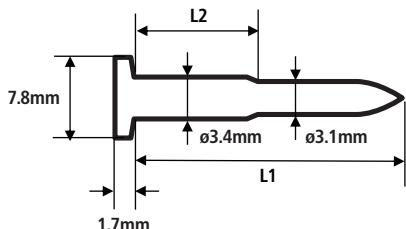




Production data

Dimensions



Aluminum guide



Plastic guide

Item name	L1	L2	Guide
CP-W814W4SP AL	14.3	5	Aluminum
CP-W816W4SP AL	16.3	7.3	Aluminum
CP-W820W4SP AL	20.3	7.3	Aluminum
CP-W823W4SP AL	23.3	7.3	Aluminum
CP-W823W4SP	23.3	7.3	Plastic
CP-W828W4SP	28.3	20.3	Plastic
CP-W833W4SP	33.3	20.3	Plastic
CP-W838W4SP	38.3	25.3	Plastic
CP-W843W4SP	43.3	25.3	Plastic
CP-W848W4SP	48.3	37.3	Plastic
CP-W850W4SP	50.3	37.3	Plastic

General Information

Material : Carbon Steel "SP"
Hardness : > HRC56
Zinc coating > 5µm
Reaction to fire

The pins are made from steel classified as Euroclass A1 in accordance with EN13501-1 and Commission Delegated Regulation 2016/364

Tool

PowerLite HN120



Approvals

ETA-20/0096 of 2007/02/17
 ICC-ES ESR-4320

Applications

Thin Steel to Steel

CP-W814W4SP AL
 CP-W816W4SP AL
 CP-W820W4SP AL
 CP-W823W4SP AL
 CP-W823W4SP



Steel Profile



Angle Bracket



Steel Deck

Wood to Steel

CP-W828W4SP
 CP-W833W4SP
 CP-W838W4SP
 CP-W843W4SP
 CP-W848W4SP
 CP-W850W4SP



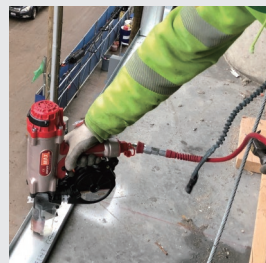
Plywood



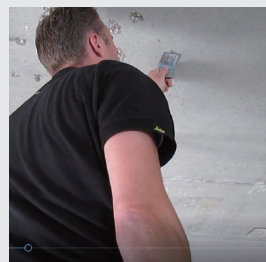
Wood

Thin Steel to Concrete

CP-W814W4SP AL
 CP-W816W4SP AL
 CP-W820W4SP AL
 CP-W823W4SP AL
 CP-W823W4S



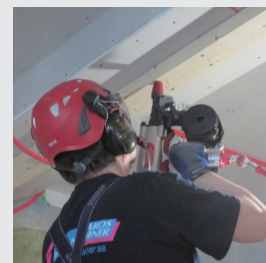
Steel Profile



Angle Bracket

Wood to Concrete

CP-W823W4SP AL
 CP-W823W4SP
 CP-W828W4SP
 CP-W833W4SP
 CP-W838W4SP
 CP-W843W4SP
 CP-W848W4SP
 CP-W850W4SP

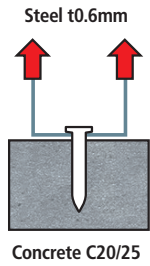


Wood

Fastening to Concrete

Characteristic Loads

Test result

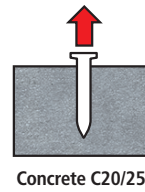


Maximum Load (kN)

	CP-W823W4SP AL	
1	1.32	Pull out
2	1.63	
3	1.34	
4	1.37	
5	1.38	
6	1.21	
Ave.	1.38	

Characteristic Loads (kN) **0.95**

Test result

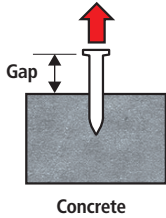


Maximum Load (kN)

	CP-W838W4SP	
1	3.46	Pull out
2	3.81	
3	3.65	
4	3.21	
5	3.35	
6	3.42	
Ave.	3.48	

Characteristic Loads (kN) **2.82**

Test Data



Average of Maximum Loads

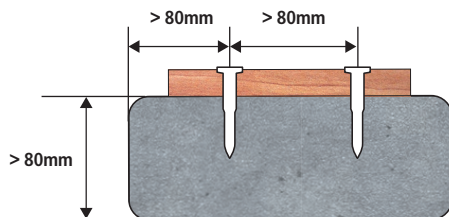
Concrete	CP-W820W4SP AL	
	Gap (mm)	Load (kN)
C20	7.90	1.75
C40	7.00	2.05
C50	7.62	2.10
C60	7.27	2.56

Average of Maximum Loads

Concrete	CP-W850W4SP	
	Gap (mm)	Load (kN)
C20	32.06	2.42
C40	33.21	2.46
C50	32.77	3.25
C60	32.81	2.32

Application requirements

Thickness of Concrete: > 80mm
Edge distance: > 80mm
Spacing: > 80mm



Pin Selector

Top Member	Item name
Water Proof Sheet	CP-W814W4SP AL CP-W816W4SP AL CP-W820W4SP AL
Metal < 1.4mm	
Light gauge Steel < 2.3mm	CP-W820W4SP AL CP-W823W4SP AL
Plywood < 12mm	CP-W828W4SP
Plywood < 18mm	CP-W833W4SP
Plywood < 25mm	CP-W838W4SP
Wood < 38mm	CP-W850W4SP

Fastening Thin Steel to Steel with CP-W814,816,820,823W4SP AL

Characteristic Loads

Tension resistances (kN)

Thickness of Top material (mm)	Thickness of Base material (mm)						
	3.00	4.00	5.00	6.00	8.00	10.0	12.0
0.70	2.24	2.24	2.24	2.24	2.24	2.24	2.24
0.88	2.84	3.21	3.21	3.21	3.21	3.21	3.21
1.00	2.84	3.48	3.86	3.86	3.86	3.58	3.58
1.25	2.84	3.48	4.38	4.61	4.87	3.58	3.58
1.50	2.84	3.48	4.38	4.61	5.06	3.58	3.58
2.00	2.84	3.48	4.38	4.61	5.06	3.58	3.58
2.50	2.84	3.48	4.38	4.61	5.06	3.58	3.58
3.00	2.84	3.48	4.38	4.61	5.06	3.58	3.58

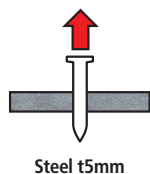
Shear resistances (kN)

Thickness of Top material (mm)	Thickness of Base material (mm)						
	3.00	4.00	5.00	6.00	8.00	10.0	12.0
0.70	2.95	2.95	2.95	2.95	2.95	2.95	2.95
0.88	3.29	3.29	3.29	3.29	3.29	3.29	3.29
1.00	3.52	3.52	3.52	3.52	3.52	3.52	3.52
1.25	4.40	4.40	4.40	4.40	4.40	4.40	4.40
1.50	5.28	5.28	5.28	5.28	5.28	5.28	5.28
2.00	5.76	5.76	5.76	5.76	5.76	5.76	5.76
2.50	6.01	6.01	6.01	6.01	6.01	6.01	6.01
3.00	6.26	6.26	6.26	6.26	6.26	6.26	6.26

Fastening Wood to Steel with CP-W828,833,838,843,848,850W4SP

Characteristic Loads

Test result



Maximum Load (kN)

	CP-W838W4SP	
1	5.96	Pull out
2	5.74	
3	5.82	
4	5.63	
5	5.79	
6	5.53	
Ave.	5.75	

Characteristic Loads (kN)

5.40

Fastening Wood to Steel with CP-W828,833,838,843,848,850W4SP

Application requirements

Thickness of Steel:

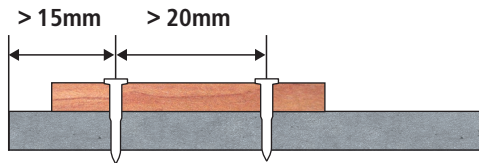
3mm		
4mm		
6mm		
8mm		
10mm		
12mm		
	S235	S355

■ : All Pins

■ : Only CP-W814,816W4SP AL

Edge distance: > 15mm

Spacing: > 20mm



Pin Selector

Top member	Item name
Metal < 1.4mm	CP-W814W4SP AL
	CP-W816W4SP AL
	CP-W820W4SP AL
	CP-W823W4SP AL
Light gauge Steel < 2.3mm	CP-W820W4SP AL
	CP-W823W4SP AL
Plywood < 6mm	CP-W823W4SP AL
Plywood < 12mm	CP-W828W4SP
Plywood < 18mm	CP-W833W4SP
Plywood < 25mm	CP-W838W4SP
Wood < 38mm	CP-W850W4SP