$$Q_k\ [kN] \leqslant \frac{9000*f_{Cc,d}}{e}$$

The utilization rate of bending moment against wind pressure must be limited to 85%. Ruukki's dimensioning program TrayPan does the checking automatically.

Panel global capacity check for horizontal installed panels

Maximum moment criteria for SPA E, I, E life and nSPB WE, WEE panels:

$$q_k\ [kN/m] \leqslant \frac{200}{e}$$

Maximum moment criteria for SPA S, F and nSPB W, SP2B E-PIR panels:

$$q_k\ [kN/m] \leqslant \frac{300}{e}$$

Panel support reaction capacity and panel screw connection capacity together with other loadings to be checked using Traypan program