Technical data sheet

RCKW
Kneewall Connector

The Simpson Strong-Tie® RCKW is a heavy duty rigid connector that has been developed to resist an overturning moment at the base of exterior kneewalls and parapets as well as interior partial height walls or overhead ribbon window conditions.

Features

Features

The RCKW is a 1 or 2 part connector designed to resist an over-turning moment at the base of exterior knee-walls and parapets as well as interior partial height walls.
These connectors offer a unique large and small anchorage hole pattern that permits anchorage into both hot rolled steel and concrete.
If more rigidity is required, a stiffener (the RCKWS) can be added to nest into the RCKW clip; the screw and anchor holes line up making installation simple, with no need for pre drilling.
The RCKW and the RCKWS are sold separately.
Key Features include:

- Anchorage legs incorporate stifened flanges, improving over-turning moment resistance
- Large diameter anchor holes accommodate 12 mm diamter fixings (LMAS stud with AT-HP Resin)
- Additional smaller diameter anchor holes allow for the attachment to hot rolled steel with X1224D540 self-drilling screws.

Material

Galvanised Mild Steel: 275 g/m^2

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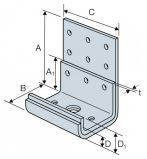
SIMPSON Strong-Tie

Technical Data

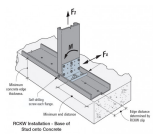
Product Dimensions



RCKW3 & RCKW3S Dims

References	Hanger Dimensions [mm]							Holes Flange A		Holes Flange B			
	A	A_1	B	C	D	D_1	t	Ø4.8	Ø5.5	Ø6.7	Ø7.5	Ø14.3	Ø15.9
RCKW3	90	-	66	75	22	-	4.7	9	-	2	-	1	-
RCKW5.5	90	-	66	140	22	-	4.7	15	-	4	-	3	-
RCKW7.5	90	-	66	190	22	-	4.7	21	-	6	-	3	-
RCKW3S	-	38	56	75	-	19	4.7	-	3	-	2	-	1
RCKW5.5S	-	38	56	140	-	19	4.7	-	5	-	4	-	3

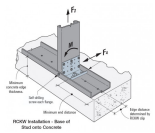
Performance Values - 1.2mm LGS (Concrete)



RCKW - Concrete Support

References	Fasteners		Minimum Framing Member Depth [mm]	Screw Installation Pattern	Assembly Rotational Stiffness β [Nm/Rad]	Connector Rotational Stiffness β_c [Nm/Rad]	Safe Working Loads [kN]					
	Flange A Stud	Flange B Concrete					Moment $M_{R,SWL}$ [Nm]	Anchor Tension at M_R Capacity		Tension $R_{2,SWL}$	Anchor Tension at R_2 Capacity	
	Qty (X1214D325)	Qty (M12 Anchor)						Concrete C20/25	Concrete C30/35		Concrete C20/25	Concrete C30/35
RCKW3	4	1	90	1	12767	12993	348	11.2	10.5	5.6	7.3	7.1
RCKW3+RCKW3S	9	1	90	2	18530	19772	476	17.5	15.4	11.5	19.6	16.7
RCKW5.5	6	1	150	3	36155	38189	706	11.2	10.9	4.7	5.8	5.7
RCKW5.5+RCKW5.5S	10	1	150	4	50843	55363	954	15.9	15.2	11.4	15.3	14.6
RCKW7.5	6	1	200	5	57622	60560	926	10.4	10.2	5.7	6.9	6.8
RCKW7.5+RCKW5.5S	10	1	200	6	66774	70390	1233	14.3	13.9	10	12.6	12.3

Performance Values - 1.6mm LGS (Concrete)



RCKW - Concrete Support

References	Fasteners		Minimum Framing Member Depth [mm]	Screw Installation Pattern	Assembly Rotational Stiffness β [Nm/Rad]	Connector Rotational Stiffness β_c [Nm/Rad]	Safe Working Loads [kN]					
	Flange A Stud	Flange B Concrete					Moment $M_{R,SWL}$ [Nm]	Anchor Tension at M_R Capacity		Tension $R_{2,SWL}$	Anchor Tension R_2 Capacity	
	Qty (X1214D325)	Qty (M12 Anchor)						Concrete C20/25	Concrete C30/35		Concrete C20/25	Concrete C30/35
RCKW3	4	1	90	1	14462	15479	489	18.3	16	8.2	11.8	11
RCKW3+RCKW3S	9	1	90	2	18530	19772	583	29.8	20.4	15.3	27.3	25.9
RCKW5.5	6	1	150	3	36155	38189	929	15.4	14.8	10.9	14.5	13.9
RCKW5.5+RCKW5.5S	10	1	150	4	52764	56718	1308	23.8	21.9	16.9	25.2	23.1
RCKW7.5	6	1	200	5	62594	64514	1288	15	14.6	9.6	12.1	11.8
RCKW7.5+RCKW5.5S	10	1	200	6	77847	81349	1587	19	18.3	11.7	14.9	14.5

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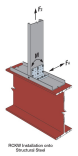
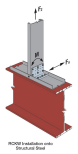
RCKW
Kneewall Connector



RCKW - Steel Suppport

Performance Values - 1.2mm LGS (Structural Steel)

References	Fasteners		Minimum Framing Member Depth [mm]	Screw Installation Pattern	Assembly Rotational Stiffness β [Nm/Rad]	Connector Rotational Stiffness β_c [Nm/Rad]	Safe Working Loads [kN]			Characteristic Loads [kN]		
	Flange A Stud	Flange B Structural Steel					Moment $M_{R,SWL}$ [Nm]	Tension $R_{2,SWL}$	Shear $R_{4,SWL}$	Moment $M_{R,K}$ [Nm]	Tension $R_{2,K}$	Shear $R_{4,K}$
	Qty (X1214D325)	Qty (X1224D540)										
RCKW3	4	2	90	7	8281	8666	290	5.4	3.3	395	7.4	4.5
RCKW5.5	6	4	150	8	30798	32436	720	8.5	4.7	979	11.5	6.4
RCKW7.5	6	6	200	9	64579	68194	1084	8.7	5	1476	11.8	6.9



RCKW - Steel Suppport

Performance Values - 1.6mm LGS (Structural Steel)

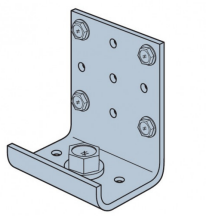
References	Fasteners		Minimum Framing Member Depth [mm]	Screw Installation Pattern	Assembly Rotational Stiffness β [Nm/Rad]	Connector Rotational Stiffness β_c [Nm/Rad]	Safe Working Loads [kN]			Characteristic Loads [kN]		
	Flange A Stud	Flange B Structural Steel					Moment $M_{R,SWL}$ [Nm]	Tension $R_{2,SWL}$	Shear $R_{4,SWL}$	Moment $M_{R,K}$ [Nm]	Tension $R_{2,K}$	Shear $R_{4,K}$
	Qty (X1214D325)	Qty (X1224D540)										
RCKW3	4	2	90	7	9859	10304	304	6.2	5	447	9.1	7.3
RCKW5.5	6	4	150	8	28911	30064	726	8.9	5.8	1070	13.1	8.5
RCKW7.5	6	6	200	9	78362	82656	1279	9.7	7.6	1883	14.3	11.2

Table Notes:
1. Tabulated values are based on framing members with track and stud of the same thickness and (1) Ø5.5mm Framing Screw into each stud flange unless otherwise noted.
2. Tabulated moment values correspond to connector strength without consideration of serviceability. designer must check out-of-plane deflections using tabulated Rotational Stiffness.
3. Tabulated Assembly Rotational Stiffness is applicable for walls at 950mm tall with corresponding framing member depth and thickness.
4. Tabulated Connector Rotational Stiffness may be used for any wall heights; the designer must consider member deflection due to bending in the stud member.
5. Anchor tension (T) is the force in the anchor, at the tabulated momement (M), or tension (F_2) values.
6. The designer is responsible for anchor design / specification
7. The designer is responsible for structural steel design.
8. Anchor tension values may be interpolated
9. See illustrations for fastener pattern placement

Installation

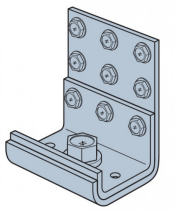
Installation

- Use all specified fasteners (see performance tables for fastener quantities and types)
- When using the RCKWS, secure the stiffener to the clip with the specified fasteners. Screws must extend through the connection with a minimum of three exposed threads.
- When installing onto concrete, the installation torque must be as published for the relevant anchor type and size
- When using the larger-diameter anchor holes, the bottom track must be predrilled or punched with a 20mm diameter hole.



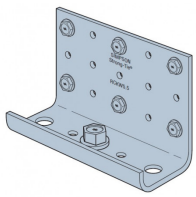
RCKW3 Fastener Pattern 1
- Concrete Application

RCKW3 Fastener Pattern 1 - Concrete Application



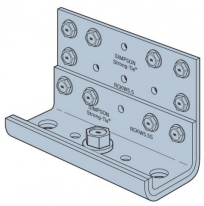
RCKW3 with RCKW
Fastener Pattern 2
- Concrete Application

RCKW with RCKW3 Fastener Pattern 2 - Concrete Application



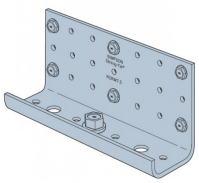
RCKW5.5 Fastener Pattern 3
- Concrete Application

RCKW5.5 Fastener Pattern 3 - Concrete Application



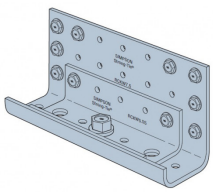
RCKW5.5 with RCKW5.5S
Fastener Pattern 4
- Concrete Application

RCKW5.5 with RCKW5.5S Fastener Pattern 4 - Concrete Application



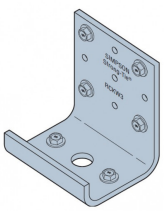
RCKW7.5 Fastener Pattern 5
- Concrete Application

RCKW7.5 Fastener Pattern 5 - Concrete Application



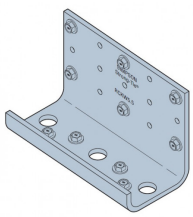
RCKW7.5 with RCKW5.5S
Fastener Pattern 6
- Concrete Application

RCKW7.5 with RCKW5.5S Fastener Pattern 6 - Concrete Application



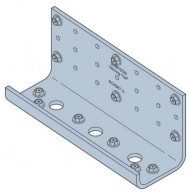
RCKW3 Fastener Pattern 7
- Structural Steel
Application

RCKW3 Fastener Pattern 7 - Structural Steel Application



RCKWS Fastener Pattern 8
- Structural Steel
Application

RCKW5 Fastener Pattern 8 - Structural Steel Applications

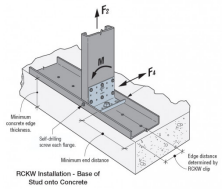


RCKW7 Fastener Pattern 9
- Structural Steel
Application

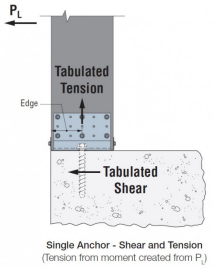
RCKW7 Fastener Pattern 9 - Structural Steel Applications

Technical data sheet

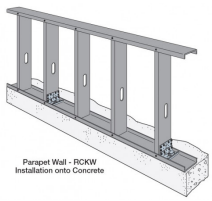
RCKW
Kneewall Connector



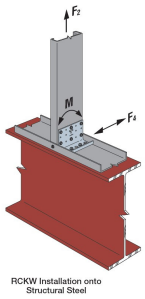
RCKW - Concrete Support



RCKW - Concrete Installation



RCKW - Parapet Wall



RCKW - Steel Suppport

X1212D325 - LGS to LGS

X1224D540 - LGS to Rolled Steel

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