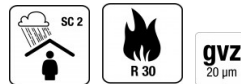


Balkenschuhe GSE eignen sich vornehmlich zur Befestigung größerer Brettschichthölzer an Holz. Sie dienen speziell den Anschlüssen mit höheren BSH Querschnitten.



[ETA-06/0270](#), [DE-DoP-e06/0270](#)

## EIGENSCHAFTEN



### Material

Stahlqualität:

- S 250 GD +Z 275 gemäß DIN EN 10346

Korrosionsschutz:

- 275 g/m<sup>2</sup> beidseitig - entsprechend einer Zinkschichtdicke von ca. 20 µm

Materialstärke 4,0 mm

### Vorteile

- Schnelle und einfache Installation
- In der Materialstärke 4,0 mm in Verbindung mit CNA 4,0x75 Kammnägeln ist eine Brandschutzausführung für R30 zugelassen. Heißbemessung siehe ETA.

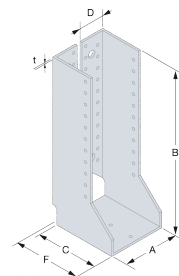
## ANWENDUNG

### Anwendbare Materialien

- **Hauptträger:** Holz, Holzwerkstoffe, Beton, Stahl, Mauerwerk
- **Nebenträger:** Holz, Holzwerkstoffe

TECHNISCHE DATEN

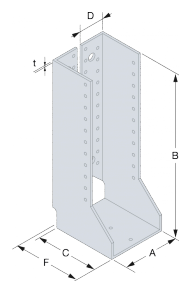
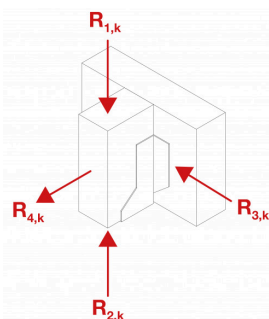
Abmessungen



Artikel	Abmessungen des Nebenträgers [mm]			Abmessungen [mm]						Löcher im Hauptträger		Löcher im Nebenträger
	Breite	Höhe [mm]		A	B	C	D	F	t	Ø5	Ø13	Ø5
		Min.	Max.									
GSI380/100/4	100	150	210	100	140	110	45.5	118	4	16	4	8
GSI440/100/4	100	180	255	100	170	110	45.5	118	4	22	4	12
GSI500/100/4	100	210	300	100	200	110	45.5	118	4	28	4	14
GSI540/100/4	100	230	330	100	220	110	45.5	118	4	32	4	16
GSI600/100/4	100	260	375	100	250	110	45.5	118	4	38	4	20
GSI660/100/4	100	290	420	100	280	110	45.5	118	4	44	6	22
GSI720/100/4	100	320	465	100	310	110	45.5	118	4	50	6	26
GSI780/100/4	100	350	510	100	340	110	45.5	118	4	56	6	28
GSI840/100/4	100	380	555	100	370	110	45.5	118	4	62	6	32
GSI900/100/4	100	410	600	100	400	110	45.5	118	4	68	6	38
GSI960/100/4	100	440	645	100	430	110	45.5	118	4	74	6	38
GSI1020/100/4	100	470	690	100	460	110	45.5	118	4	80	6	40
GSI540/120/4	120	220	315	120	210	110	45.5	118	4	32	4	16
GSI600/120/4	120	250	360	120	240	110	45.5	118	4	38	4	20
GSI660/120/4	120	280	405	120	270	110	45.5	118	4	44	6	22
GSI720/120/4	120	310	450	120	300	110	45.5	118	4	50	6	26
GSI780/120/4	120	340	495	120	330	110	45.5	118	4	56	6	28
GSI840/120/4	120	370	540	120	360	110	45.5	118	4	62	6	32
GSI900/120/4	120	400	585	120	390	110	45.5	118	4	68	6	38
GSI960/120/4	120	430	630	120	420	110	45.5	118	4	74	6	38
GSI1020/120/4	120	460	675	120	450	110	45.5	118	4	80	6	40
GSI500/140/4	140	190	270	140	180	110	45.5	118	4	28	2	14
GSI540/140/4	140	210	300	140	200	110	45.5	118	4	32	4	16
GSI600/140/4	140	240	345	140	230	110	45.5	118	4	38	4	20
GSI660/140/4	140	270	390	140	260	110	45.5	118	4	44	6	22
GSI720/140/4	140	300	435	140	290	110	45.5	118	4	50	6	26
GSI780/140/4	140	330	480	140	320	110	45.5	118	4	56	6	28
GSI840/140/4	140	360	525	140	350	110	45.5	118	4	62	6	32
GSI900/140/4	140	390	570	140	380	110	45.5	118	4	68	6	38
GSI960/140/4	140	420	615	140	410	110	45.5	118	4	74	6	38
GSI1020/140/4	140	450	660	140	440	110	45.5	118	4	80	6	40
GSI500/160/4	160	180	255	160	170	110	45.5	118	4	28	2	14
GSI540/160/4	160	200	285	160	190	110	45.5	118	4	32	4	16
GSI600/160/4	160	230	330	160	220	110	45.5	118	4	38	4	20
GSI660/160/4	160	260	375	160	250	110	45.5	118	4	44	6	22
GSI720/160/4	160	290	420	160	280	110	45.5	118	4	50	6	26
GSI780/160/4	160	320	465	160	310	110	45.5	118	4	56	6	28

Artikel	Abmessungen des Nebenträgers [mm]			Abmessungen [mm]							Löcher im Hauptträger		Löcher im Nebenträger
	Breite	Höhe [mm]		A	B	C	D	F	t	Ø5	Ø13	Ø5	
		Min.	Max.										
GSi840/160/4	160	350	510	160	340	110	45.5	118	4	62	6	32	
GSi900/160/4	160	380	555	160	370	110	45.5	118	4	68	6	38	
GSi960/160/4	160	410	600	160	400	110	45.5	118	4	74	6	38	
GSi1020/160/4	160	440	645	160	430	110	45.5	118	4	80	6	40	
GSi500/180/4	180	170	240	180	160	110	45.5	118	4	28	2	14	
GSi540/180/4	180	190	270	180	180	110	45.5	118	4	32	4	16	
GSi600/180/4	180	220	315	180	210	110	45.5	118	4	38	4	20	
GSi660/180/4	180	250	360	180	240	110	45.5	118	4	44	6	22	
GSi720/180/4	180	280	405	180	270	110	45.5	118	4	50	6	26	
GSi780/180/4	180	310	450	180	300	110	45.5	118	4	56	6	28	
GSi840/180/4	180	340	495	180	330	110	45.5	118	4	62	6	32	
GSi900/180/4	180	370	540	180	360	110	45.5	118	4	68	6	38	
GSi960/180/4	180	400	585	180	390	110	45.5	118	4	74	6	38	
GSi1020/180/4	180	430	630	180	420	110	45.5	118	4	80	6	40	
GSi500/200/4	200	160	225	200	150	110	45.5	118	4	28	2	14	
GSi540/200/4	200	180	255	200	170	110	45.5	118	4	32	4	16	
GSi600/200/4	200	210	300	200	200	110	45.5	118	4	38	4	20	
GSi660/200/4	200	240	345	200	230	110	45.5	118	4	44	6	22	
GSi720/200/4	200	270	390	200	260	110	45.5	118	4	50	6	26	
GSi780/200/4	200	300	435	200	290	110	45.5	118	4	56	6	28	
GSi840/200/4	200	330	480	200	320	110	45.5	118	4	62	6	32	
GSi900/200/4	200	360	525	200	350	110	45.5	118	4	68	6	38	
GSi960/200/4	200	390	570	200	380	110	45.5	118	4	74	6	38	
GSi1020/200/4	200	420	615	200	410	110	45.5	118	4	80	6	40	

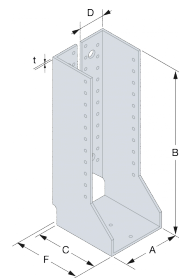
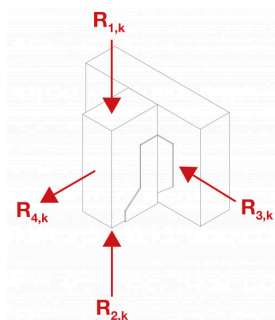
**Charakteristische Tragfähigkeiten - Holz an Holz - Vollausnagelung**



Artikel	Charakter. Tragfähigkeit - Holz an Holz - Vollausnagelung						
	Verbindungsmittel		Charakter. Tragfähigkeiten - Nadelholz C24 [kN]				
	Hauptträger	Nebenträger	R <sub>1,k</sub>	R <sub>2,k</sub>	R <sub>3,k</sub>	R <sub>4,k</sub>	Brandschutz R <sub>1,k</sub>
Anzahl	Anzahl	CNA4,0x50	CNA4,0x50	CNA4,0x50	CNA4,0x50	CNA4,0x75	
GSi380/100/4	16	8	15.4	6.9	6.6	7.8	1,0*
GSi440/100/4	22	12	22.3	11.9	9.6	11.8	2,5*
GSi500/100/4	28	14	30.5	18.1	10.7	13.7	3,5*
GSi540/100/4	32	16	35.9	22.7	11.8	15.7	4,7*
GSi600/100/4	38	20	43.9	30.5	14	19.6	7,3*
GSi660/100/4	44	22	47.9	39	14.6	21.6	8,6*
GSi720/100/4	50	26	55.8	46.1	16.3	25.5	11,4*
GSi780/100/4	56	28	59.8	49.6	16.6	27.4	12,8*
GSi840/100/4	62	32	67.8	56.7	17.9	31.4	15,4*
GSi900/100/4	68	36	75.8	63.8	19	33.3	18,0*
GSi960/100/4	74	38	79.8	67.4	19	37.2	19,3*

Artikel	Charakter. Tragfähigkeit - Holz an Holz - Vollauss Nagelung						
	Verbindungsmittel		Charakter. Tragfähigkeiten - Nadelholz C24 [kN]				Brandschutz R <sub>1,k</sub>
	Hauptträger	Nebenträger	R <sub>1,k</sub>	R <sub>2,k</sub>	R <sub>3,k</sub>	R <sub>4,k</sub>	
Anzahl	Anzahl	CNA4,0x50	CNA4,0x50	CNA4,0x50	CNA4,0x50	CNA4.0x75	
GSI1020/100/4	80	40	83.8	70.9	18.9	39.2	20,6*
GSI540/120/4	32	16	34	22.7	12.7	15.7	4,7*
GSI600/120/4	38	20	43.1	30.5	15.2	19.6	7,3*
GSI660/120/4	44	22	47.9	39	16	21.6	8,6*
GSI720/120/4	50	26	55.8	46.1	18	25.5	11,4*
GSI780/120/4	56	28	59.8	49.6	18.5	27.4	12,8*
GSI840/120/4	62	32	67.8	56.7	20.1	31.4	15,4*
GSI900/120/4	68	36	75.8	63.8	21.5	33.3	18,0*
GSI960/120/4	74	38	79.8	67.4	21.6	37.2	19,3*
GSI1020/120/4	80	40	83.8	70.9	21.6	39.2	20,6*
GSI500/140/4	22	12	24.1	11.9	10.5	11.8	2,5*
GSI540/140/4	26	14	29.5	15.9	12	11.8	3,5*
GSI600/140/4	32	18	38.2	22.7	15	15.7	5,9*
GSI660/140/4	38	20	43.9	30.5	16.1	19.6	7,3*
GSI720/140/4	44	24	51.9	39	18.6	23.5	10,0*
GSI780/140/4	50	26	55.8	46.1	19.3	25.5	11,4*
GSI840/140/4	56	30	63.8	53.2	21.4	29.4	14,1*
GSI900/140/4	62	32	67.8	56.7	21.8	31.4	15,4*
GSI960/140/4	68	34	71.8	60.3	22.2	33.3	16,8*
GSI1020/140/4	74	38	79.8	67.4	23.8	37.2	19,3*
GSI500/160/4	22	12	22.3	11.9	10.7	11.8	2,5*
GSI540/160/4	26	14	27.6	15.9	12.3	11.8	3,5*
GSI600/160/4	32	18	36.1	22.7	15.5	15.7	5,9*
GSI660/160/4	44	24	51.9	39	20.1	19.6	7,3*
GSI720/160/4	44	24	51.9	39	19.5	23.5	10,0*
GSI780/160/4	50	26	55.8	46.1	20.4	25.5	11,4*
GSI840/160/4	56	30	63.8	53.2	22.7	29.4	14,1*
GSI900/160/4	62	32	67.8	56.7	23.3	31.4	15,4*
GSI960/160/4	68	34	71.8	60.3	23.8	33.3	16,8*
GSI1020/160/4	74	38	79.8	67.4	25.6	37.2	19,3*
GSI500/180/4	22	12	20.3	11.9	10.9	11.8	2,5*
GSI540/180/4	26	14	25.4	15.9	12.6	11.8	3,5*
GSI600/180/4	32	18	33.8	22.7	15.9	15.7	5,9*
GSI660/180/4	44	24	51.9	39	20.7	19.6	7,3*
GSI720/180/4	44	24	51.9	39	20.1	23.5	10,0*
GSI780/180/4	50	26	55.8	46.1	21.2	25.5	11,4*
GSI840/180/4	56	30	63.8	53.2	23.7	29.4	14,1*
GSI900/180/4	62	32	67.8	56.7	24.5	31.4	15,4*
GSI960/180/4	68	34	71.8	60.3	25.1	33.3	16,8*
GSI1020/180/4	74	38	79.8	67.4	27.2	37.2	19,3*
GSI500/200/4	22	12	18.3	11.9	11.1	11.8	2,5*
GSI540/200/4	26	14	23.2	15.9	12.8	11.8	3,5*
GSI600/200/4	32	18	31.3	22.7	16.2	15.7	5,9*
GSI660/200/4	44	24	50.3	39	21.1	19.6	7,3*
GSI720/200/4	44	24	50.3	39	20.7	23.5	10,0*
GSI780/200/4	50	26	55.8	46.1	21.8	25.5	11,4*
GSI840/200/4	56	30	63.8	53.2	24.5	29.4	14,1*
GSI900/200/4	62	32	67.8	56.7	25.4	31.4	15,4*
GSI960/200/4	68	34	71.8	60.3	26.2	33.3	16,8*
GSI1020/200/4	74	38	79.8	67.4	28.5	37.2	19,3*

Tragfähigkeiten - Balken an Balken - Teilausnagelung



Artikel	Charakter. Tragfähigkeit - Holz an Holz - Teilausnagelung					
	Verbindungsmittel		Charakter. Tragfähigkeiten - Nadelholz C24 [kN]			
	Hauptträger	Nebenträger	R <sub>1,k</sub>	R <sub>2,k</sub>	R <sub>3,k</sub>	R <sub>4,k</sub>
	Anzahl	Anzahl	CNA4,0x50	CNA4,0x50	CNA4,0x50	CNA4,0x50
GSi380/100/4	8	4	9.2	3.3	3.3	3.9
GSi440/100/4	12	6	13.3	6.7	4.8	5.9
GSi500/100/4	14	8	16.8	8.8	6.1	6.9
GSi540/100/4	16	8	19.9	11.1	5.9	7.8
GSi600/100/4	20	10	23.9	16.3	7	9.8
GSi660/100/4	22	12	27.9	19.2	8	10.8
GSi720/100/4	26	14	31.9	24.8	8.8	12.7
GSi780/100/4	28	14	31.9	24.8	8.3	13.7
GSi840/100/4	32	16	35.9	28.4	8.9	15.7
GSi900/100/4	34	18	39.9	31.9	9.5	16.7
GSi960/100/4	38	20	43.9	35.5	10	18.6
GSi1020/100/4	40	20	43.9	35.5	9.5	19.6
GSi540/120/4	16	8	19	11.1	6.3	7.8
GSi600/120/4	20	10	23.9	16.3	7.6	9.8
GSi660/120/4	22	12	27.9	19.2	8.7	10.8
GSi720/120/4	26	14	31.9	24.8	9.7	12.7
GSi780/120/4	28	14	31.9	24.8	9.2	13.7
GSi840/120/4	32	16	35.9	28.4	10	15.7
GSi900/120/4	34	18	39.9	31.9	10.7	16.7
GSi960/120/4	38	20	43.9	35.5	11.4	18.6
GSi1020/120/4	40	20	43.9	35.5	10.8	19.6
GSi500/140/4	12	6	14.3	6.7	5.2	5.9
GSi540/140/4	14	8	16.8	8.8	6.9	6.9
GSi600/140/4	18	10	21.8	13.6	8.3	8.8
GSi660/140/4	20	10	23.9	16.3	8	9.8
GSi720/140/4	24	12	27.9	21.3	9.3	11.8
GSi780/140/4	26	14	31.9	24.8	10.4	12.7
GSi840/140/4	30	16	35.9	28.4	11.4	14.7
GSi900/140/4	32	16	35.9	28.4	10.9	15.7
GSi960/140/4	34	18	39.9	31.9	11.8	16.7
GSi1020/140/4	38	20	43.9	35.5	12.5	18.6
GSi500/160/4	12	6	13.3	6.7	5.4	5.9
GSi540/160/4	14	8	15.8	8.8	7.1	6.9
GSi600/160/4	20	10	23.9	16.3	8.6	8.8
GSi660/160/4	20	10	23.9	16.3	8.4	9.8
GSi720/160/4	24	12	27.9	21.3	9.7	11.8
GSi780/160/4	26	14	31.9	24.8	11	12.7
GSi840/160/4	30	16	35.9	28.4	12.1	14.7
GSi900/160/4	32	16	35.9	28.4	11.7	15.7
GSi960/160/4	34	18	39.9	31.9	12.6	16.7

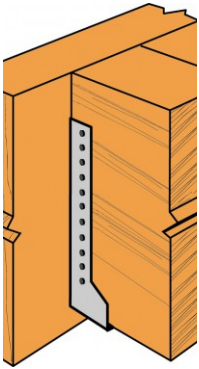
Artikel	Charakter. Tragfähigkeit - Holz an Holz - Teilausnagelung					
	Verbindungsmittel		Charakter. Tragfähigkeiten - Nadelholz C24 [kN]			
	Hauptträger	Nebenträger	R <sub>1,k</sub>	R <sub>2,k</sub>	R <sub>3,k</sub>	R <sub>4,k</sub>
	Anzahl	Anzahl	CNA4,0x50	CNA4,0x50	CNA4,0x50	CNA4,0x50
GSI1020/160/4	38	20	43.9	35.5	13.5	18.6
GSI500/180/4	12	6	12.2	6.7	5.5	5.9
GSI540/180/4	14	8	14.7	8.8	7.2	6.9
GSI600/180/4	20	10	23.9	16.3	8.8	8.8
GSI660/180/4	20	10	23.9	16.3	8.6	9.8
GSI720/180/4	24	12	27.9	21.3	10.1	11.8
GSI780/180/4	26	14	31.9	24.8	11.4	12.7
GSI840/180/4	30	16	35.9	28.4	12.6	14.7
GSI900/180/4	32	16	35.9	28.4	12.2	15.7
GSI960/180/4	34	18	39.9	31.9	13.3	16.7
GSI1020/180/4	38	20	43.9	35.5	14.3	18.6
GSI500/200/4	12	6	11.1	6.7	5.5	5.9
GSI540/200/4	14	8	13.5	8.8	7.3	6.9
GSI600/200/4	20	10	22.7	16.3	9	8.8
GSI660/200/4	20	10	22.7	16.3	8.8	9.8
GSI720/200/4	24	12	27.9	21.3	10.3	11.8
GSI780/200/4	26	14	31.9	24.8	11.8	12.7
GSI840/200/4	30	16	35.9	28.4	13.1	14.7
GSI900/200/4	32	16	35.9	28.4	12.7	15.7
GSI960/200/4	34	18	39.9	31.9	13.9	16.7
GSI1020/200/4	38	20	43.9	35.5	15	18.6

Values given in the table above are valid for a joist to joist and joist to column application, subject to respecting the partial nailing plans specific to each configuration given in our ETA-06/0270 page 17.

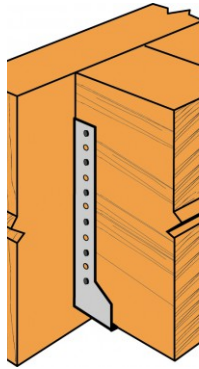
INSTALLATION

Befestigung

Timber



Clouage total  
sur bois.



Clouage partiel  
sur bois.