

Technical data sheet

SIMPSON

Strong-Tie

ABR255

Reinforced angle brackets for CLT

Reinforced angle bracket ABR255 has been especially developed to fix CLT panels on wood or concrete support. Very versatile, it is particularly resistant to shear loads thanks to its optimized geometry.

Features

Material

- Galvanized steel S250GD + Z275 according to EN 10346
- Thickness 3 mm

Benefits

- Ideal for use in CLT buildings,
- Great versatility: can be installed on wooden support and concrete support,
- High performance for horizontal (F_2 / F_3) and vertical (F_1) loads directions.

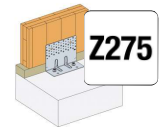
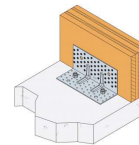
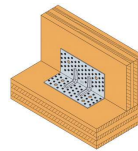
Applications

Suitable On

- **Supporting member:** solid wood, glulam, CLT, concrete, steel...
- **Supported member:** solid wood, glulam, CLT

Scope

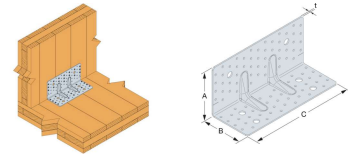
- Solid panels,
- Cross laminated panel (CLT).



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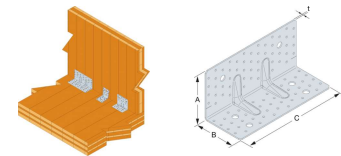
Technical Data

Product dimensions



References	Product dimensions [mm]				Holes flange A		Holes flange B	
	A	B	C	t	Ø5	Ø14	Ø5	Ø14
ABR255	120	100	255	3	52	2	41	4

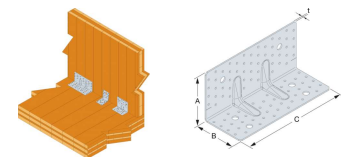
Product characteristic capacities - Timber to timber - 1 angle bracket - Full nailing - Nailing pattern 1



References	Product capacities - Timber to timber - Full nailing - Nailing pattern 1											
	Fasteners		Characteristic capacities - Timber C24 - 1 angle bracket per corner									
	Flange A	Flange B	$R_{1,k}$				$R_{2,k} = R_{3,k}$				R_4	
	Qty	Qty	CNA4.0x...				CNA4.0x...				CNA4	
		CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	
ABR255	52	41	14,1 / $k_{mod}^{0,4}$	16 / $k_{mod}^{0,4}$	19,5 / $k_{mod}^{0,4}$	22,5 / $k_{mod}^{0,4}$	33.5	37	45.9	50.5	12.5	14.9

The value in the table above can be used if the panel can't rotate.

Product characteristic capacities - Timber to timber - 1 angle bracket - Partial nailing - Nailing pattern 2



References	Product capacities - Timber to timber - Partial nailing - Nailing pattern 2											
	Fasteners		Characteristic capacities - Timber C24 - 1 angle bracket per corner									
	Flange A	Flange B	$R_{1,k}$				$R_{2,k} = R_{3,k}$				R_4	
	Qty	Qty	CNA4.0x...				CNA4.0x...				CNA4	
		CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	
ABR255	30	23	12,2 / $k_{mod}^{0,4}$	13,7 / $k_{mod}^{0,4}$	16,5 / $k_{mod}^{0,4}$	19,5 / $k_{mod}^{0,4}$	27.4	30.5	38	42.1	12.2	13.8

The value in the table above can be used if the panel can't rotate.

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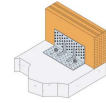
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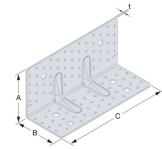
Product characteristic capacities - Timber to rigid support - 1 angle bracket - Full nailing - Nailing pattern 1



References	Product capacities - Timber to Conc												
	Fasteners				Characteristic capacities -								
	Flange A		Flange B		$R_{1,k}$				$R_{2,k} = R_{3,k}$				
	Qty	Type	Qty	Type	CNA4.0x...				CNA4.0x...				
				35-50-60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	CNA4.0x35	CNA4.0x40	CNA4.0x50	CNA4.0x60	35-50-60
ABR255	52	CNA	2	Ø12	22 / kmod	22 / kmod	22 / kmod	22 / kmod	33	36	min (45,3 ; 42,9/kmod)	min (49,2 ; 42,9/kmod)	18.3 / kmod ^{0,7}

The value in the table above can be used if the panel can't rotate.
The anchors must be checked separately using tension value of 1.1*F1, 1*F2 and 1.1*F5

Product characteristic capacities - Timber to rigid support - 1 angle bracket - Partial nailing - Nailing pattern 2



References	Product capacities - Timber to Concrete - Partial nailing - Nailing pattern 2
	Characteristic capacities - Timber C24 - 1 angle bracket per connection [kN]
	$R_{4,k}$
	CNA4.0x... 35-50-60
ABR255	18.3 / kmod ^{0,7}

The value in the table above can be used if the panel can't rotate.
The anchors must be checked separately using tension value of 1.1*F1, 1*F2 and 1.1*F5

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Installation

Fasteners

On wood :

- CNA annular ring shank nails
- CSA screws

On concrete :

- *Mechanical anchor:* M12
- *Chemical anchor:* SET-XP or AT-HP resin + LMAS M12-150/35 threaded rod.



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