
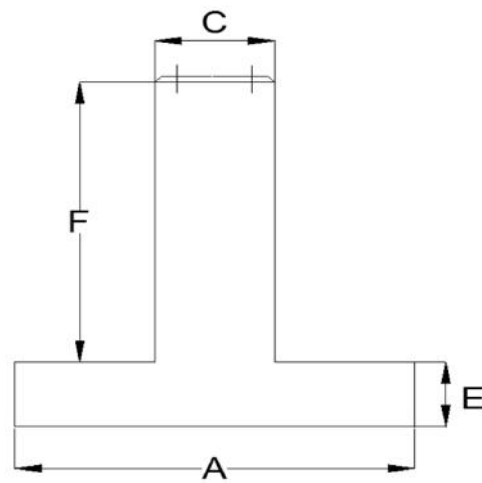
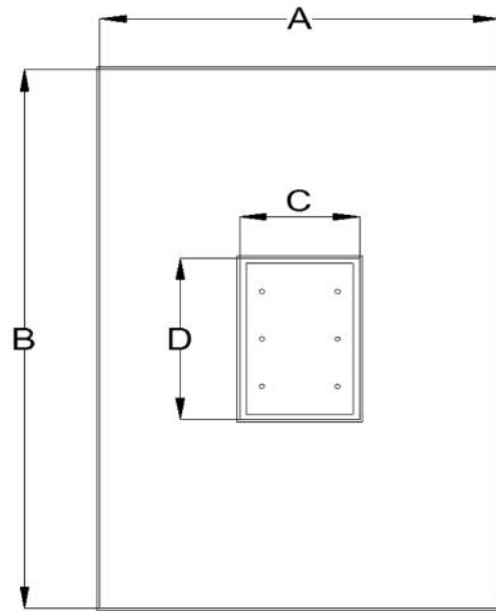


|  |            |   |         |  |        |                   |
|--|------------|---|---------|--|--------|-------------------|
|  |            |   |         |  |        |                   |
|  |            |   |         |  |        |                   |
| 0  | 09/03/2015 | PARA PLIEGO   |         |  |        |                   |
| REV.   | FECHA      | DESCRIPCION   | REALIZO | REVISO   | APROBO | V° B° UEC         |
| <p>REPÚBLICA ARGENTINA - MINISTERIO DEL INTERIOR Y TRANSPORTE</p> <p>UNIDAD EJECUTORA CENTRAL</p>  |            |   |         |  |        |                   |
| <p>UNIDAD EJECUTORA CENTRAL</p>  <p>Ministerio del Interior y Transporte<br/>Presidencia de la Nación</p> |            | <p>PROYECTO TALLERES TOLOSA Y KM 5</p>  |         |  |        |                   |
|  |            | <p><b>DEPÓSITO TOLOSA - NAVE TORNO -<br/>FUNDACIONES - PLANILLA DE<br/>DOBLADO DE HIERROS</b></p> |         | <p><b>DOCUMENTO N°<br/>CI-TOL-PH-HAE-003</b></p> |        |                   |
|  |            |   |         | <p><b>Fecha:</b> 09/03/2015</p>                  |        |                   |
| <p>Nombre de archivo: CI-TOL-PH-HAE-003 - R0 - DEPÓSITO TOLOSA - NAVE TORNO -<br/>FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS</p>   |            |   |         | <p>Pág: 1 de 16</p>                              |        | <p>Revisión 0</p> |

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

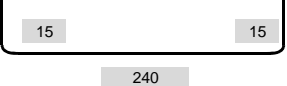
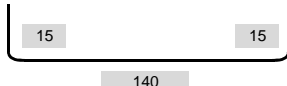
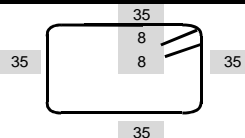
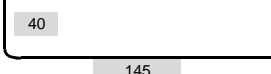
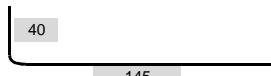
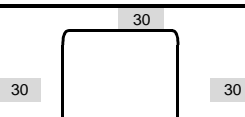


**FUNDACION DE BASE TIPO 1**

CANTIDAD: 12

| Datos     |             |
|-----------|-------------|
| A=        | 1500 mm     |
| B=        | 2500 mm     |
| C=        | 450 mm      |
| D=        | 750 mm      |
| E=        | 300 mm      |
| F=        | 1300 mm     |
| Rec.Zap.= | 50 mm       |
| Rec.Fus.= | 50 mm       |
| Cant=     | 1           |
| Fustes=   | 1           |
| Ø Bulon=  | M20-TIPOIII |
| TAG=      | BASE TIPO 1 |

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

| POS | $\phi$ | MANDRIL<br>(mm) | CANTIDADES |       | LONGITUDES |        | FORMA DE LA BARRA<br>(cm)  | OBSERVACIONES |        |
|-----|--------|-----------------|------------|-------|------------|--------|--|---------------|--------|
|     |        |                 | PARC.      | TOTAL | A CORTAR   | TOTAL  |  |               |        |
|     |        |                 |            |       | (m.)       | (m.)   |  |               |        |
| 1   | 16     | 96              | 14         | 168   | 2.70       | 453.60 |    | A° LONG.      |        |
|     |        |                 |            |       |            |        |  | SEP.:         | 200 mm |
| 2   | 10     | 60              | 32         | 384   | 1.70       | 652.80 |    | A° TRANSV.    |        |
|     |        |                 |            |       |            |        |  | SEP.:         | 150 mm |
| 3   | 8      | 48              | 18         | 216   | 1.56       | 336.96 |    | ESTRIBOS      |        |
|     |        |                 |            |       |            |        |  | SEP.:         | 150 mm |
| 4   | 12     | 72              | 4          | 48    | 1.85       | 88.80  |    | A° VERTICAL   |        |
| 5   | 16     | 96              | 10         | 120   | 1.85       | 222.00 |   | A° VERTICAL   |        |
| 6   | 10     | 60              | 2          | 24    | 0.90       | 21.60  |  | HORQUILLAS    |        |

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

**RESUMEN FUNDACION DE BASE TIPO 1**

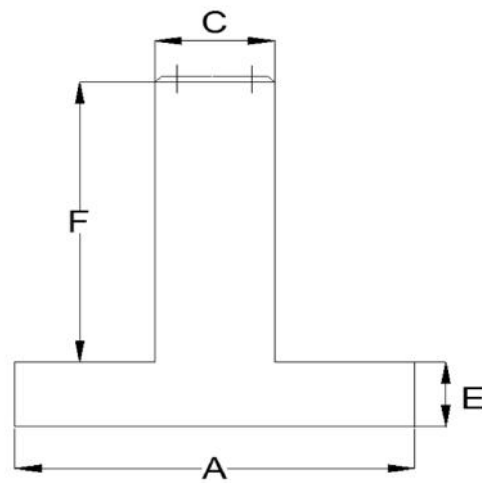
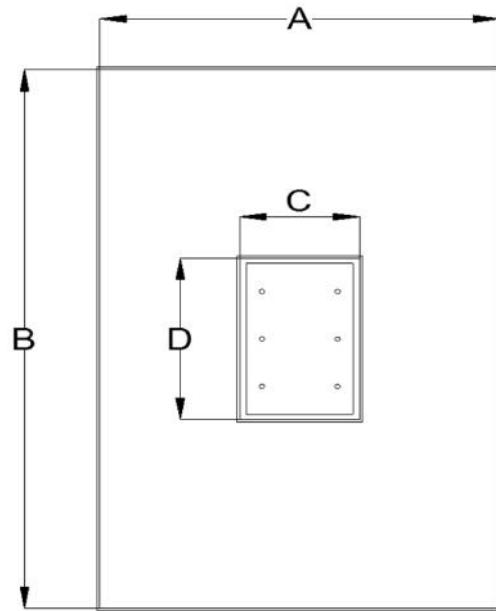
| DIAMETRO | LARGO  | PESO UNITARIO | PESO           |
|----------|--------|---------------|----------------|
| (mm)     | (m)    | (kg/m)        | (Kg)           |
| 8        | 336.96 | 0.40          | 134.78         |
| 10       | 674.40 | 0.62          | 418.13         |
| 12       | 88.80  | 0.88          | 78.14          |
| 16       | 675.60 | 1.60          | 1080.96        |
| 20       | 0.00   | 2.46          | 0.00           |
| 25       | 0.00   | 3.85          | 0.00           |
|          |        |               | <b>1712.02</b> |

**CUANTIA:** 91 kg/m3

Corresponde a Documentos:

**CI-TOL-PL-HAE-003**

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

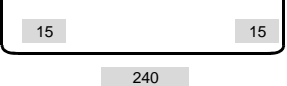
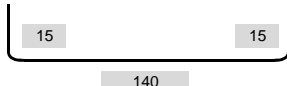
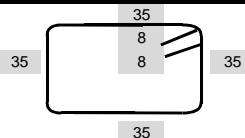
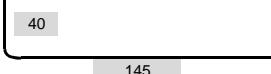
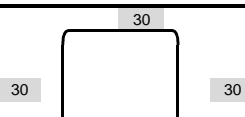


**FUNDACION DE BASE TIPO 2**

CANTIDAD: 4

| Datos     |             |
|-----------|-------------|
| A=        | 1500 mm     |
| B=        | 2500 mm     |
| C=        | 450 mm      |
| D=        | 450 mm      |
| E=        | 300 mm      |
| F=        | 1300 mm     |
| Rec.Zap.= | 50 mm       |
| Rec.Fus.= | 50 mm       |
| Cant=     | 1           |
| Fustes=   | 1           |
| Ø Bulon=  | M20-TIPOIII |
| TAG=      | BASE TIPO 2 |

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

| POS | $\phi$<br>(mm) | MANDRIL<br>(mm) | CANTIDADES |       | LONGITUDES |        | FORMA DE LA BARRA<br>(cm)  | OBSERVACIONES |        |
|-----|----------------|-----------------|------------|-------|------------|--------|--|---------------|--------|
|     |                |                 | PARC.      | TOTAL | A CORTAR   | TOTAL  |  |               |        |
|     |                |                 |            |       | (m.)       | (m.)   |  |               |        |
| 1   | 12             | 72              | 20         | 80    | 2.70       | 216.00 |    | A° LONG.      |        |
|     |                |                 |            |       |            |        |  | SEP.:         | 150 mm |
| 2   | 10             | 60              | 32         | 128   | 1.70       | 217.60 |    | A° TRANSV.    |        |
|     |                |                 |            |       |            |        |  | SEP.:         | 150 mm |
| 3   | 8              | 48              | 9          | 36    | 1.56       | 56.16  |    | ESTRIBOS      |        |
|     |                |                 |            |       |            |        |  | SEP.:         | 150 mm |
| 4   | 12             | 72              | 12         | 48    | 1.85       | 88.80  |    | A° VERTICAL   |        |
| 5   |                |                 |            |       |            |        |  |               |        |
| 6   | 10             | 60              | 2          | 8     | 0.90       | 7.20   |  | HORQUILLAS    |        |

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

**RESUMEN FUNDACION DE BASE TIPO 2**

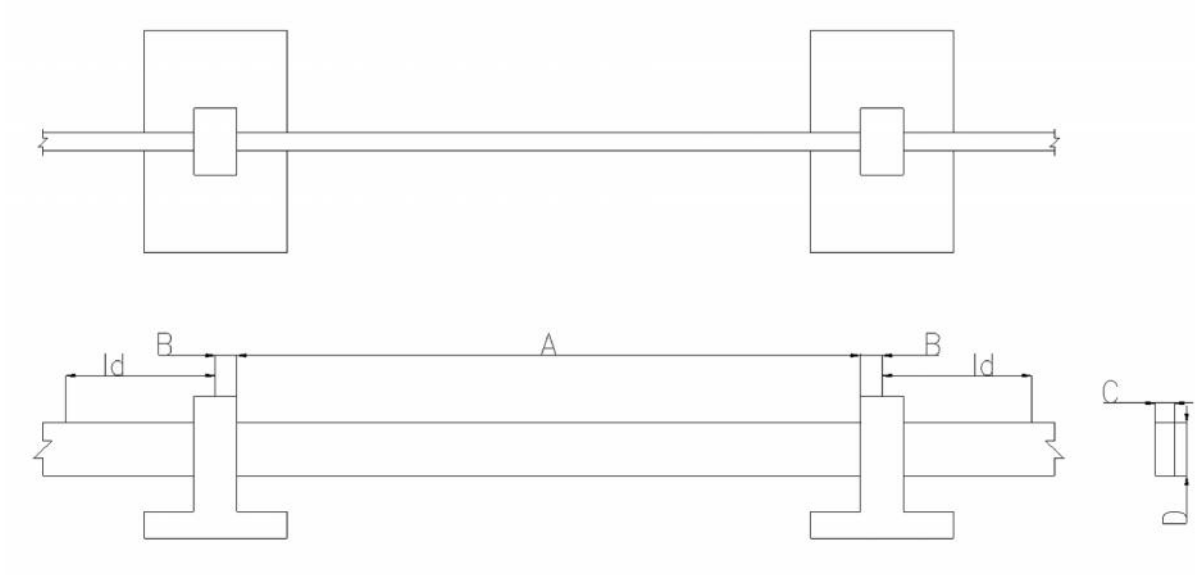
| DIAMETRO | LARGO  | PESO UNITARIO | PESO          |
|----------|--------|---------------|---------------|
| (mm)     | (m)    | (kg/m)        | (Kg)          |
| 8        | 56.16  | 0.40          | 22.46         |
| 10       | 224.80 | 0.62          | 139.38        |
| 12       | 304.80 | 0.88          | 268.22        |
| 16       | 0.00   | 1.60          | 0.00          |
| 20       | 0.00   | 2.46          | 0.00          |
| 25       | 0.00   | 3.85          | 0.00          |
|          |        |               | <b>430.06</b> |

**CUANTIA:** 77 kg/m3

Corresponde a Documentos:

**CI-TOL-PL-HAE-003**

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |



**VIGA DE FUNDACION VF1**

CANTIDAD: 10

| Datos     |         |
|-----------|---------|
| A=        | 6550 mm |
| B=        | 225 mm  |
| C=        | 200 mm  |
| D=        | 600 mm  |
|           |         |
| Rec.Zap.= | 50 mm   |
|           |         |
| Cant=     | 1       |
|           |         |
| TAG=      | VF1     |



|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

| POS | $\phi$ | MANDRIL | CANTIDADES |       | LONGITUDES |        | FORMA DE LA BARRA | OBSERVACIONES  |        |
|-----|--------|---------|------------|-------|------------|--------|-------------------|----------------|--------|
|     |        |         |            |       | A CORTAR   | TOTAL  |                   |                |        |
|     | (mm)   |         | PARC.      | TOTAL | (m.)       | (m.)   | (cm)              |                |        |
| 7   | 16     | 96      | 3          | 30    | 7.95       | 238.50 |                   | A° INFERIOR    |        |
| 8   | 10     | 60      | 2          | 20    | 7.95       | 159.00 |                   | A° SUPERIOR    |        |
| 9   | 8      | 48      | 2          | 20    | 7.20       | 144.00 |                   | A° DE POSICIÓN |        |
| 10  | 10     | 60      | 47         | 470   | 1.20       | 564.00 |                   | A° LONG.       |        |
|     |        |         |            |       |            |        |                   | SEP.:          | 150 mm |

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

**RESUMEN VIGA DE FUNDACION VF1**

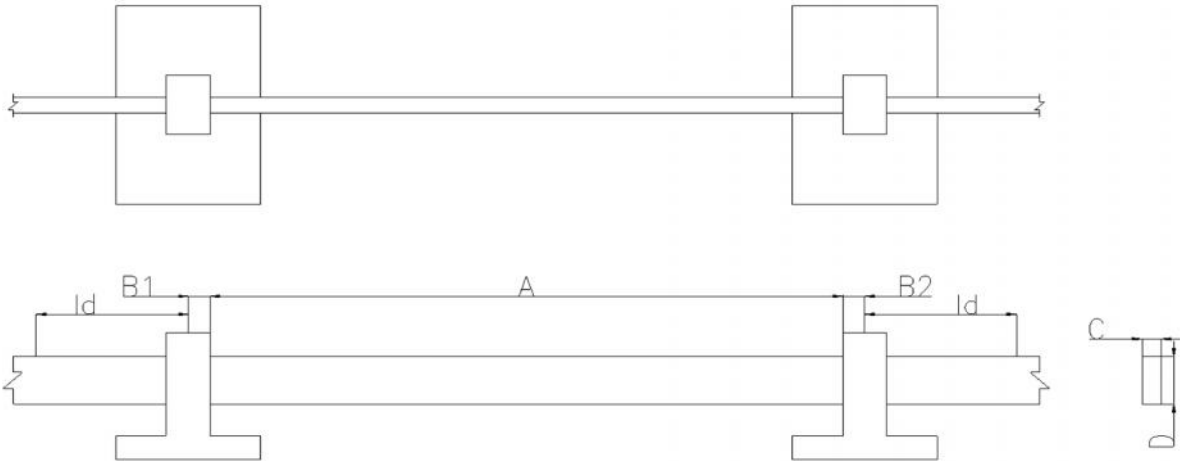
| DIAMETRO | LARGO  | PESO UNITARIO | PESO          |
|----------|--------|---------------|---------------|
| (mm)     | (m)    | (kg/m)        | (Kg)          |
| 8        | 144.00 | 0.40          | 57.60         |
| 10       | 723.00 | 0.62          | 448.26        |
| 12       | 0.00   | 0.88          | 0.00          |
| 16       | 238.50 | 1.60          | 381.60        |
| 20       | 0.00   | 2.46          | 0.00          |
| 25       | 0.00   | 3.85          | 0.00          |
|          |        |               | <b>887.46</b> |

**CUANTIA:** 106 kg/m3

Corresponde a Documentos:

**CI-TOL-PL-HAE-003**

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

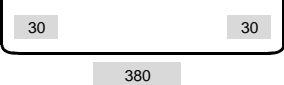
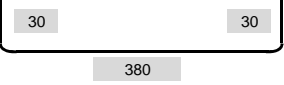
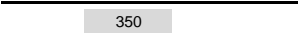
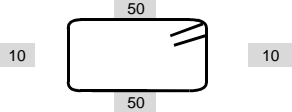


| Datos     |         |
|-----------|---------|
| A=        | 2700 mm |
| B1=       | 375 mm  |
| B2=       | 225 mm  |
| C=        | 200 mm  |
| D=        | 600 mm  |
|           |         |
| Rec.Zap.= | 50 mm   |
|           |         |
| Cant=     | 1       |
|           |         |
| TAG=      | VF2     |

VIGA DE FUNDACION VF2

CANTIDAD: 4

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

| POS | $\phi$ | MANDRIL | CANTIDADES |       | LONGITUDES |        | FORMA DE LA BARRA  | OBSERVACIONES  |        |
|-----|--------|---------|------------|-------|------------|--------|--|----------------|--------|
|     | (mm)   |         |            |       | A CORTAR   | TOTAL  |  |                |        |
|     | (mm)   | (mm)    | PARC.      | TOTAL | (m.)       | (m.)   | (cm)   |                |        |
| 7   | 16     | 96      | 3          | 12    | 4.40       | 52.80  |  | A° INFERIOR    |        |
| 8   | 10     | 60      | 2          | 8     | 4.40       | 35.20  |  | A° SUPERIOR    |        |
| 9   | 8      | 48      | 2          | 8     | 3.50       | 28.00  |  | A° DE POSICIÓN |        |
| 10  | 10     | 60      | 22         | 88    | 1.20       | 105.60 |  | A° LONG.       |        |
|     |        |         |            |       |            |        |  | SEP.:          | 150 mm |

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

**RESUMEN VIGA DE FUNDACION VF2**

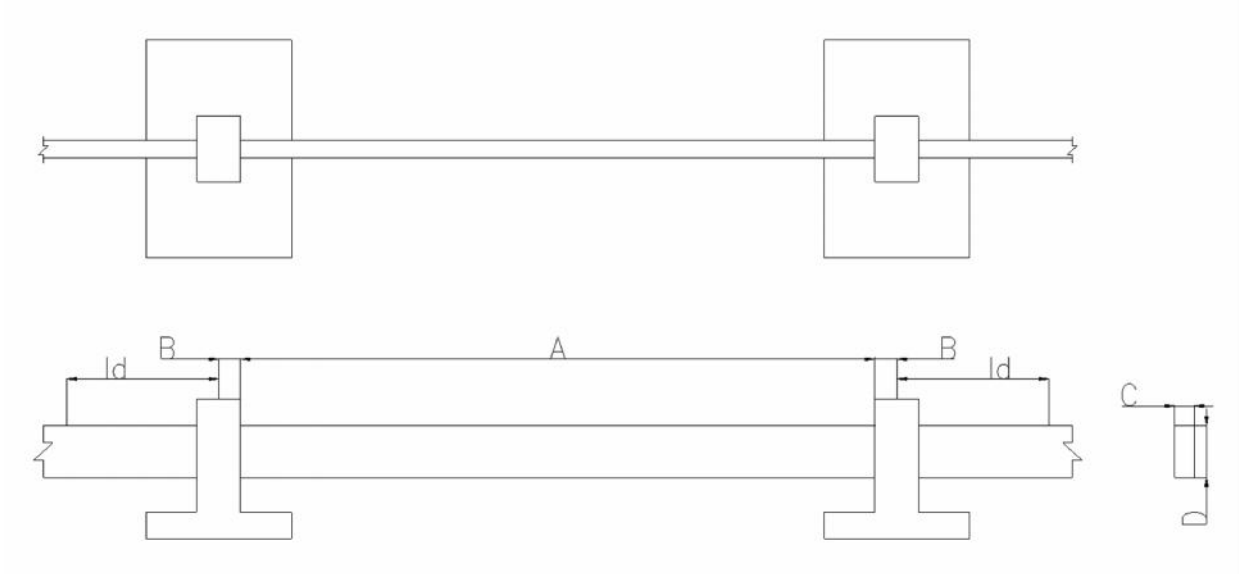
| DIAMETRO | LARGO  | PESO UNITARIO | PESO          |
|----------|--------|---------------|---------------|
| (mm)     | (m)    | (kg/m)        | (Kg)          |
| 8        | 28.00  | 0.40          | 11.20         |
| 10       | 140.80 | 0.62          | 87.30         |
| 12       | 0.00   | 0.88          | 0.00          |
| 16       | 52.80  | 1.60          | 84.48         |
| 20       | 0.00   | 2.46          | 0.00          |
| 25       | 0.00   | 3.85          | 0.00          |
|          |        |               | <b>182.98</b> |

**CUANTIA:** 110 kg/m3

Corresponde a Documentos:

**CI-TOL-PL-HAE-003**

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

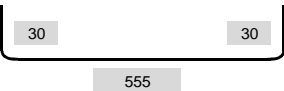
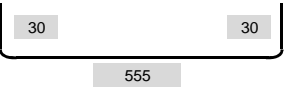
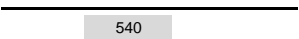
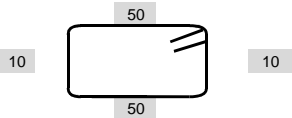


| Datos     |         |
|-----------|---------|
| A=        | 4750 mm |
| B=        | 225 mm  |
| C=        | 200 mm  |
| D=        | 600 mm  |
|           |         |
| Rec.Zap.= | 50 mm   |
|           |         |
| Cant=     | 1       |
|           |         |
| TAG=      | VF3     |

VIGA DE FUNDACION VF3

CANTIDAD: 2

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

| POS | $\phi$ | MANDRIL | CANTIDADES |       | LONGITUDES |       | FORMA DE LA BARRA  | OBSERVACIONES  |        |
|-----|--------|---------|------------|-------|------------|-------|--|----------------|--------|
|     | (mm)   |         |            |       | A CORTAR   | TOTAL |  |                |        |
|     | (mm)   |         | PARC.      | TOTAL | (m.)       | (m.)  | (cm)   |                |        |
| 7   | 16     | 96      | 3          | 6     | 6.15       | 36.90 |  | A° INFERIOR    |        |
| 8   | 10     | 60      | 2          | 4     | 6.15       | 24.60 |  | A° SUPERIOR    |        |
| 9   | 8      | 48      | 2          | 4     | 5.40       | 21.60 |  | A° DE POSICIÓN |        |
| 10  | 10     | 60      | 35         | 70    | 1.20       | 84.00 |  | A° LONG.       |        |
|     |        |         |            |       |            |       |  | SEP.:          | 150 mm |

|   |                   |
|---|-------------------|
| PROYECTO TALLERES TOLOSA Y KM 5   | CI-TOL-PH-HAE-003 |
| DEPÓSITO TOLOSA - NAVE TORNO - FUNDACIONES - PLANILLA DE DOBLADO DE HIERROS | REVISIÓN 0        |

**RESUMEN VIGA DE FUNDACION VF3**

| DIAMETRO | LARGO  | PESO UNITARIO | PESO          |
|----------|--------|---------------|---------------|
| (mm)     | (m)    | (kg/m)        | (Kg)          |
| 8        | 21.60  | 0.40          | 8.64          |
| 10       | 108.60 | 0.62          | 67.33         |
| 12       | 0.00   | 0.88          | 0.00          |
| 16       | 36.90  | 1.60          | 59.04         |
| 20       | 0.00   | 2.46          | 0.00          |
| 25       | 0.00   | 3.85          | 0.00          |
|          |        |               | <b>135.01</b> |

**CUANTIA:** 108 kg/m3

Corresponde a Documentos:

**CI-TOL-PL-HAE-003**