

# VIS BÉTON ACIER AVEC EMBASE ATE OPTION 1

# BETABOLT



Logiciel de calcul

EUROPEAN TECHNICAL APPROVAL  
1488-CPD-0383/W  
ETA-13/0934  
EAD 330232-00-0601  
option 1



## MATÉRIAUX



BÉTON FISSURÉ



BÉTON NON FISSURÉ



## CARACTÉRISTIQUES

### Matière :

- Acier 10B21 selon SAE-J403
- Protection anticorrosion = revêtement de zinc 40 µm appliqué par dépôt mécanique (matoplastie) selon norme ISO 12683

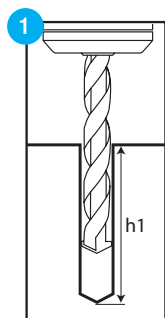
### Avantages :

- Pose simple et rapide à la boulonneuse
- Démontable, idéale pour les fixations temporaires
- Tenue optimale ; résistances en traction et cisaillement importantes.

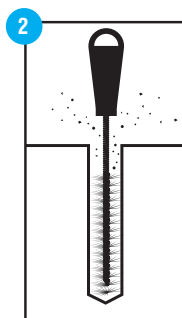
## EXEMPLES D'APPLICATIONS

- Étais tirant - poussant, coffrages
- Garde-corps (définitifs ou provisoires)
- Équipement industriel
- Structures secondaires bois ou métalliques (lisses, sabots, ...)
- Chemins de câbles, bandes perforées.

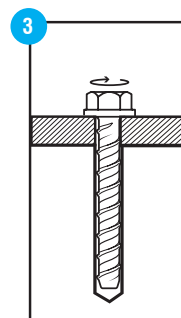
## MISE EN ŒUVRE



Percer un trou avec une perceuse à percussion à la profondeur recommandée  $h_1$ .



Éliminer les poussières avec une brosse métallique ou par soufflage (pompe soufflante manuelle ou air comprimé). Répéter l'opération 3 fois.



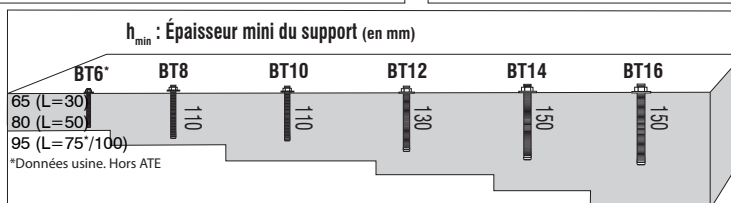
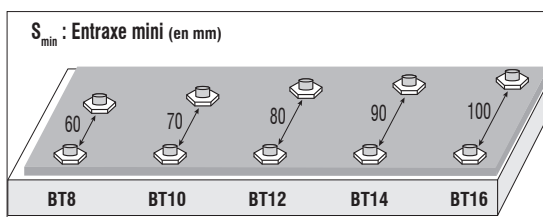
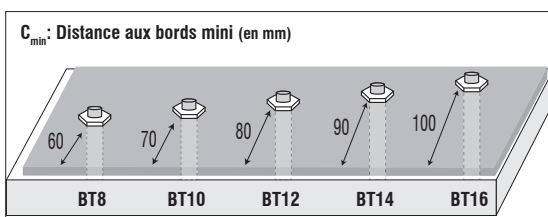
Visser la vis béton BETABOLT à travers la pièce à fixer, de préférence avec une visseuse/boulonneuse à chocs, en appliquant le couple de serrage  $t_{inst}$  suffisant.

**NB : La vis béton BETABOLT n'est utilisable qu'une seule fois.**

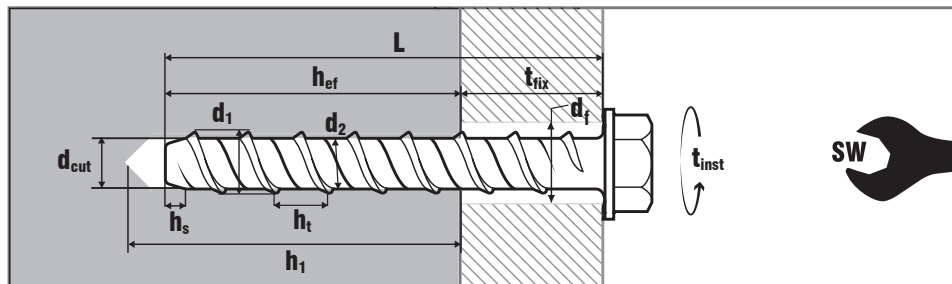
Les filets et pointes carbures s'usent lors de la première mise en œuvre et cela ne permet pas de retrouver les performances initiales en cas de réutilisation.

( $h_1$  et  $t_{inst}$  : cf données techniques au verso)

## DONNÉES DE MISE EN ŒUVRE



# DONNÉES DE MISE EN ŒUVRE



## DIMENSION ET DONNÉES DE MISE EN ŒUVRE

|                                                  |                   | BT06 | BT08 | BT10  | BT12  | BT14  | BT16  |
|--------------------------------------------------|-------------------|------|------|-------|-------|-------|-------|
| Ø nominal (mm)                                   | Ø                 | 6    | 8    | 10    | 12    | 14    | 16    |
| Ø perçage (mm)                                   | d <sub>cut</sub>  | 6    | 8    | 10    | 12    | 14    | 16    |
| Diamètre de passage dans les pièces à fixer (mm) | d <sub>f</sub>    | 8    | 12   | 14    | 16    | 18    | 20    |
| Couple de serrage (N.m)                          | T <sub>inst</sub> | 10   | 30   | 40    | 50    | 60    | 80    |
| Ouverture de clef                                | SW                | 10   | 13   | 15    | 16    | 18    | 21    |
| Diamètre de verrouillage                         | d <sub>k</sub>    | -    | 7,5  | 9,37  | 11,35 | 13,20 | 15,3  |
| Diamètre le + large                              | d <sub>1</sub>    | 7,75 | 9,85 | 11,95 | 14,08 | 16,23 | 18,65 |
| Diamètre le - large                              | d <sub>2</sub>    | 6,15 | 8,13 | 10,25 | 12,15 | 14,18 | 16,03 |
| Pas de filetage                                  | h <sub>t</sub>    | 8    | 10   | 12    | 12    | 17    | 19    |
| Longueur chanfrein                               | h <sub>s</sub>    | 5    | 5    | 5     | 5     | 5     | 7     |

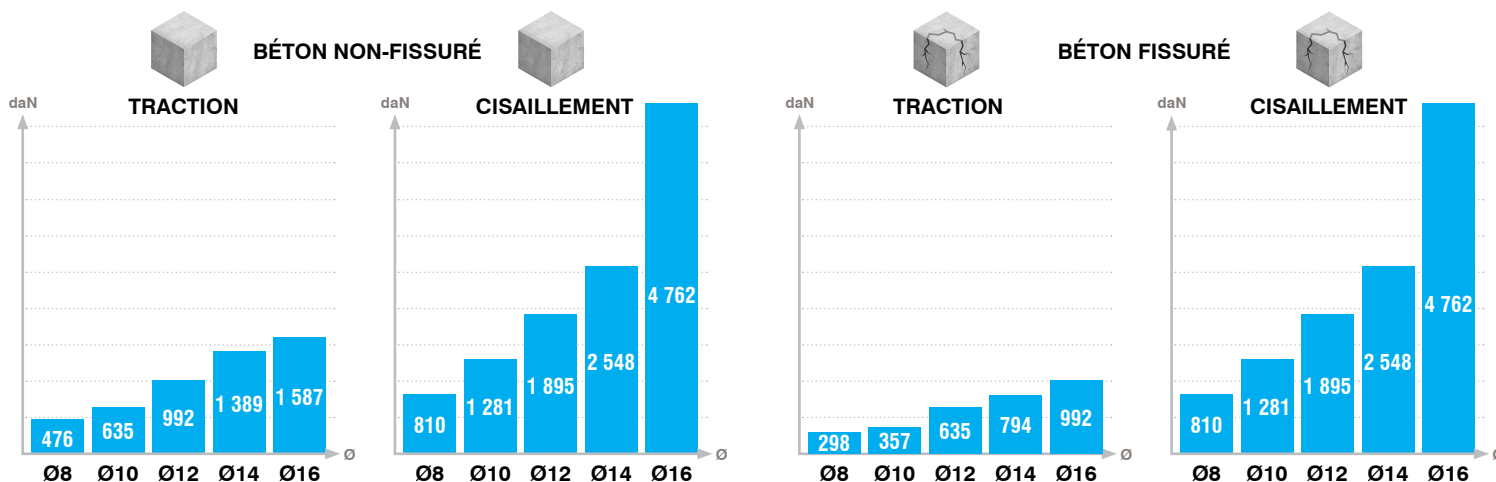
| Ø    | L   | Profondeur d'ancrage standard |                    |                     | Profondeur d'ancrage réduite |                    |                     | Référence |
|------|-----|-------------------------------|--------------------|---------------------|------------------------------|--------------------|---------------------|-----------|
|      |     | t <sub>fix</sub> std          | h <sub>1</sub> std | h <sub>ef</sub> std | t <sub>fix</sub> max         | h <sub>1</sub> min | h <sub>ef</sub> min |           |
| 6.0  | 30  | 5                             | 35                 | 25                  | 5                            | 35                 | 25                  | BT060030* |
|      | 50  | 10                            | 50                 | 40                  | 10                           | 50                 | 40                  | BT060050* |
|      | 75  | 20                            | 65                 | 55                  | 20                           | 65                 | 55                  | BT060075* |
|      | 100 | 45                            | 65                 | 55                  | 45                           | 65                 | 55                  | BT060100* |
| 8.0  | 60  | 10                            | 60                 | 50                  | 15                           | 55                 | 45                  | BT080060  |
|      | 75  | 10                            | 75                 | 65                  | 30                           | 55                 | 45                  | BT080075  |
|      | 100 | 35                            | 75                 | 65                  | 55                           | 55                 | 45                  | BT080100  |
| 10.0 | 60  | 10                            | 60                 | 50                  | 10                           | 60                 | 50                  | BT100060  |
|      | 75  | 15                            | 70                 | 60                  | 25                           | 60                 | 50                  | BT100075  |
|      | 100 | 25                            | 85                 | 75                  | 50                           | 60                 | 50                  | BT100100  |
|      | 130 | 55                            | 85                 | 75                  | 80                           | 60                 | 50                  | BT100130  |
|      | 150 | 75                            | 85                 | 75                  | 100                          | 60                 | 50                  | BT100150  |
| 12.0 | 75  | 15                            | 70                 | 60                  | 25                           | 60                 | 50                  | BT120075  |
|      | 100 | 5                             | 105                | 95                  | 50                           | 60                 | 50                  | BT120100  |
|      | 150 | 55                            | 105                | 95                  | 100                          | 60                 | 50                  | BT120150  |
|      | 80  | 10                            | 80                 | 70                  | 20                           | 70                 | 60                  | BT140080  |
| 14.0 | 100 | 30                            | 80                 | 70                  | 40                           | 70                 | 60                  | BT140100  |
|      | 130 | 15                            | 125                | 115                 | 70                           | 70                 | 60                  | BT140130  |
|      | 150 | 35                            | 125                | 115                 | 90                           | 70                 | 60                  | BT140150  |
| 16.0 | 100 | 30                            | 80                 | 70                  | 40                           | 70                 | 60                  | BT160100  |
|      | 150 | 35                            | 125                | 115                 | 90                           | 70                 | 60                  | BT160150  |

\*Dimensions hors ATE

h<sub>ef</sub>: profondeur d'ancrage // h<sub>t</sub>: profondeur de perçage // t<sub>fix</sub>: épaisseur de la pièce à fixer

## CHARGES DE SERVICE

- Les charges publiées sont calculées à partir des valeurs caractéristiques données dans les ETA sur lesquels des coefficients partiels de sécurité issus de l'ETAG001 ainsi qu'un coefficient partiel d'action  $\gamma_f=1.4$  sont appliqués. Les valeurs sont données pour des profondeurs d'ancrage standard: 65 mm en Ø8 / 75 mm en Ø10 / 95 mm en Ø12 / 115 mm en Ø14 / 115 mm en Ø16. Pour un autre cas de figure, se référer à l'ETA-13/0934.
- Valeurs calculées dans du béton C20/25 à T° = 24°C/40°C.

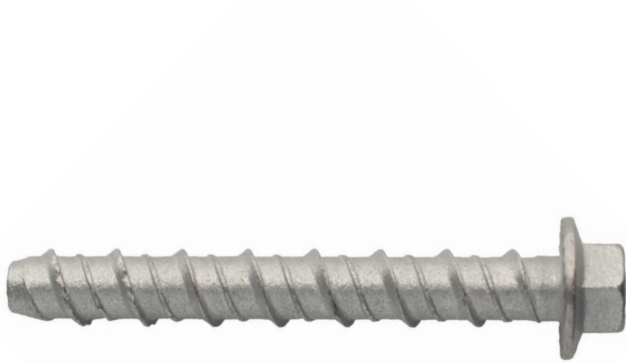


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# STEEL CONCRETE SCREW ETA OPTION 1

**BETABOLT**



Anchor  
design software

EUROPEAN TECHNICAL APPROVAL  
1488-CPD-0383/W  
ETA-13/0934  
EAD 330232-00-0601  
option 1



## MATERIALS



CRACKED  
CONCRETE



NON CRACKED  
CONCRETE



FB120



## FEATURES

### Material :

- 10B21 steel according SAE-J403
- Spun galvanised coating ( $\geq 40 \mu\text{m}$ ) + mechanically deposited acc.to EN ISO 12683

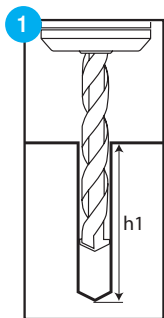
### Advantages :

- Fast and easy installation with a wrench
- Fast removal ideal for temporary fixing
- Optimal fit ; significant shear and tensile strength
- ETA for cracked and non cracked concrete

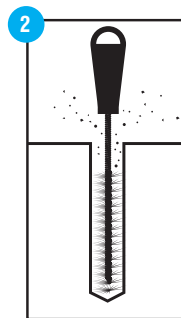
## APPLICATION EXAMPLES

- Shuttering props
- Railings, shelving systems
- Industrial equipment
- Wooden or steel secondary structures
- Cable trays, steel banding

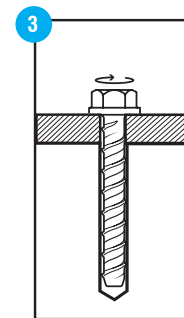
## INSTALLATION



Drill a hole with a hammer drill to the recommended depth  $h_1$ .



Remove dust with a wire brush or blow out with a manual hand pump or compressed air. Repeat 3 times.

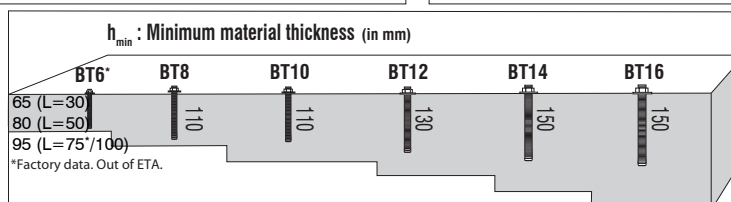
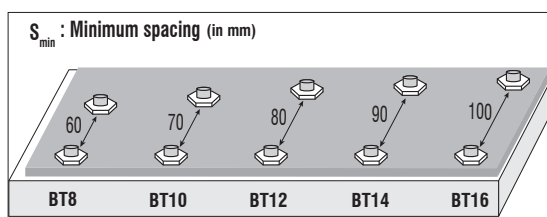
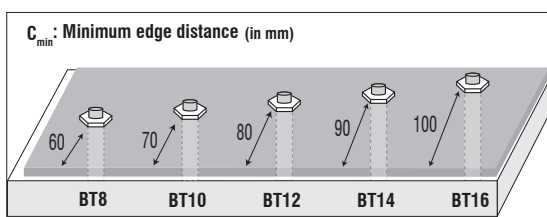


Screw the BETABOLT concrete screw through the fixture with a wrench by applying sufficient torque  $t_{\text{inst}}$  to clamp the material to the concrete.

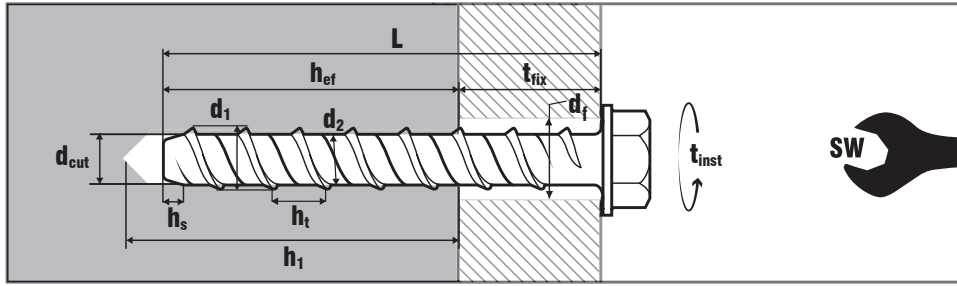
**NB: the BETABOLT SCREW can only be used once.**  
Carbide tips and threads wear out during first use. In case of reuse, it does not allow to reestablish the initial performances.

( $h_1$  and  $t_{\text{inst}}$  : For technical data see overleaf)

## INSTALLATION DATAS



# DIMENSIONS & APPLICATION DATAS



## DIMENSION AND INSTALLATION DATA

|                                    |            | BT06 | BT08 | BT10  | BT12  | BT14  | BT16  |
|------------------------------------|------------|------|------|-------|-------|-------|-------|
| Ø drill size (mm)                  | $d_{cut}$  | 6    | 8    | 10    | 12    | 14    | 16    |
| Clearance hole in the fixture (mm) | $d_f$      | 8    | 12   | 14    | 16    | 18    | 20    |
| Torque setting (N.m)               | $T_{inst}$ | 10   | 30   | 40    | 50    | 60    | 80    |
| Socket/wrench size                 | SW         | 10   | 13   | 15    | 16    | 18    | 21    |
| Bolt diameter                      | $d_k$      | -    | 7.5  | 9.37  | 11.35 | 13.20 | 15.3  |
| Higher thread diameter             | $d_1$      | 7.75 | 9.85 | 11.95 | 14.08 | 16.23 | 18.65 |
| Lower thread diameter              | $d_2$      | 6.15 | 8.13 | 10.25 | 12.15 | 14.18 | 16.03 |
| Thread pitch                       | $h_t$      | 8    | 10   | 12    | 12    | 17    | 19    |
| Chamfer length of lead in point    | $h_s$      | 5    | 5    | 5     | 5     | 5     | 7     |

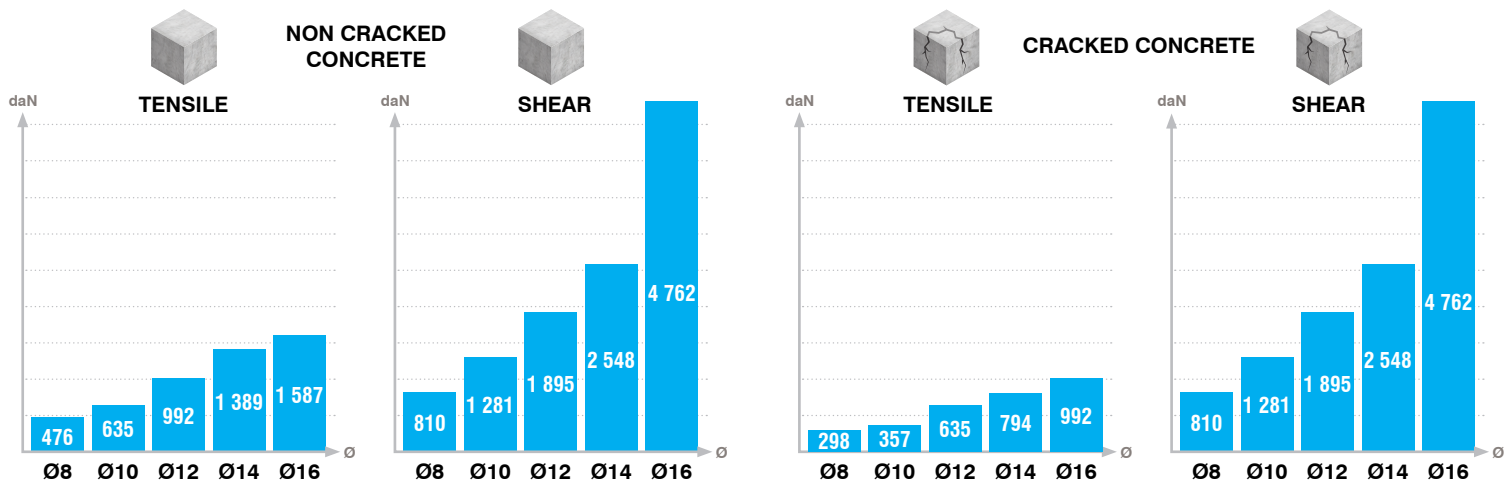
| Ø    | L   | Standard anchor depth |           |              | Reduced anchor depth |           |              | Part No   |
|------|-----|-----------------------|-----------|--------------|----------------------|-----------|--------------|-----------|
|      |     | $t_{fix}$ std         | $h_1$ std | $h_{ef}$ std | $t_{fix}$ max        | $h_1$ min | $h_{ef}$ min |           |
| 6.0  | mm  | mm                    | mm        | mm           | mm                   | mm        | mm           |           |
|      | 30  | 5                     | 35        | 25           | 5                    | 35        | 25           | BT060030* |
|      | 50  | 10                    | 50        | 40           | 10                   | 50        | 40           | BT060050* |
|      | 75  | 20                    | 65        | 55           | 20                   | 65        | 55           | BT060075* |
| 8.0  | 100 | 45                    | 65        | 55           | 45                   | 65        | 55           | BT060100* |
|      | 60  | 10                    | 60        | 50           | 15                   | 55        | 45           | BT080060  |
|      | 75  | 10                    | 75        | 65           | 30                   | 55        | 45           | BT080075  |
|      | 100 | 35                    | 75        | 65           | 55                   | 55        | 45           | BT080100  |
| 10.0 | 60  | 10                    | 60        | 50           | 10                   | 60        | 50           | BT100060  |
|      | 75  | 15                    | 70        | 60           | 25                   | 60        | 50           | BT100075  |
|      | 100 | 25                    | 85        | 75           | 50                   | 60        | 50           | BT100100  |
|      | 130 | 55                    | 85        | 75           | 80                   | 60        | 50           | BT100130  |
|      | 150 | 75                    | 85        | 75           | 100                  | 60        | 50           | BT100150  |
| 12.0 | 200 | 125                   | 85        | 75           | 150                  | 60        | 50           | BT100200  |
|      | 75  | 15                    | 70        | 60           | 25                   | 60        | 50           | BT120075  |
|      | 100 | 5                     | 105       | 95           | 50                   | 60        | 50           | BT120100  |
|      | 150 | 55                    | 105       | 95           | 100                  | 60        | 50           | BT120150  |
| 14.0 | 80  | 10                    | 80        | 70           | 20                   | 70        | 60           | BT140080  |
|      | 100 | 30                    | 80        | 70           | 40                   | 70        | 60           | BT140100  |
|      | 130 | 15                    | 125       | 115          | 70                   | 70        | 60           | BT140130  |
|      | 150 | 35                    | 125       | 115          | 90                   | 70        | 60           | BT140150  |
| 16.0 | 100 | 30                    | 80        | 70           | 40                   | 70        | 60           | BT160100  |
|      | 150 | 35                    | 125       | 115          | 90                   | 70        | 60           | BT160150  |

\*Overall dimension ETA

$h_{ef}$  anchor depth //  $h_1$  drill depth //  $t_{fix}$  fixture thickness

## RECOMMENDED LOADS

- Loads are calculated from characteristic values published in the ETA on which partial safety factors from the ETAG001 and a partial action  $f$  coefficient  $\chi_f = 1.4$  are applied. Values are given for standard anchor depths : 68 mm for Ø8 / 75 mm for Ø10 / 95 mm for Ø12 / 115 mm for Ø14 / 115 mm for Ø16. For other cases, refer to ETA-13/0934.
- Values calculated in concrete C20 / 25,  $T = 24^\circ \text{C} / 40^\circ \text{C}$ .

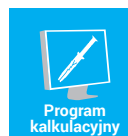


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# WKRĘT KOTWIĄCY OCYNK GALWANICZNY ETA OPCJA 1

# BETABOLT



## EUROPEAN TECHNICAL APPROVAL

1488-CPD-0383/W  
ETA-13/0934  
EAD 330232-00-0601  
option 1



## MATERIAŁY



BETON  
ZARYSOWANY



BETON  
NIEZARYSOWANY



## CECHY

### Materiał :

- Stal 10B21 według SAE-J403
- Ochrona antykorozyjna = powłoka cynkowa 40 µm nakładana przez osadzanie mechaniczne (matoplastyka) zgodnie z ISO 12683

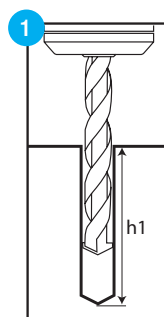
### Zalety :

- Łatwy i szybki montaż za pomocą wkrętarki
- Demontowalny, idealny do mocowań tymczasowych
- Optymalna wytrzymałość : znaczna wytrzymałość na rozciąganie i ścinanie

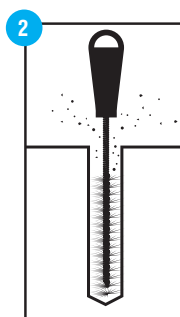
## PRZYKŁADY UŻYCIA

- Podpory pchająco-ciągące, szalunek
- Balustrady (ostateczne lub tymczasowe)
- Sprzęt przemysłowy
- Struktury wtórne - drewniane lub metalowe (gładkie, okucie, ...)
- Korytka kablowe, taśmy perforowane

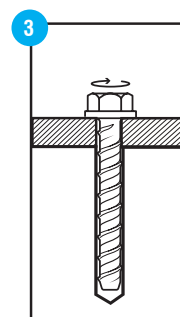
## MONTAŻ



Wywiercić otwór zalecanej głębokości  $h_1$  przy pomocy wiertarki udarowej.



Usunąć pyłki za pomocą szczotki metalowej lub przez wydmuchanie (pompka do wydmuchiwania zwiercin lub sprężone powietrze). Powtórzyć operację 3 razy.

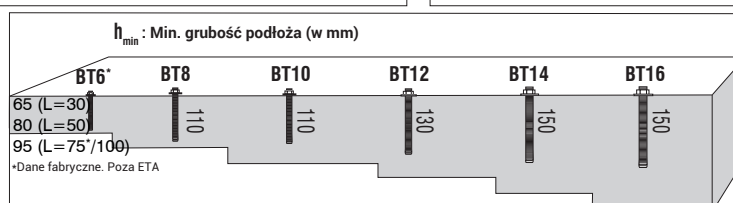
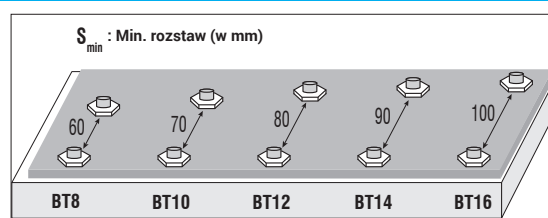
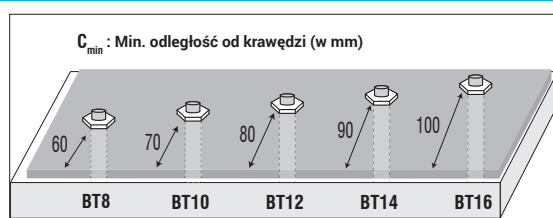


Przykręcić śrubę do betonu BETABOLT przez mocowany przedmiot, najlepiej przy użyciu śrubokrętu/wkrętarki udarowej, przykładając wystarczający moment dokręcenia  $t_{inst}$ .

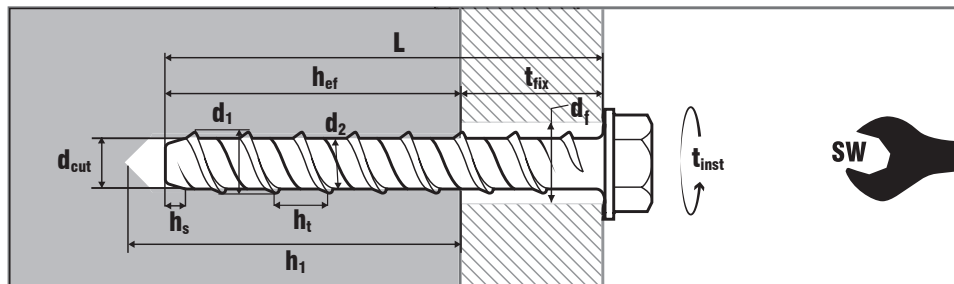
**Uwaga : Wkręty do betonu BETABOLT można stosować tylko jeden raz.**  
Gwinty i końcówki z węglika zużywają się podczas pierwszego użycia, co nie pozwala na znalezienie początkowej wydajności w przypadku ponownego użycia.

( $h_1$  i  $t_{inst}$  : patrz dane techniczne na odwrocie

## DANE MONTAŻOWE



# DANE MONTAŻOWE



## WYMIARY I DANE MONTAŻOWE

|                                              |                   | BT06 | BT08 | BT10  | BT12  | BT14  | BT16  |
|----------------------------------------------|-------------------|------|------|-------|-------|-------|-------|
| Ø nominalna (mm)                             | Ø                 | 6    | 8    | 10    | 12    | 14    | 16    |
| Ø wiertła (mm)                               | d <sub>cut</sub>  | 6    | 8    | 10    | 12    | 14    | 16    |
| Średnica otworu w mocowanym przedmiocie (mm) | d <sub>f</sub>    | 8    | 12   | 14    | 16    | 18    | 20    |
| Moment dokręcający (N.m)                     | T <sub>inst</sub> | 10   | 30   | 40    | 50    | 60    | 80    |
| Rozmiar klucza                               | SW                | 10   | 13   | 15    | 16    | 18    | 21    |
| Średnica śruby                               | d <sub>k</sub>    | -    | 7.5  | 9.37  | 11.35 | 13.20 | 15.3  |
| Wyższa średnica gwintu                       | d <sub>1</sub>    | 7.75 | 9.85 | 11.95 | 14.08 | 16.23 | 18.65 |
| Dolna średnica gwintu                        | d <sub>2</sub>    | 6.15 | 8.13 | 10.25 | 12.15 | 14.18 | 16.03 |
| Skok gwintu                                  | h <sub>t</sub>    | 8    | 10   | 12    | 12    | 17    | 19    |
| Długość fazowania                            | h <sub>s</sub>    | 5    | 5    | 5     | 5     | 5     | 7     |

| Ø    | L   | Standardowa głębokość kotwienia |                    |                     | Zredukowana głębokość kotwienia |                    |                     | Symbol    |
|------|-----|---------------------------------|--------------------|---------------------|---------------------------------|--------------------|---------------------|-----------|
|      |     | t <sub>fix</sub> std            | h <sub>1</sub> std | h <sub>ef</sub> std | t <sub>fix</sub> max            | h <sub>1</sub> min | h <sub>ef</sub> min |           |
| 6.0  | 30  | 5                               | 35                 | 25                  | 5                               | 35                 | 25                  | BT060030* |
|      | 50  | 10                              | 50                 | 40                  | 10                              | 50                 | 40                  | BT060050* |
|      | 75  | 20                              | 65                 | 55                  | 20                              | 65                 | 55                  | BT060075* |
|      | 100 | 45                              | 65                 | 55                  | 45                              | 65                 | 55                  | BT060100* |
| 8.0  | 60  | 10                              | 60                 | 50                  | 15                              | 55                 | 45                  | BT080060  |
|      | 75  | 10                              | 75                 | 65                  | 30                              | 55                 | 45                  | BT080075  |
|      | 100 | 35                              | 75                 | 65                  | 55                              | 55                 | 45                  | BT080100  |
|      | 100 | 10                              | 60                 | 50                  | 10                              | 60                 | 50                  | BT100060  |
| 10.0 | 75  | 15                              | 70                 | 60                  | 25                              | 60                 | 50                  | BT100075  |
|      | 100 | 25                              | 85                 | 75                  | 50                              | 60                 | 50                  | BT100100  |
|      | 130 | 55                              | 85                 | 75                  | 80                              | 60                 | 50                  | BT100130  |
|      | 150 | 75                              | 85                 | 75                  | 100                             | 60                 | 50                  | BT100150  |
| 12.0 | 200 | 125                             | 85                 | 75                  | 150                             | 60                 | 50                  | BT100200  |
|      | 75  | 15                              | 70                 | 60                  | 25                              | 60                 | 50                  | BT120075  |
|      | 100 | 5                               | 105                | 95                  | 50                              | 60                 | 50                  | BT120100  |
|      | 150 | 55                              | 105                | 95                  | 100                             | 60                 | 50                  | BT120150  |
| 14.0 | 80  | 10                              | 80                 | 70                  | 20                              | 70                 | 60                  | BT140080  |
|      | 100 | 30                              | 80                 | 70                  | 40                              | 70                 | 60                  | BT140100  |
|      | 130 | 15                              | 125                | 115                 | 70                              | 70                 | 60                  | BT140130  |
|      | 150 | 35                              | 125                | 115                 | 90                              | 70                 | 60                  | BT140150  |
| 16.0 | 100 | 30                              | 80                 | 70                  | 40                              | 70                 | 60                  | BT160100  |
|      | 150 | 35                              | 125                | 115                 | 90                              | 70                 | 60                  | BT160150  |

\*Wymiary poza ETA

h<sub>ef</sub>: efektywna głębokość osadzenia // h<sub>1</sub>: min. głębokość otworu // t<sub>fix</sub>: Max. grubość mocowania

## ZAKRES OBCIĄŻEŃ

- Przedstawiony zakres został wyliczony na podstawie charakterystycznych wartości podanych w ETA, do których zostały przystawione częściowe współczynniki bezpieczeństwa pochodzące z ETAG001 oraz częściowy współczynnik działania  $\chi_f = 1.4$ . Podane wartości dotyczą standardowych głębokości kotwienia: 65 mm w M8 / 75 mm w M10 / 95 mm w M12 / 115 mm w M14 / 115 mm w M16. W innym przypadku należy odnieść się do ETA-13/0934.
- Podane wartości zostały wyliczone dla betonu C20/25, przy T° = 24°C/40°C.

