

Technical data sheet

SIMPSON

Strong-Tie

BTALU

Concealed Beam Hanger

The BTALU concealed hanger is one solution to connecting timber members together without seeing the connector. It is designed to be fixed to the header timber and then fully inserted into a slot in the in-coming beam, and held in place with dowels. Holes are drilled through the timber and fin of the BTALU, allowing accurate alignment. This method provides an aesthetically pleasing connection for feature beams.

Note: Fasteners & dowels supplied; dowel length must be specified upon ordering
Holes for the joist have to be site drilled in accordance to positions shown in diagram below.



Features

Material

Aluminium

Benefits

- Accurate alignment of dowels
- Aesthetically pleasing

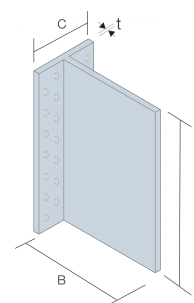
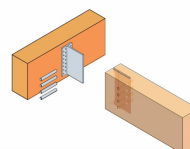
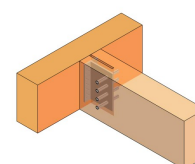
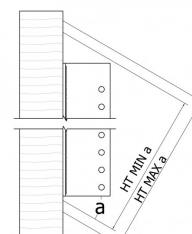
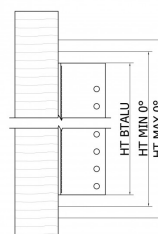
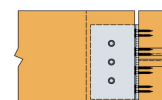
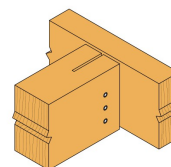
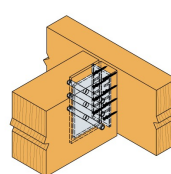
Applications

For Connecting

Glulam timbers

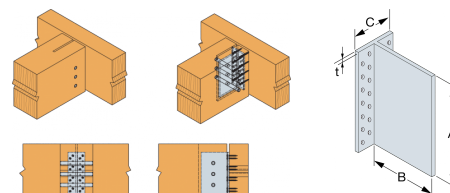
For Use With

Carried and carrying Glulam member



BTALU Concealed Beam Hanger

Technical Data



Product Dimensions

References	Tun / DB nr.	Product Dimensions [mm]				Header holes	Box Quantity	Weight [kg]
		A	B	C	t	Ø5		
BTALU90	1862485	86	109	62	6	16	25	0.23
BTALU120	1821910	116	109	62	6	20	25	0.3
BTALU160	1821917	156	109	62	6	28	25	0.41
BTALU200	1862489	196	109	62	6	36	15	0.51
BTALU240	1821920	236	109	62	6	44	15	0.61

The holes for the joist has to be drill acc. to the hole pattern of the ETA.

The size A can be up to 4mm less for cutting from the raw length, the cut shall be between the nail holes.

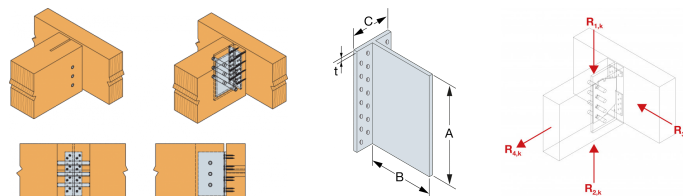
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Performance Values

References	Product Capacities [kN]									
	Number of Fasteners				$R_{1,k} = R_{2,k}$					
	Header		Joist		Dowels length [mm]					
	Qty	Type	Qty	Type	60	80	100	120	140	160
BTALU1200/120	20	CNA4.0x50	3	STD12	17.3	18.2	19.4	20.7	22.3	23.9
BTALU1200/160	28	CNA4.0x50	4	STD12	28	29.5	31.2	33.3	35.7	38.2
BTALU1200/200	36	CNA4.0x50	5	STD12	39.8	41.9	44.3	47.2	50.4	53.9
BTALU1200/240	44	CNA4.0x50	6	STD12	52.2	54.9	57.9	61.7	65.9	70.3
BTALU1200/280	52	CNA4.0x50	7	STD12	64.6	68	71.7	76.4	81.7	87.2
BTALU1200/320	60	CNA4.0x50	8	STD12	77	81	85.5	91.2	97.5	104.1
BTALU1200/360	68	CNA4.0x50	9	STD12	89.1	93.8	99	105.8	113.3	121.1
BTALU1200/400	76	CNA4.0x50	10	STD12	100.8	106.1	112.3	120.2	129	137.9
BTALU1200/440	84	CNA4.0x50	11	STD12	112.1	118	125.2	134.4	144.4	154.7
BTALU1200/480	92	CNA4.0x50	12	STD12	122.8	129.3	137.7	148.2	159.7	171.3
BTALU1200/520	100	CNA4.0x50	12	STD12	122.8	129.3	138.4	150.5	163.1	175.8
BTALU1200/560	108	CNA4.0x50	12	STD12	122.8	129.3	138.4	150.7	164.9	179.1
BTALU1200/600	116	CNA4.0x50	12	STD12	122.8	129.3	138.4	150.7	164.9	180.4
BTALU90	16	CNA4.0x50	4	STD8	10.8	11.8	12.9	13.7	13.7	13.7
BTALU120	20	CNA4.0x50	3	STD12	17.3	18.2	19.4	20.7	22.3	23.9
BTALU160	28	CNA4.0x50	4	STD12	28	29.5	31.2	33.3	35.7	38.2
BTALU200	36	CNA4.0x50	5	STD12	39.8	41.9	44.3	47.2	50.4	53.9
BTALU240	44	CNA4.0x50	6	STD12	52.2	54.9	57.9	61.7	65.9	70.3

The joist shall have as minimum a width = length of steel dowel.

For beams with a slope β the capacities shall be multiply with the factor.

β	0°	15°	30°	45°
factor	1.0	0.95	0.90	0.85

It's only necessary for connection with less than 7 steel dowel in the joist.

Technical data sheet

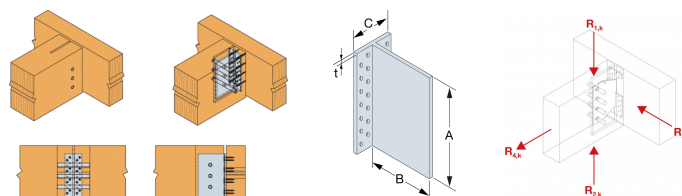
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Concealed Beam Hanger

Product characteristic capacities - Timber beam to timber beam - $R_{3,k}$ and $R_{4,k}$



References	Product Capacities [kN]										
	Number of Fasteners				Product characteristic capacities - Timber C24 [kN]						
	Header		Joist		R _{3,k}						R _{4,k}
	Qty	Type	Qty	Type	Dowels length [mm]						
					60	80	100	120	140	160	
BTALU1200/120	20	CNA4.0x50	3	STD12	2.2	2.9	3.5	4.2	4.8	5.6	9.8
BTALU1200/160	28	CNA4.0x50	4	STD12	2.9	3.6	4.4	5.3	6.2	7	13.7
BTALU1200/200	36	CNA4.0x50	5	STD12	3.5	4.4	5.4	6.4	7.4	8.4	17.6
BTALU1200/240	44	CNA4.0x50	6	STD12	4.2	5.3	6.4	7.4	8.6	9.8	21.5
BTALU1200/280	52	CNA4.0x50	7	STD12	4.8	6.1	7.3	8.5	9.9	11.3	25.5
BTALU1200/320	60	CNA4.0x50	8	STD12	5.5	6.8	8.3	9.7	11.1	12.9	29.4
BTALU1200/360	68	CNA4.0x50	9	STD12	6.1	7.6	9.2	10.9	12.4	14.4	33.3
BTALU1200/400	76	CNA4.0x50	10	STD12	6.7	8.3	10.1	12.1	13.8	15.8	37.2
BTALU1200/440	84	CNA4.0x50	11	STD12	7.3	9.1	11	13.2	15.2	17.2	41.2
BTALU1200/480	92	CNA4.0x50	12	STD12	7.9	9.8	11.9	14.3	16.6	18.7	45.1
BTALU1200/520	100	CNA4.0x50	12	STD12	8.6	10.6	12.8	15.4	17.8	20.1	49
BTALU1200/560	108	CNA4.0x50	12	STD12	9.2	11.3	13.8	16.5	19.1	21.5	52.9
BTALU1200/600	116	CNA4.0x50	12	STD12	9.8	12.1	14.7	17.6	20.4	23	56.8
BTALU90	16	CNA4.0x50	4	STD8	1.5	1.9	2.3	2.7	3.1	3.6	7.8
BTALU120	20	CNA4.0x50	3	STD12	2.2	2.9	3.5	4.2	4.8	5.6	9.8
BTALU160	28	CNA4.0x50	4	STD12	2.9	3.6	4.4	5.3	6.2	7	13.7
BTALU200	36	CNA4.0x50	5	STD12	3.5	4.4	5.4	6.4	7.4	8.4	17.6
BTALU240	44	CNA4.0x50	6	STD12	4.2	5.3	6.4	7.4	8.6	9.8	21.6

The joist shall have as minimum a width = length of steel dowel.

The capacities R_4 are for all length of steel dowel.

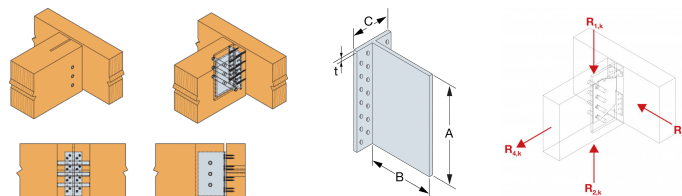
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BTALU Concealed Beam Hanger

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Product characteristic capacities - Timber beam to timber post



References	Product characteristic capacities - Timber beam to timber post - partial nailing										
	Number of Fasteners				Post width Min	Product characteristic capacities - Timber C24 [kN]					
	Header		Joist			R _{1,k} = R _{2,k}					
	Qty	Type	Qty	Type		Dowels length [mm]					
						60	80	100	120	140	160
BTALU1200/120	12	CNA4.0x50	3	STD12	96	14.7	15.5	16.6	17.9	19.4	20.7
BTALU1200/160	16	CNA4.0x50	4	STD12	96	23.2	24.4	26	27.9	30	32
BTALU1200/200	20	CNA4.0x50	5	STD12	96	32.4	34.1	36.2	38.7	41.2	43.4
BTALU1200/240	24	CNA4.0x50	6	STD12	96	42.1	44.3	46.8	49.7	52.3	53.2
BTALU1200/280	28	CNA4.0x50	7	STD12	96	52	54.7	57.5	60.5	62	62
BTALU1200/320	32	CNA4.0x50	8	STD12	96	61.8	65.1	68.1	70.7	70.9	70.9
BTALU1200/360	36	CNA4.0x50	9	STD12	96	71.7	75.5	78.5	79.8	79.8	79.8
BTALU1200/400	40	CNA4.0x50	10	STD12	96	81.4	85.7	88.4	88.6	88.6	88.6
BTALU1200/440	44	CNA4.0x50	11	STD12	96	91	95.8	97.5	97.5	97.5	97.5
BTALU1200/480	48	CNA4.0x50	12	STD12	96	100.3	105.6	106.4	106.4	106.4	106.4
BTALU1200/520	52	CNA4.0x50	12	STD12	96	105.5	111.1	114.6	115.2	115.2	115.2
BTALU1200/560	56	CNA4.0x50	12	STD12	96	109.9	115.7	120.3	124	124.1	124.1
BTALU1200/600	60	CNA4.0x50	12	STD12	96	113.8	119.8	125	130.5	133	133
BTALU90	8	CNA4.0x50	4	STD8	96	9	9.9	10.9	11.6	11.6	11.6
BTALU120	12	CNA4.0x50	3	STD12	96	14.7	15.5	16.6	17.9	19.4	20.7
BTALU160	16	CNA4.0x50	4	STD12	96	23.2	24.4	26	27.9	30	32
BTALU200	20	CNA4.0x50	5	STD12	96	32.4	34.1	36.2	38.7	41.2	43.4
BTALU240	24	CNA4.0x50	6	STD12	96	42.1	44.3	46.8	49.7	52.3	53.2

The joist shall have as minimum a width = length of steel dowel.

For beams with a slope β the capacities shall be multiply with the factor.

β	0°	15°	30°	45°
factor	1.0	0.95	0.90	0.85

It's only necessary for connection with less than 7 steel dowel in the joist.

The capacities R_4 are for all length of steel dowel.

The capacities from this table are also valid for partial nailing beam to beam.

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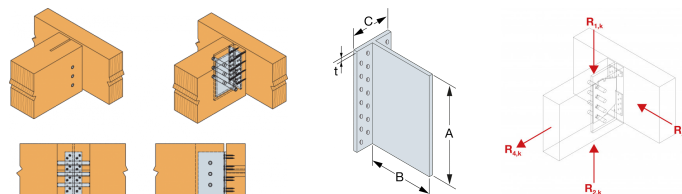
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Product characteristic capacities - Timber beam to timber post - $R_{3,k}$ and $R_{4,k}$



References	Product characteristic capacities - Timber beam to timber post - partial nailing											
	Number of Fasteners				Post width	Product characteristic capacities - Timber C24 [kN]						
	Header		Joist			R _{3,k}						R _{4,k}
	Qty	Type	Qty	Type	Min	Dowels length [mm]						
						60	80	100	120	140	160	
BTALU1200/120	12	CNA4.0x50	3	STD12	96	2.2	2.9	3.5	4.2	4.8	5.6	5.9
BTALU1200/160	16	CNA4.0x50	4	STD12	96	2.9	3.6	4.4	5.3	6.2	7	7.8
BTALU1200/200	20	CNA4.0x50	5	STD12	96	3.5	4.4	5.4	6.4	7.4	8.4	9.8
BTALU1200/240	24	CNA4.0x50	6	STD12	96	4.2	5.3	6.4	7.4	8.6	9.8	11.8
BTALU1200/280	28	CNA4.0x50	7	STD12	96	4.5	5.6	6.7	7.7	8.9	10.1	13.7
BTALU1200/320	32	CNA4.0x50	8	STD12	96	5.2	6.4	7.7	8.8	10.2	11.5	15.7
BTALU1200/360	36	CNA4.0x50	9	STD12	96	5.8	7.2	8.6	9.9	11.5	12.9	17.6
BTALU1200/400	40	CNA4.0x50	10	STD12	96	6.5	8	9.6	11	12.7	14.4	19.6
BTALU1200/440	44	CNA4.0x50	11	STD12	96	7.1	8.8	10.5	12.1	14	15.8	21.6
BTALU1200/480	48	CNA4.0x50	12	STD12	96	7.7	9.5	11.5	13.2	15.3	17.2	23.5
BTALU1200/520	52	CNA4.0x50	12	STD12	96	8.4	10.3	12.4	14.3	16.6	18.7	25.5
BTALU1200/560	56	CNA4.0x50	12	STD12	96	9	11.1	13.4	15.4	17.8	20.1	27.4
BTALU1200/600	60	CNA4.0x50	12	STD12	96	9.7	11.9	14.4	16.5	19.1	21.5	29.4
BTALU90	8	CNA4.0x50	4	STD8	96	1.5	1.9	2.3	2.7	2.7	2.7	3.9
BTALU120	12	CNA4.0x50	3	STD12	96	2.2	2.9	3.5	4.2	4.8	5.6	5.9
BTALU160	16	CNA4.0x50	4	STD12	96	2.9	3.6	4.4	5.3	6.2	7	7.8
BTALU200	20	CNA4.0x50	5	STD12	96	3.5	4.4	5.4	6.4	7.4	8.4	9.8
BTALU240	24	CNA4.0x50	6	STD12	96	4.2	5.3	6.4	7.4	8.6	9.8	11.8

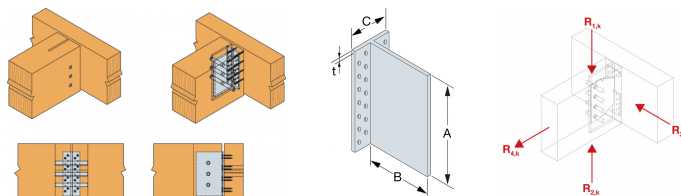
The joist shall have as minimum a width = length of steel dowel.
The capacities R_4 are for all length of steel dowel.

Technical data sheet

BTALU Concealed Beam Hanger



Product characteristic capacities - Timber beam to timber beam - $R_{3,k}$ and $R_{4,k}$ - SDD



References	Characteristic Capacities - Timber C24 [kN]									
	Fasteners				Product characteristic capacities - Timber C24 [kN]					
	Header		Joist		R _{3,k}					R _{4,k}
	Qty	Type	Qty	Dowel	Dowels length [mm]					
					93	113	133	153	173	
BTALU1200/120	22	CNA4.0x50	3	SDD7.5	2.9	3.5	4.2	4.8	5.6	8.8
BTALU1200/160	30	CNA4.0x50	4	SDD7.5	3.6	4.4	5.3	6.2	7	12.7
BTALU1200/200	38	CNA4.0x50	5	SDD7.5	4.4	5.4	6.4	7.4	8.4	16.7
BTALU1200/240	46	CNA4.0x50	6	SDD7.5	5.3	6.4	7.4	8.6	9.8	20.6
BTALU1200/280	54	CNA4.0x50	7	SDD7.5	6.1	7.3	8.5	9.9	11.3	24.5
BTALU1200/320	62	CNA4.0x50	8	SDD7.5	6.8	8.3	9.7	11.1	12.9	28.4
BTALU1200/360	70	CNA4.0x50	9	SDD7.5	7.6	9.2	10.9	12.4	14.4	32.3
BTALU1200/400	78	CNA4.0x50	10	SDD7.5	8.3	10.1	12.1	13.8	15.8	36.3
BTALU1200/440	86	CNA4.0x50	11	SDD7.5	9.1	11	13.2	15.2	17.2	40.2
BTALU1200/480	94	CNA4.0x50	12	SDD7.5	9.8	11.9	14.3	16.6	18.7	44.1
BTALU1200/520	104	CNA4.0x50	12	SDD7.5	10.6	12.8	15.4	17.8	20.1	48
BTALU1200/560	112	CNA4.0x50	12	SDD7.5	11.3	13.8	16.5	19.1	21.5	51.9
BTALU1200/600	120	CNA4.0x50	12	SDD7.5	12.1	14.7	17.6	20.4	23	55.9
BTALU90	-	-	-	-	-	-	-	-	-	-
BTALU120	22	CNA4.0x50	3	SDD7.5	2.9	3.5	4.2	4.8	5.6	8.8
BTALU160	30	CNA4.0x50	4	SDD7.5	3.6	4.4	5.3	6.2	7	12.7
BTALU200	38	CNA4.0x50	5	SDD7.5	4.4	5.4	6.4	7.4	8.4	16.7
BTALU240	46	CNA4.0x50	6	SDD7.5	5.3	6.4	7.4	8.6	9.8	20.6

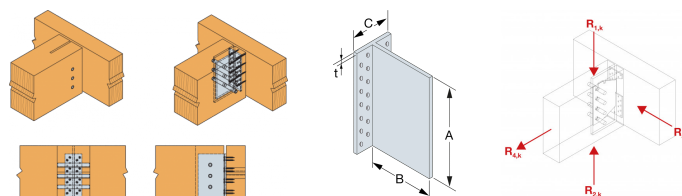
The joist shall have as minimum a width = length of steel dowel.
The capacities R_4 are for all length of steel dowel.

Technical data sheet

BTALU Concealed Beam Hanger



Product characteristic capacities - Timber beam to timber post with SDD



References	Product characteristic capacities - Timber beam to timber post - partial nailing										
	Fasteners				Post width	Product characteristic capacities - Timber C24 [kN]					
	Header		Joist		Min	R _{1,k} = R _{2,k}					R _{4,k}
	Qty	Type	Qty	Type		Dowels length [mm]					
						93	113	133	153	173	
BTALU1200/120	12	CNA4.0x50	3	SDD7.5	96	12.2	13.2	13.5	14.1	14.1	8.8
BTALU1200/160	16	CNA4.0x50	4	SDD7.5	96	18.7	19.7	21.3	21.3	21.3	12.7
BTALU1200/200	20	CNA4.0x50	5	SDD7.5	96	25.9	27.7	29.8	29.8	29.8	16.7
BTALU1200/240	24	CNA4.0x50	6	SDD7.5	96	33.6	36.2	38.9	38.9	38.9	20.6
BTALU1200/280	28	CNA4.0x50	7	SDD7.5	96	41.5	44.9	48.2	48.2	48.2	24.5
BTALU1200/320	32	CNA4.0x50	8	SDD7.5	96	49.4	53.6	53.6	53.6	53.6	28.4
BTALU1200/360	36	CNA4.0x50	9	SDD7.5	96	57.5	62.4	62.4	62.4	62.4	32.3
BTALU1200/400	40	CNA4.0x50	10	SDD7.5	96	65.5	71.2	76.4	76.4	76.4	36.3
BTALU1200/440	44	CNA4.0x50	11	SDD7.5	96	73.6	79.3	85.8	91.4	92.5	40.2
BTALU1200/480	48	CNA4.0x50	12	SDD7.5	96	81.4	87.9	94.5	100.2	101.7	44.1
BTALU1200/520	52	CNA4.0x50	12	SDD7.5	96	83.6	90.2	97.5	104.1	106.4	48
BTALU1200/560	56	CNA4.0x50	12	SDD7.5	96	85.9	92.5	100.5	107.9	111.2	51.9
BTALU1200/600	60	CNA4.0x50	12	SDD7.5	96	85.9	94.8	103.5	111.7	115.9	55.9
BTALU90	-	-	-	-	96	-	-	-	-	-	-
BTALU120	12	CNA4.0x50	3	SDD7.5	96	12.2	13.2	13.5	14.1	14.1	8.8
BTALU160	16	CNA4.0x50	4	SDD7.5	96	18.7	19.7	21.3	21.3	21.3	12.7
BTALU200	20	CNA4.0x50	5	SDD7.5	96	25.9	27.7	29.8	29.8	29.8	16.7
BTALU240	24	CNA4.0x50	6	SDD7.5	96	33.6	36.2	38.9	38.9	38.9	20.6

The joist shall have as minimum a width = length of steel dowel.

For beams with a slope β the capacities shall be multiplywith the factor.

β	0°	15°	30°	45°
factor	1.0	0.92	0.90	0.85

It's only necessary for connection with less than 7 steel dowel in the joist.

The capacities R4 are for all length of steel dowel.

The capacities from this table are also valid for partial nailing beam to beam.

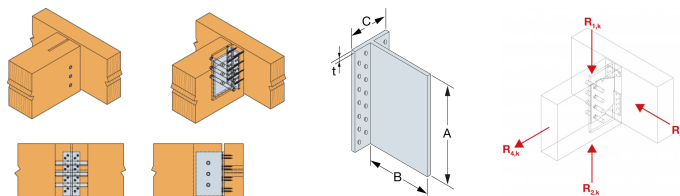
Technical data sheet

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Product characteristic capacities - Timber beam to timber post - $R_{3,k}$ and $R_{4,k}$ - SDD



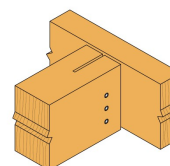
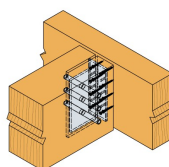
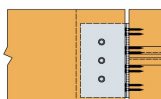
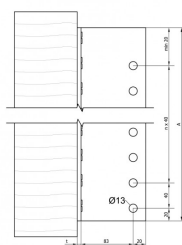
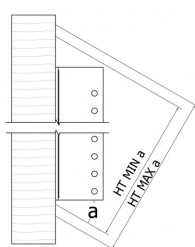
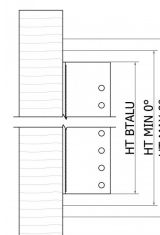
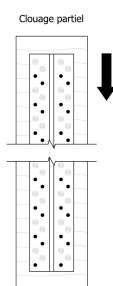
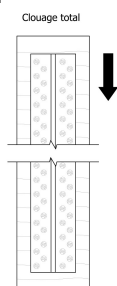
References	Product characteristic capacities - Timber beam to timber post - partial nailing										
	Fasteners				Post width	Product characteristic capacities - Timber C24 [kN]					
	Header		Joist			R _{3,k}					R _{4,k}
	Qty	Type	Qty	Type	Min	Dowels length [mm]					
						93	113	133	153	173	
BTALU1200/120	12	CNA4.0x50	3	SDD7.5	96	2.9	3.5	4.2	4.8	5.6	8.8
BTALU1200/160	16	CNA4.0x50	4	SDD7.5	96	3.6	4.4	5.3	6.2	7	12.7
BTALU1200/200	20	CNA4.0x50	5	SDD7.5	96	4.4	5.4	6.4	7.4	8.4	16.7
BTALU1200/240	24	CNA4.0x50	6	SDD7.5	96	5.3	6.4	7.4	8.6	9.8	20.6
BTALU1200/280	28	CNA4.0x50	7	SDD7.5	96	5.6	6.7	7.7	8.9	10.1	24.5
BTALU1200/320	32	CNA4.0x50	8	SDD7.5	96	6.4	7.7	8.8	10.2	11.5	28.4
BTALU1200/360	36	CNA4.0x50	9	SDD7.5	96	7.2	8.6	9.9	11.5	12.9	32.3
BTALU1200/400	40	CNA4.0x50	10	SDD7.5	96	8	9.6	11	12.7	14.4	36.3
BTALU1200/440	44	CNA4.0x50	11	SDD7.5	96	8.8	10.5	12.1	14	15.8	40.2
BTALU1200/480	48	CNA4.0x50	12	SDD7.5	96	9.5	11.5	13.2	15.3	17.2	44.1
BTALU1200/520	52	CNA4.0x50	12	SDD7.5	96	10.3	12.4	14.3	16.6	18.7	48
BTALU1200/560	56	CNA4.0x50	12	SDD7.5	96	11.1	13.4	15.4	17.8	20.1	51.9
BTALU1200/600	60	CNA4.0x50	12	SDD7.5	96	11.9	14.4	16.5	19.1	21.5	55.9
BTALU90	-	-	-	-	96	-	-	-	-	-	-
BTALU120	12	CNA4.0x50	3	SDD7.5	96	2.9	3.5	4.2	4.8	5.6	8.8
BTALU160	16	CNA4.0x50	4	SDD7.5	96	3.6	4.4	5.3	6.2	7	12.7
BTALU200	20	CNA4.0x50	5	SDD7.5	96	4.4	5.4	6.4	7.4	8.4	16.7
BTALU240	24	CNA4.0x50	6	SDD7.5	96	5.3	6.4	7.4	8.6	9.8	20.6

The joist shall have as minimum a width = length of steel dowel.
The capacities R_4 are for all length of steel dowel.

Installation

Fixing

CNA4,0xL



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