



De beugel met insteekblad BTC is een discrete verbinder, voor bevestiging op harde ondergrond. Het aantal pennen en verankeringen kan vrij worden gekozen naargelang van de belasting. Met de beugel BTC kunnen krachten in de 3 richtingen worden opgevangen. Bijgevolg kunnen ook overhellende of schiefliggende gordingen eenvoudig en volledig veilig worden verbonden.



[ETA-07/0245](#), [NL-DoP-e07/0245](#)

KENMERKEN



Materiaal

- Verzinkt staal S250GD + Z275 overeenkomstig NF EN 10346,
- Dikte : 3 mm.

Voordelen

- Onzichtbare verbinding,
- Bruikbaar voor geringe breedten van gedragen balken,
- Bruikbaar voor schuine verbindingen.

TOEPASSINGEN

Ondergrond

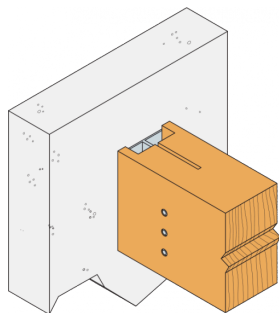
- **Drager** : beton of staal,
- **Gedragen bouwdeel** : massief hout, gelijmd gelamineerd hout, compositiehout.

Toepassingsgebieden

- Dwarsbalken,
- Gordingen,
- Draagbalken,
- Schuine verbinding mogelijk tot onder een hoek van 45°.

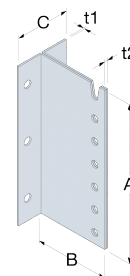
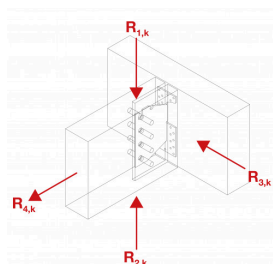
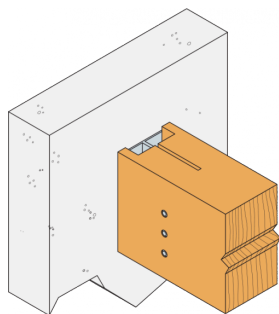
TECHNISCHE GEGEVENS

Afmetingen en karakteristieke waarden



| Referentie | Afmetingen gedragen bouwdeel [mm] | Afmetingen en karakteristieke waarden [mm] | | | | | Drager Boorgaten | Gedragen boorgaten |
|------------|-----------------------------------|--|-----|----|---------|----------------|------------------|--------------------|
| | Hoogte Min. | A | B | C | Dikte 1 | t ₂ | Ø14 | Ø13 |
| BTC120-B | 160 | 120 | 128 | 96 | 3 | 6 | 2 | 3 |
| BTC160-B | 200 | 160 | 128 | 96 | 3 | 6 | 4 | 4 |
| BTC200-B | 240 | 200 | 128 | 96 | 3 | 6 | 4 | 5 |
| BTC240-B | 280 | 240 | 128 | 96 | 3 | 6 | 4 | 6 |
| BTC280-B | 320 | 280 | 128 | 96 | 3 | 6 | 6 | 7 |
| BTC320-B | 360 | 320 | 128 | 96 | 3 | 6 | 6 | 8 |
| BTC360-B | 400 | 360 | 128 | 96 | 3 | 6 | 6 | 9 |
| BTC400-B | 440 | 400 | 128 | 96 | 3 | 6 | 8 | 10 |
| BTC440-B | 480 | 440 | 128 | 96 | 3 | 6 | 8 | 11 |
| BTC480-B | 520 | 480 | 128 | 96 | 3 | 6 | 8 | 12 |
| BTC520-B | 560 | 520 | 128 | 96 | 3 | 6 | 8 | 13 |
| BTC560-B | 600 | 560 | 128 | 96 | 3 | 6 | 8 | 14 |
| BTC600-B | 640 | 600 | 128 | 96 | 3 | 6 | 8 | 15 |

Karakteristieke waarden Neerwaartse belasting (in kN) - Harde ondergrond - Doorsteekanker WA



| Referentie | Bevestigingen | | | | Karakteristieke waarden - Hout C24 [kN] | | | | | | | | | | | |
|------------|---------------|------|------------|-------|---|------|------|------|------|------|--------------------------------|------|------|------|------|------|
| | Drager | | Spanwijdte | | R _{1,k} | | | | | | R _{2,k} | | | | | |
| | Aantal | Typ | Aantal | Typ | Lengte van de pennen [mm] [mm] | | | | | | Lengte van de pennen [mm] [mm] | | | | | |
| BTC120-B | 2 | Ø 12 | 3 | STD12 | 80 | 100 | 120 | 140 | 160 | 180 | 80 | 100 | 120 | 140 | 160 | 180 |
| BTC160-B | 4 | Ø 12 | 4 | STD12 | 11.5 | 12.7 | 14.2 | 15.8 | 17.2 | 17.2 | 7.7 | 8.5 | 9.5 | 10.5 | 11.5 | 11.5 |
| | | | | | 18.5 | 20.4 | 22.8 | 25.3 | 27.8 | 27.8 | 13.9 | 15.3 | 17.1 | 19 | 20.9 | 20.9 |

| Referentie | Bevestigingen | | | | Karakteristieke waarden - Hout C24 [kN] | | | | | | | | | | | |
|------------|---------------|------|------------|-------|---|-------|-------|-------|-------|-------|--------------------------------|-------|-------|-------|-------|-------|
| | Drager | | Spanwijdte | | R _{1,k} | | | | | | R _{2,k} | | | | | |
| | Aantal | Typ | Aantal | Typ | Lengte van de pennen [mm] [mm] | | | | | | Lengte van de pennen [mm] [mm] | | | | | |
| | | | | | 80 | 100 | 120 | 140 | 160 | 180 | 80 | 100 | 120 | 140 | 160 | 180 |
| BTC200-B | 4 | Ø 12 | 5 | STD12 | 26.7 | 29.4 | 32.7 | 36.4 | 40.3 | 40.3 | 21.4 | 23.5 | 26.2 | 29.1 | 32.2 | 32.2 |
| BTC240-B | 4 | Ø 12 | 6 | STD12 | 35.8 | 39.4 | 43.8 | 48.6 | 53.8 | 54.3 | 29.8 | 32.8 | 36.5 | 40.5 | 44.8 | 45.3 |
| BTC280-B | 6 | Ø 12 | 7 | STD12 | 45.6 | 50.1 | 55.6 | 61.7 | 68.3 | 69.4 | 39.1 | 42.9 | 47.7 | 52.9 | 58.5 | 59.5 |
| BTC320-B | 6 | Ø 12 | 8 | STD12 | 56 | 61.4 | 68.1 | 75.5 | 83.4 | 85.5 | 49 | 53.7 | 59.6 | 66.1 | 73 | 74.8 |
| BTC360-B | 6 | Ø 12 | 9 | STD12 | 66.8 | 73.1 | 80.9 | 89.6 | 99 | 102.2 | 59.4 | 65 | 71.9 | 79.6 | 88 | 90.8 |
| BTC400-B | 8 | Ø 12 | 10 | STD12 | 77.9 | 85.1 | 94 | 104.1 | 114.8 | 119.5 | 70.1 | 76.6 | 84.6 | 93.7 | 103.3 | 107.6 |
| BTC440-B | 8 | Ø 12 | 11 | STD12 | 89 | 97.2 | 107.3 | 118.7 | 130.9 | 133.3 | 81 | 88.4 | 97.5 | 107.9 | 119 | 121.2 |
| BTC480-B | 8 | Ø 12 | 12 | STD12 | 100.5 | 109.5 | 120.7 | 133.4 | 147 | 147 | 92.1 | 100.4 | 110.6 | 122.3 | 134.8 | 134.8 |
| BTC520-B | 8 | Ø 12 | 12 | STD12 | 100.5 | 109.5 | 120.7 | 133.4 | 147 | 147 | 100.5 | 109.5 | 120.7 | 133.4 | 147 | 147 |
| BTC560-B | 8 | Ø 12 | 12 | STD12 | 100.5 | 109.5 | 120.7 | 133.4 | 147 | 147 | 100.5 | 109.5 | 120.7 | 133.4 | 147 | 147 |
| BTC600-B | 8 | Ø 12 | 12 | STD12 | 100.5 | 109.5 | 120.7 | 133.4 | 147 | 147 | 100.5 | 109.5 | 120.7 | 133.4 | 147 | 147 |

For load combination:

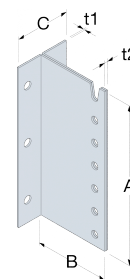
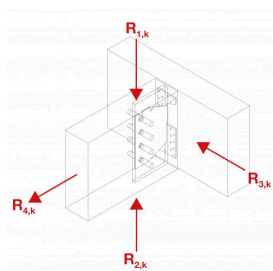
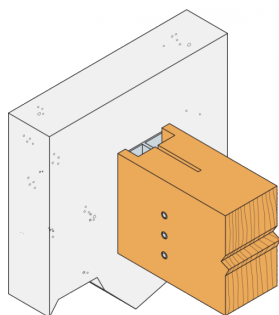
$$\sum \left(\frac{F_{i,d}}{R_{i,d}} \right)^2 \leq 1$$

R_{2,k} capacities are calculated as R_{2,k} = R_{1,k} × (nb of dowels - 1) / (nb of dowels).

The top dowel is not considered for the uplift capacities as it is placed in an open hole.

The anchors resistance and their number have to be checked according to the ETA and the type of header. The number of anchors given in the table is the maximum. If their resistance is decisive, it is the resistance to consider for the connection.

Product characteristic capacities - Timber beam to rigid support - R_{3,k} and R_{4,k}



| Referentie | Bevestigingen | | | | Karakteristieke waarden - Hout C24 [kN] | | | | | | | | Bevestigingen | | | | Karakteristieke waarden - Hout C24 [kN] |
|------------|---------------|------|------------|-------|---|------|------|------|------|------|------|------------------|---------------|-----|------------|-----------|---|
| | Drager | | Spanwijdte | | R _{3,k} | | | | | | | | Drager | | Spanwijdte | | |
| | Aantal | Typ | Aantal | Typ | Lengte van de pennen [mm] [mm] | | | | | | | | Aantal | Typ | Aantal | Typ | |
| | | | | | 60 | 80 | 100 | 120 | 140 | 160 | 180 | R _{4,k} | | | | | |
| BTC120-B | 2 | Ø 12 | 3 | STD12 | 2.6 | 2.9 | 3.5 | 4 | 4.5 | 5.2 | 5.3 | 2 | Ø 12 | 3 | STD12 | 6,7/kmod | |
| BTC160-B | 4 | Ø 12 | 4 | STD12 | 3.2 | 3.9 | 4.4 | 5 | 5.9 | 6.5 | 7 | 4 | Ø 12 | 4 | STD12 | 13,4/kmod | |
| BTC200-B | 4 | Ø 12 | 5 | STD12 | 4 | 4.9 | 5.5 | 6.3 | 7.2 | 7.8 | 8.8 | 4 | Ø 12 | 5 | STD12 | 13,4/kmod | |
| BTC240-B | 4 | Ø 12 | 6 | STD12 | 4.8 | 5.7 | 6.6 | 7.5 | 8.4 | 9.1 | 10.4 | 4 | Ø 12 | 6 | STD12 | 13,4/kmod | |
| BTC280-B | 6 | Ø 12 | 7 | STD12 | 5.6 | 6.5 | 7.6 | 8.7 | 9.6 | 10.4 | 11.9 | 6 | Ø 12 | 7 | STD12 | 20,1/kmod | |
| BTC320-B | 6 | Ø 12 | 8 | STD12 | 6.4 | 7.3 | 8.6 | 9.7 | 10.8 | 11.8 | 13.4 | 6 | Ø 12 | 8 | STD12 | 20,1/kmod | |
| BTC360-B | 6 | Ø 12 | 9 | STD12 | 7.2 | 8.1 | 9.5 | 10.8 | 12 | 13.2 | 14.9 | 6 | Ø 12 | 9 | STD12 | 20,1/kmod | |
| BTC400-B | 8 | Ø 12 | 10 | STD12 | 8 | 8.9 | 10.5 | 11.9 | 13.2 | 14.7 | 16.4 | 8 | Ø 12 | 10 | STD12 | 26,8/kmod | |
| BTC440-B | 8 | Ø 12 | 11 | STD12 | 8.8 | 9.7 | 11.4 | 13 | 14.4 | 16.1 | 17.8 | 8 | Ø 12 | 11 | STD12 | 26,8/kmod | |
| BTC480-B | 8 | Ø 12 | 12 | STD12 | 9.6 | 10.6 | 12.4 | 14.1 | 15.6 | 17.6 | 19.3 | 8 | Ø 12 | 12 | STD12 | 26,8/kmod | |
| BTC520-B | 8 | Ø 12 | 12 | STD12 | 10.4 | 11.4 | 13.3 | 15.1 | 16.8 | 19.1 | 20.8 | 8 | Ø 12 | 12 | STD12 | 26,8/kmod | |
| BTC560-B | 8 | Ø 12 | 12 | STD12 | 11.2 | 12.3 | 14.3 | 16.2 | 18 | 20.5 | 22.3 | 8 | Ø 12 | 12 | STD12 | 26,8/kmod | |
| BTC600-B | 8 | Ø 12 | 12 | STD12 | 12 | 13.2 | 15.2 | 17.3 | 19.2 | 22 | 23.8 | 8 | Ø 12 | 12 | STD12 | 26,8/kmod | |

The anchors resistance and their number have to be checked according to the ETA and the type of header. The number of anchors given in the table is the maximum. If their resistance is decisive, it is the resistance to consider for the connection.

PLAATSING

Bevestigingen

Op betonnen drager :

- Mechanische verankering : Ø12, WA M12-104/5,
- Chemische verankering : hars AT-HP + draadstang LMAS M12-150/35.

Op stalen drager :

- Bout Ø12 mm.

Op gedragen bouwdeel :

- Pennen STD Ø12 waarvan de lengte moet overeenkomen met de breedte van de gedragen balk.

Plaatsing

1. Maak een verticale inkeping van 9 mm breed in de gedragen balk.
2. Identificeer de positie van de pennen op de gedragen balk alvorens er dwars door te boren.
3. Steek alleen de 1ste pen in de balk op het bovenste deel.
4. Bevestig de beugel aan de ondergrond met behulp van de aangepaste bevestiging Ø12 mm.
5. Presenteer de gedragen balk zodanig dat de pen reeds in de inkeping van de beugel zit.
6. Breng de overige pennen aan.

