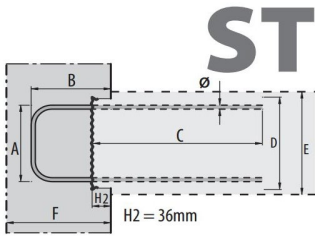


# FERS D'ATTENTE HBT

BEWEHRUNGSANSCHLUSSE HBT

01.11.2018

| PROGRAMME STANDARD | DESIGNATION |         |         | DIMENSIONS EN CM |    |    |      |       |    |    | POIDS / ML       |          |
|--------------------|-------------|---------|---------|------------------|----|----|------|-------|----|----|------------------|----------|
|                    | BEZEICHNUNG |         |         | LANGEN IN CM     |    |    |      |       |    |    | GEWICHT / M      |          |
|                    | LARG.       | Ø ACIER | ECART.  | A                | B  | C  | D    | E     | F  | T  | TÔLE ET ARMATURE | ARMATURE |
|                    | BREITE      | Ø STAHL | TEILUNG |                  |    |    |      |       |    |    |                  |          |
| MM                 | MM          | CM      |         |                  |    |    |      |       |    |    |                  |          |
|                    | 80          | 8       | 15      | 6                | 12 | 40 | 8.6  | 12    | 15 | 15 | 3.60             | 2.78     |
|                    | 80          | 8       | 20      | 6                | 12 | 40 | 8.6  | 12    | 15 | 20 | 2.91             | 2.09     |
|                    | S120        | 8       | 15      | 9                | 12 | 40 | 12.2 | 15    | 15 | 15 | 4.23             | 2.86     |
|                    | S120        | 8       | 20      | 9                | 12 | 40 | 12.2 | 15    | 15 | 20 | 3.51             | 2.14     |
|                    | S120        | 10      | 15      | 9                | 12 | 50 | 12.2 | 15    | 15 | 15 | 6.62             | 5.25     |
|                    | S120        | 10      | 20      | 9                | 12 | 50 | 12.2 | 15    | 15 | 20 | 5.31             | 3.94     |
|                    | 120         | 8       | 15      | 9                | 15 | 40 | 12.2 | 15    | 20 | 15 | 4.38             | 3.01     |
|                    | 120         | 8       | 20      | 9                | 15 | 40 | 12.2 | 15    | 20 | 20 | 3.62             | 2.26     |
|                    | 120         | 10      | 15      | 9                | 15 | 50 | 12.2 | 15    | 20 | 15 | 6.86             | 5.49     |
|                    | 120         | 12      | 15X     | 9                | 15 | 50 | 12.2 | 15    | 20 | 15 | 9.27             | 7.90     |
|                    | 120         | 12      | 15Y     | 9                | 20 | 50 | 12.2 | 15    | 25 | 15 | 9.84             | 8.47     |
|                    | 120         | 12      | 15Z     | 9                | 25 | 50 | 12.2 | 15    | 30 | 15 | 10.40            | 9.04     |
|                    | 150         | 8       | 15      | 12               | 15 | 40 | 15   | 18-20 | 20 | 15 | 4.65             | 3.08     |
|                    | 150         | 8       | 20      | 12               | 15 | 40 | 15   | 18-20 | 20 | 20 | 3.87             | 2.31     |
|                    | S150        | 10      | 15      | 12               | 12 | 50 | 15   | 18-20 | 20 | 15 | 6.93             | 5.37     |
|                    | 150         | 10      | 15      | 12               | 15 | 50 | 15   | 18-20 | 20 | 15 | 7.17             | 5.61     |
|                    | 150         | 10      | 15Y     | 12               | 20 | 60 | 15   | 18-20 | 25 | 15 | 7.56             | 6.00     |
|                    | 150         | 10      | 15Z     | 12               | 25 | 60 | 15   | 18-20 | 30 | 15 | 7.96             | 6.40     |
|                    | 150         | 10      | 20      | 12               | 15 | 50 | 15   | 18-20 | 20 | 20 | 5.77             | 4.21     |
|                    | 150         | 12      | 15X     | 12               | 15 | 60 | 15   | 18-20 | 20 | 15 | 10.77            | 9.21     |
|                    | 150         | 12      | 15Y     | 12               | 20 | 60 | 15   | 18-20 | 25 | 15 | 11.34            | 9.78     |
|                    | 150         | 12      | 15Z     | 12               | 25 | 60 | 15   | 18-20 | 30 | 15 | 11.90            | 10.34    |
|                    | 150         | 14      | 15X     | 12               | 15 | 54 | 15   | 18-20 | 20 | 15 | 13.18            | 11.62    |
|                    | 150         | 14      | 15Z     | 12               | 25 | 54 | 15   | 18-20 | 30 | 15 | 14.73            | 13.17    |
|                    | 190         | 8       | 15      | 16               | 15 | 40 | 18.6 | 22    | 20 | 15 | 5.03             | 3.19     |
|                    | 190         | 8       | 20      | 16               | 15 | 40 | 18.6 | 22    | 20 | 20 | 4.23             | 2.39     |
|                    | 190         | 10      | 15      | 16               | 15 | 50 | 18.6 | 22    | 20 | 15 | 7.60             | 5.77     |
|                    | 190         | 10      | 15Y     | 16               | 20 | 60 | 18.6 | 22    | 25 | 15 | 7.99             | 6.14     |
|                    | 190         | 10      | 15Z     | 16               | 25 | 60 | 18.6 | 22    | 30 | 15 | 8.39             | 6.54     |
|                    | 190         | 10      | 20      | 16               | 15 | 50 | 18.6 | 22    | 20 | 20 | 6.16             | 4.32     |
|                    | 190         | 12      | 15X     | 16               | 15 | 60 | 18.6 | 22    | 20 | 15 | 11.26            | 9.43     |
|                    | 190         | 12      | 15Y     | 16               | 20 | 60 | 18.6 | 22    | 25 | 15 | 11.83            | 10.00    |
|                    | 190         | 12      | 15Z     | 16               | 25 | 60 | 18.6 | 22    | 30 | 15 | 12.39            | 10.57    |
|                    | 190         | 14      | 15X     | 16               | 15 | 60 | 18.6 | 22    | 20 | 15 | 13.74            | 12.86    |
|                    | 190         | 14      | 15Z     | 16               | 25 | 60 | 18.6 | 22    | 30 | 15 | 15.29            | 14.40    |
|                    | 220         | 8       | 15      | 19               | 15 | 40 | 22.2 | 25    | 20 | 15 | 5.39             | 3.26     |
|                    | 220         | 8       | 20      | 19               | 15 | 40 | 22.2 | 25    | 20 | 20 | 4.58             | 2.45     |
|                    | 220         | 10      | 15      | 19               | 15 | 50 | 22.2 | 25    | 20 | 15 | 8.02             | 5.88     |
|                    | 220         | 10      | 15Y     | 19               | 20 | 60 | 22.2 | 25    | 25 | 15 | 8.41             | 6.28     |
|                    | 220         | 10      | 15Z     | 19               | 25 | 60 | 22.2 | 25    | 30 | 15 | 8.81             | 6.67     |
|                    | 220         | 10      | 20      | 19               | 15 | 50 | 22.2 | 25    | 20 | 20 | 6.54             | 4.41     |
|                    | 220         | 12      | 15X     | 19               | 15 | 60 | 22.2 | 25    | 20 | 15 | 11.74            | 9.60     |
|                    | 220         | 12      | 15Y     | 19               | 20 | 60 | 22.2 | 25    | 25 | 15 | 12.30            | 10.17    |
|                    | 220         | 12      | 15Z     | 19               | 25 | 60 | 22.2 | 25    | 30 | 15 | 12.87            | 10.74    |
|                    | 220         | 14      | 15X     | 19               | 15 | 57 | 22.2 | 25    | 20 | 15 | 14.29            | 13.25    |
|                    | 220         | 14      | 15Z     | 19               | 25 | 57 | 22.2 | 25    | 30 | 15 | 15.84            | 14.65    |



**Les éléments courts à 0.85m sont livrés avec une dimension C de 40cm.**

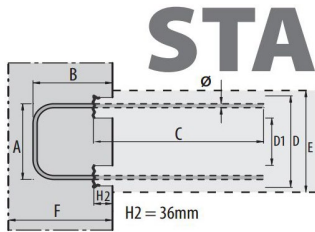
Die 0.85m Element sind mit ein C Mass von 40cm geliefert.

# FERS D'ATTENTE HBT

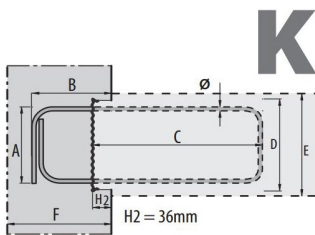
BEWEHRUNGSANSCHLUSSE HBT

01.11.2018

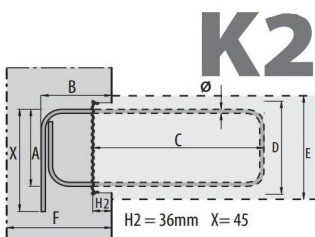
PROGRAMME STANDARD



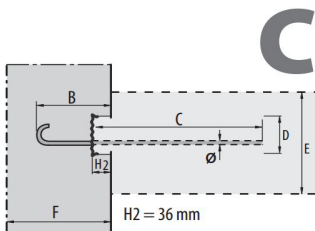
**STA**



**K**



**K2**



**C**

| DESIGNATION |         |         | DIMENSIONS EN CM |    |    |      |    |       |    |    | POIDS / ML       |          |
|-------------|---------|---------|------------------|----|----|------|----|-------|----|----|------------------|----------|
| BEZEICHNUNG |         |         | LANGEN IN CM     |    |    |      |    |       |    |    | GEWICHT / M      |          |
| LARG.       | Ø ACIER | ECART.  | A                | B  | C  | D    | D1 | E     | F  | T  | TÔLE ET ARMATURE | ARMATURE |
| BREITE      | Ø STAHL | TEILUNG |                  |    |    |      |    |       |    |    |                  |          |
| MM          | MM      | CM      |                  |    |    |      |    |       |    |    |                  |          |
| 160         | 10      | 15      | 12               | 15 | 40 | 16   | 5  | 17    | 20 | 15 | 6.91             | 4.82     |
| 180         | 10      | 15      | 14               | 15 | 40 | 18   | 7  | 19    | 20 | 15 | 6.99             | 4.90     |
| 180         | 12      | 15X     | 14               | 15 | 60 | 18   | 1  | 19    | 20 | 15 | 11.40            | 9.32     |
| 210         | 8       | 20      | 17               | 15 | 40 | 21   | 10 | 22    | 20 | 20 | 4.49             | 2.41     |
| 210         | 10      | 15      | 17               | 15 | 40 | 21   | 10 | 22    | 20 | 15 | 7.10             | 5.01     |
| 210         | 12      | 15X     | 17               | 15 | 60 | 21   | 4  | 22    | 20 | 15 | 11.58            | 9.50     |
| 250         | 10      | 15      | 21               | 15 | 50 | 25   | 8  | 26    | 20 | 15 | 8.05             | 5.96     |
| 250         | 12      | 15X     | 21               | 15 | 60 | 25   | 8  | 26    | 20 | 15 | 11.80            | 9.72     |
| 250         | 14      | 15X     | 21               | 15 | 56 | 25   | 8  | 26    | 20 | 15 | 15.33            | 13.25    |
| 280         | 8       | 15      | 24               | 15 | 40 | 28   | 17 | 30    | 20 | 15 | 5.47             | 3.39     |
| 280         | 8       | 20      | 24               | 15 | 40 | 28   | 17 | 30    | 20 | 20 | 4.63             | 2.54     |
| 280         | 10      | 15      | 24               | 15 | 50 | 28   | 11 | 30    | 20 | 15 | 8.17             | 6.08     |
| 280         | 10      | 15Y     | 24               | 20 | 50 | 28   | 11 | 30    | 25 | 15 | 8.56             | 6.48     |
| 280         | 10      | 15Z     | 24               | 25 | 50 | 28   | 11 | 30    | 30 | 15 | 8.96             | 6.87     |
| 280         | 10      | 20      | 24               | 15 | 40 | 28   | 11 | 30    | 20 | 20 | 6.05             | 3.97     |
| 280         | 12      | 15X     | 24               | 15 | 60 | 28   | 11 | 30    | 20 | 15 | 11.97            | 9.89     |
| 280         | 12      | 15Y     | 24               | 20 | 60 | 28   | 11 | 30    | 25 | 15 | 12.54            | 10.46    |
| 280         | 12      | 15Z     | 24               | 25 | 60 | 28   | 11 | 30    | 30 | 15 | 13.11            | 11.03    |
| 280         | 14      | 15X     | 24               | 15 | 56 | 28   | 11 | 30    | 20 | 15 | 13.48            | 230.30   |
| 280         | 14      | 15Z     | 24               | 25 | 56 | 28   | 11 | 30    | 30 | 15 | 17.11            | 15.03    |
| K120        | 10      | 20      | 9                | 15 | 18 | 12.2 |    | 15    | 20 | 20 | 4.12             | 2.75     |
| K150        | 10      | 15      | 12               | 15 | 13 | 15   |    | 18-20 | 20 | 15 | 5.19             | 3.63     |
| K150        | 10      | 15X     | 12               | 15 | 18 | 15   |    | 18-20 | 20 | 15 | 5.59             | 4.03     |
| K150        | 10      | 20      | 12               | 15 | 18 | 15   |    | 18-20 | 20 | 20 | 4.58             | 3.02     |
| K190        | 10      | 20      | 16               | 15 | 18 | 18.6 |    | 22    | 20 | 20 | 5.23             | 3.38     |
| K2150       | 10      | 20      | 12               | 15 | 18 | 15   |    | 18-20 | 20 | 20 | 5.56             | 4.00     |
| K2190       | 10      | 20      | 16               | 15 | 18 | 18.6 |    | 22    | 20 | 20 | 6.12             | 4.24     |
| K2190       | 10      | 20Y     | 16               | 20 | 18 | 18.6 |    | 22    | 25 | 20 | 6.41             | 4.53     |
| K2190       | 10      | 20Z     | 16               | 25 | 18 | 18.6 |    | 22    | 30 | 20 | 6.71             | 4.83     |
| 55          | 08      | 15      |                  | 15 | 40 | 5.5  |    | VAR   | 20 | 15 | 2.46             | 1.59     |
| 55          | 08      | 20      |                  | 15 | 40 | 5.5  |    | VAR   | 20 | 20 | 2.05             | 1.19     |
| 55          | 10      | 15      |                  | 15 | 40 | 5.5  |    | VAR   | 20 | 15 | 3.39             | 2.49     |
| 85          | 10      | 15      |                  | 15 | 50 | 8.6  |    | VAR   | 20 | 15 | 4.00             | 2.88     |
| 85          | 10      | 15Y     |                  | 20 | 50 | 8.6  |    | VAR   | 25 | 15 | 4.20             | 3.16     |
| 85          | 10      | 15Z     |                  | 25 | 50 | 8.6  |    | VAR   | 30 | 15 | 4.40             | 3.36     |
| 85          | 12      | 15X     |                  | 15 | 60 | 8.6  |    | VAR   | 30 | 15 | 4.40             | 3.36     |
| 85          | 12      | 15Y     |                  | 20 | 60 | 8.6  |    | VAR   | 25 | 15 | 6.27             | 5.00     |
| 85          | 12      | 15Z     |                  | 25 | 60 | 8.6  |    | VAR   | 30 | 15 | 6.56             | 5.29     |
| 85          | 14      | 15X     |                  | 15 | 56 | 8.6  |    | VAR   | 20 | 15 | 7.93             | 5.80     |
| 85          | 14      | 15Z     |                  | 25 | 56 | 8.6  |    | VAR   | 30 | 15 | 8.71             | 6.59     |

Les éléments courts à 0.85m sont livrés avec une dimension C de 40cm.  
Die 0.85m Element sind mit ein C Mass von 40cm geliefert.

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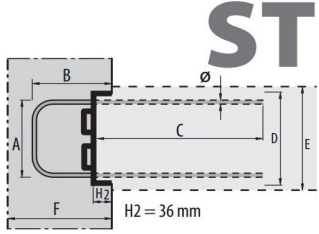
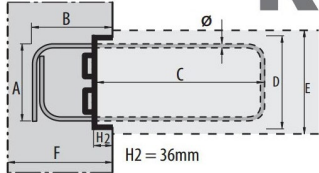
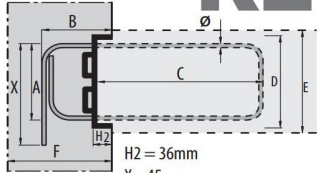
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# FERS D'ATTENTE AT-CISA

BEWEHRUNGSANSCHLUSSE AT-CISA

01.11.2018

| PROGRAMME STANDARD   | DESIGNATION |         |         | DIMENSIONS EN CM |    |      |      |       |    |       | POIDS / ML       |          |
|--|-------------|---------|---------|------------------|----|------|------|-------|----|-------|------------------|----------|
|  | BEZEICHNUNG |         |         | LANGEN IN CM     |    |      |      |       |    |       | GEWICHT / M      |          |
|  | LARG.       | Ø ACIER | ECART.  | A                | B  | C    | D    | E     | F  | T     | TÔLE ET ARMATURE | ARMATURE |
|  | BREÏTE      | Ø STAHL | TEILUNG |                  |    |      |      |       |    |       |                  |          |
|  | MM          | MM      | CM      |                  |    |      |      |       |    |       |                  |          |
|  <p><b>ST</b></p>   | S120        | 10      | 15      | 9                | 12 | 50   | 12.2 | 15-16 | 15 | 15    | 7.01             | 5.50     |
|  | 120         | 10      | 15      | 9                | 15 | 50   | 12.2 | 15-16 | 20 | 15    | 7.25             | 5.75     |
|  | 150         | 10      | 15      | 12               | 15 | 50   | 15.0 | 17-20 | 20 | 15    | 7.63             | 5.86     |
|  | 150         | 10      | 15Y     | 12               | 20 | 50   | 15.0 | 17-20 | 25 | 15    | 8.04             | 6.27     |
|  | 150         | 10      | 15Z     | 12               | 25 | 50   | 15.0 | 17-20 | 30 | 15    | 8.45             | 6.68     |
|  | 150         | 12      | 15X     | 12               | 15 | 60   | 15.0 | 17-20 | 20 | 15    | 11.38            | 9.62     |
|  | 150         | 12      | 15Y     | 12               | 20 | 60   | 15.0 | 17-20 | 25 | 15    | 11.98            | 10.21    |
|  | 150         | 12      | 15Z     | 12               | 25 | 60   | 15.0 | 17-20 | 30 | 15    | 12.57            | 10.80    |
|  | 190         | 10      | 15      | 16               | 15 | 50   | 18.6 | 21-25 | 20 | 15    | 8.09             | 6.01     |
|  | 190         | 10      | 15Y     | 16               | 20 | 50   | 18.6 | 21-25 | 25 | 15    | 8.50             | 6.42     |
|  | 190         | 10      | 15Z     | 16               | 25 | 50   | 18.6 | 21-25 | 30 | 15    | 8.91             | 6.83     |
|  | 190         | 12      | 15X     | 16               | 15 | 60   | 18.6 | 21-25 | 20 | 15    | 11.91            | 9.83     |
|  | 190         | 12      | 15Y     | 16               | 20 | 60   | 18.6 | 21-25 | 25 | 15    | 12.50            | 10.43    |
|  | 190         | 12      | 15Z     | 16               | 25 | 60   | 18.6 | 21-25 | 30 | 15    | 13.09            | 11.02    |
|  | 240         | 10      | 15      | 21               | 15 | 50   | 24.0 | ≤ 26  | 20 | 15    | 8.77             | 6.23     |
|  | 240         | 10      | 15Y     | 21               | 20 | 50   | 24.0 | ≤ 26  | 25 | 15    | 9.18             | 6.64     |
|  | 240         | 10      | 15Z     | 21               | 25 | 50   | 24.0 | ≤ 26  | 30 | 15    | 9.59             | 7.05     |
|  | 240         | 12      | 15X     | 21               | 15 | 60   | 24.0 | ≤ 26  | 20 | 15    | 12.69            | 10.15    |
| 240  | 12          | 15Y     | 21      | 20               | 60 | 24.0 | ≤ 26 | 25    | 15 | 13.28 | 10.74            |          |
| 240  | 12          | 15Z     | 21      | 25               | 60 | 24.0 | ≤ 26 | 30    | 15 | 13.87 | 11.34            |          |
|  <p><b>K</b></p>  | K150        | 10      | 15      | 12               | 15 | 14   | 15.0 | 17-20 | 20 | 15    | 3.87             | 5.63     |
|  | K150        | 12      | 15X     | 12               | 15 | 14   | 15.0 | 17-20 | 20 | 15    | 5.56             | 7.33     |
|  | K150        | 12      | 15Y     | 12               | 20 | 14   | 15.0 | 17-20 | 25 | 15    | 6.16             | 7.92     |
|  | K150        | 12      | 15Z     | 12               | 25 | 18   | 15.0 | 17-20 | 30 | 15    | 7.22             | 8.99     |
|  | K190        | 12      | 15X     | 16               | 15 | 14   | 19.0 | 21-25 | 20 | 15    | 6.28             | 8.31     |
|  | K190        | 12      | 15Y     | 16               | 20 | 14   | 19.0 | 21-25 | 25 | 15    | 6.87             | 8.90     |
|  | K190        | 12      | 15Z     | 16               | 25 | 18   | 19.0 | 21-25 | 30 | 15    | 7.93             | 9.97     |
|  <p><b>K2</b></p> | K2150       | 12      | 15X     | 12               | 15 | 18   | 15.0 | 17-20 | 20 | 15    | 8.70             | 10.74    |
|  | K2150       | 12      | 15Y     | 12               | 20 | 18   | 15.0 | 17-20 | 25 | 15    | 9.29             | 11.33    |
|  | K2150       | 12      | 15Z     | 12               | 25 | 18   | 15.0 | 17-20 | 30 | 15    | 9.89             | 11.92    |
|  | K2190       | 10      | 15Y     | 16               | 20 | 14   | 19.0 | 21-25 | 25 | 15    | 6.62             | 8.66     |
|  | K2190       | 10      | 15Z     | 16               | 25 | 14   | 19.0 | 21-25 | 30 | 15    | 7.03             | 9.07     |
|  | K2190       | 12      | 15X     | 16               | 15 | 14   | 19.0 | 21-25 | 20 | 15    | 8.94             | 10.97    |
|  | K2190       | 12      | 15Y     | 16               | 20 | 18   | 19.0 | 21-25 | 25 | 15    | 10.00            | 12.04    |
|  | K2190       | 12      | 15Z     | 16               | 25 | 22   | 19.0 | 21-25 | 30 | 15    | 11.07            | 13.11    |
|  | K2240       | 12      | 15Y     | 21               | 20 | 22   | 24.0 | ≤ 26  | 25 | 15    | 11.37            | 13.82    |
|  | K2240       | 12      | 15Z     | 21               | 25 | 22   | 24   | ≤ 26  | 30 | 15    | 11.96            | 14.42    |