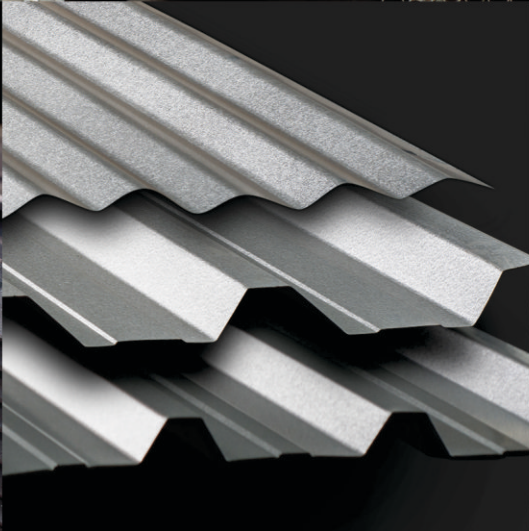
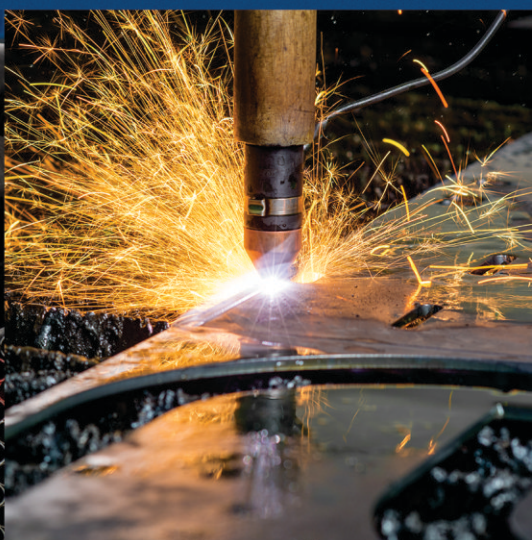


# ***Metal Rio***

***FERRO E AÇO***

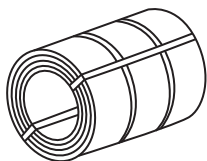
CATÁLOGO DE PRODUTOS





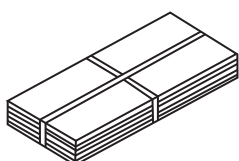
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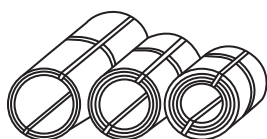
## BOBINAS

|            |                      |
|------------|----------------------|
| <b>BFF</b> | bobina fina à frio   |
| <b>BFQ</b> | bobina fina à quente |
| <b>Bz</b>  | bobina zincada       |



## CHAPAS (BLANKS)

|            |                        |
|------------|------------------------|
| <b>CFF</b> | chapa fina à frio      |
| <b>CFQ</b> | chapa fina à quente    |
| <b>CG</b>  | chapa grossa           |
| <b>CZ</b>  | chapa zincada          |
| <b>CX</b>  | chapa de piso (xadrex) |

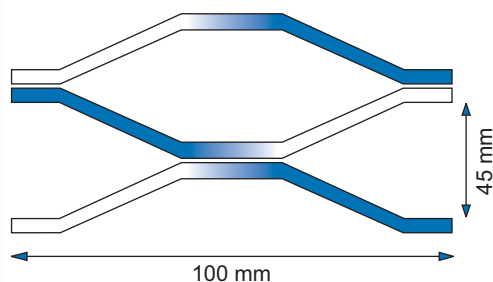


## BOBINAS ZINCADAS PARA IND. CALHAS

| <b>CORTES (mm)</b> | 200 | 250 | 300 | 330  | 400  |
|--------------------|-----|-----|-----|------|------|
|                    | 500 | 600 | 800 | 1000 | 1200 |

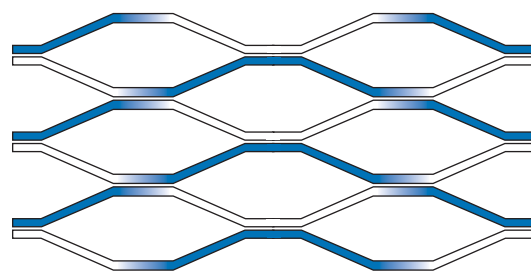
**COMPRIMENTO PADRÃO = 50 mts**

## CHAPAS EXPANDIDAS



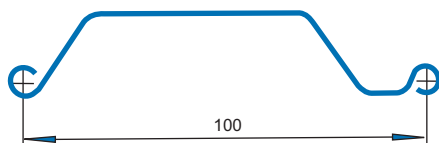
### CHAPAS EXPANDIDAS PARA PISOS INDUSTRIAIS

Espessura 4,76mm - malha 45 x 100  
Espessura 6,35mm - malha 45 x 100



### CHAPAS EXPANDIDAS PARA PROTEÇÃO E DIVISÓRIAS

Espessura 1,5mm - malha 12 x 25  
Espessura 3,0mm - malha 20 x 50

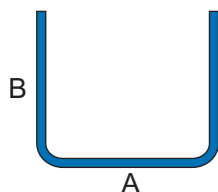


## LÂMINA 100

### N.º PERFIL

### PESO POR BARRA 6m

|                           |      |
|---------------------------|------|
| 24100 - fina frio 0,60 mm | 4,40 |
| 26102 - fina frio 0,45 mm | 3,30 |
| 24105 - zincada 0,65 mm   | 4,80 |
| 26107 - zincada 0,50 mm   | 3,70 |



## TRILHO PARA PORTA DE AÇO COMUN E ZINCADO

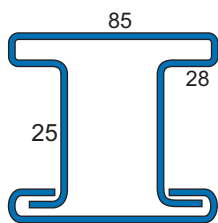
### N.º PERFIL

### A

### B

### PESO

|        |    |    |      |
|--------|----|----|------|
| 16531* | 28 | 28 | 2,81 |
| 16532* | 25 | 28 | 2,70 |
| 16533  | 30 | 30 | 3,94 |
| 14533  | 30 | 30 | 4,28 |

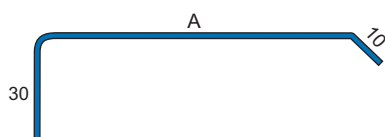


## COLUNA PARA PORTA DE AÇO COMUN E ZINCADA

### N.º PERFIL

### PESO

|       |       |
|-------|-------|
| 16541 | 13,90 |
|-------|-------|

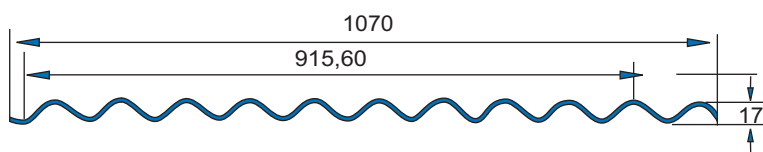


### N.º PERFIL

### A

### PESO

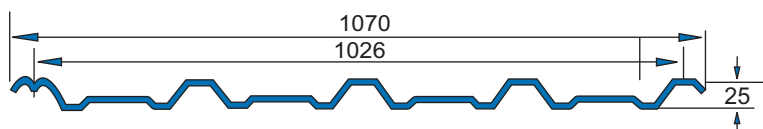
|       |    |      |
|-------|----|------|
| 16551 | 90 | 4,58 |
| 14551 | 90 | 6,05 |



## TELLHAS ZINCADAS SFL 17

Sobrecarga Admissível: kgf/m<sup>2</sup>

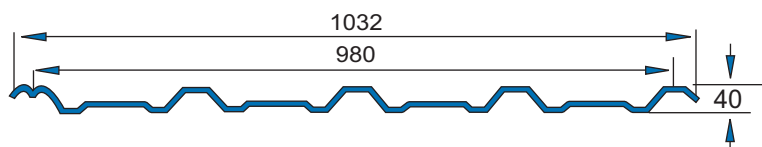
| Espessuras (mm) | N.º de Apoios | DISTÂNCIA ENTRE APOIOS (mm) |     |     |     |     |
|-----------------|---------------|-----------------------------|-----|-----|-----|-----|
|                 |               | 1,0                         | 1,5 | 2,0 | 2,5 | 3,0 |
| 0,43            | 2             | 159                         | 45  | 17  | 7   | -   |
|                 | 3             | 256                         | 112 | 45  | 22  | 11  |
|                 | 4             | 303                         | 88  | 35  | 16  | 8   |
| 0,50            | 2             | 188                         | 53  | 20  | 8   | -   |
|                 | 3             | 302                         | 132 | 54  | 26  | 13  |
|                 | 4             | 360                         | 104 | 42  | 19  | 10  |



## TELLHAS ZINCADAS SFL 25

Sobrecarga Admissível: kgf/m<sup>2</sup>

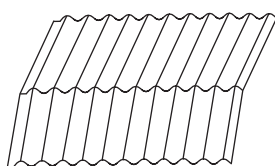
| Espessuras (mm) | N.º de Apoios | DISTÂNCIA ENTRE APOIOS (mm) |     |     |     |     |
|-----------------|---------------|-----------------------------|-----|-----|-----|-----|
|                 |               | 1,0                         | 1,5 | 2,0 | 2,5 | 3,0 |
| 0,43            | 2             | 249                         | 93  | 37  | 17  | 9   |
|                 | 3             | 249                         | 109 | 60  | 37  | 25  |
|                 | 4             | 312                         | 137 | 73  | 36  | 19  |
| 0,50            | 2             | 295                         | 110 | 44  | 21  | 10  |
|                 | 3             | 295                         | 129 | 71  | 44  | 29  |
|                 | 4             | 369                         | 162 | 87  | 43  | 23  |



## TELLHAS ZINCADAS SFL 40

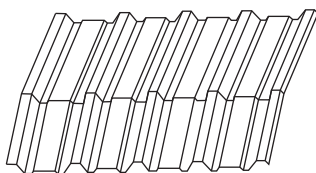
Sobrecarga Admissível: kgf/m<sup>2</sup>

| Espessuras<br>(mm) | N.º de<br>Apoios | DISTÂNCIA ENTRE APOIOS (mm) |     |     |     |     |     |     |
|--------------------|------------------|-----------------------------|-----|-----|-----|-----|-----|-----|
|                    |                  | 1,0                         | 1,5 | 2,0 | 2,5 | 3,0 | 3,5 | 4,0 |
| 0,43               | 2                | 481                         | 212 | 109 | 54  | 30  | 18  | 11  |
|                    | 3                | 481                         | 212 | 118 | 74  | 50  | 36  | 27  |
|                    | 4                | 602                         | 266 | 148 | 93  | 60  | 36  | 23  |
| 0,50               | 2                | 569                         | 251 | 130 | 64  | 36  | 21  | 13  |
|                    | 3                | 569                         | 251 | 139 | 88  | 60  | 43  | 32  |
|                    | 4                | 712                         | 314 | 175 | 110 | 71  | 43  | 28  |



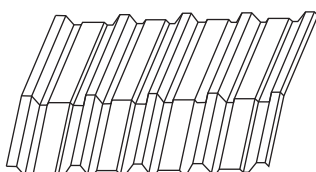
## CUMEEIRA SFL 17

| LARGURA ÚTIL | ESPESSURA | PESO    |
|--------------|-----------|---------|
| 1000mm       | 0,43mm    | 2,400kg |



## CUMEEIRA SFL 25

| LARGURA ÚTIL | ESPESSURA | PESO    |
|--------------|-----------|---------|
| 1026mm       | 0,43mm    | 2,400kg |



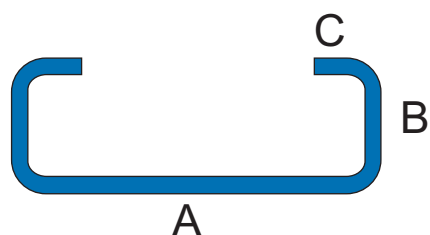
## CUMEEIRA SFL 25

| LARGURA ÚTIL | ESPESSURA | PESO    |
|--------------|-----------|---------|
| 980mm        | 0,43mm    | 2,400kg |



## VIGA U - PERFIS ESTRUTURAIS

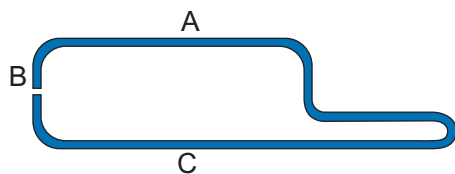
| N.º PERFIL 1 |             | A   | B  | CHAPA | KG/ML |
|--------------|-------------|-----|----|-------|-------|
| 11001        | U 14.40.20  | 40  | 20 | 14    | 1,15  |
| 11002        | U 14.50.30  | 50  | 30 | 14    | 1,62  |
| 11003        | U 13.50.30  | 50  | 30 | 13    | 1,80  |
| 11004        | U 14.60.30  | 60  | 30 | 14    | 1,77  |
| 11005        | U 13.60.30  | 60  | 30 | 13    | 1,98  |
| 11006        | U 14.76.38  | 76  | 38 | 14    | 2,28  |
| 11007        | U 13.76.38  | 76  | 38 | 13    | 2,54  |
| 11008        | U 12.76.38  | 76  | 38 | 12    | 2,97  |
| 11009        | U 11.76.38  | 76  | 38 | 11    | 3,32  |
| 11010        | U 13.102.38 | 102 | 38 | 13    | 3,00  |
| 11011        | U 12.102.38 | 102 | 38 | 12    | 3,52  |
| 11012        | U 11.102.38 | 102 | 38 | 11    | 3,93  |
| 11013        | U 12.127.38 | 127 | 38 | 12    | 4,04  |
| 11014        | U 11.127.38 | 127 | 38 | 11    | 4,52  |
| 11015        | U 12.127.51 | 127 | 51 | 12    | 4,58  |
| 11016        | U 11.127.51 | 127 | 51 | 11    | 5,13  |
| 11017        | U 12.152.38 | 152 | 38 | 12    | 4,80  |
| 11018        | U 11.152.38 | 152 | 38 | 11    | 5,23  |
| 11019        | U 12.152.51 | 152 | 51 | 12    | 5,37  |
| 11020        | U 11.152.51 | 152 | 51 | 11    | 5,86  |



## VIGA U - PERFIS ESTRUTURAIS ENRIJECIDOS

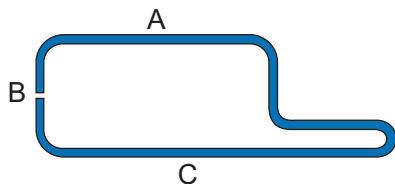
| N.º PERFIL 1 | A   | B  | C  | CHAPA | KG/ML |
|--------------|-----|----|----|-------|-------|
| 11030        | 50  | 25 | 13 | 14    | 1,87  |
| 11031        | 50  | 25 | 13 | 13    | 2,09  |
| 11032        | 76  | 38 | 15 | 14    | 2,75  |
| 11033        | 76  | 38 | 15 | 13    | 3,07  |
| 11034        | 76  | 38 | 15 | 12    | 3,60  |
| 11035        | 76  | 38 | 15 | 11    | 4,03  |
| 11036        | 102 | 38 | 15 | 13    | 3,53  |
| 11037        | 102 | 38 | 15 | 12    | 4,14  |
| 11038        | 102 | 38 | 15 | 11    | 4,64  |
| 11039        | 127 | 51 | 20 | 13    | 4,61  |
| 11040        | 127 | 51 | 20 | 12    | 5,41  |
| 11041        | 127 | 51 | 20 | 11    | 6,08  |
| 11042        | 152 | 51 | 20 | 13    | 5,05  |
| 11043        | 152 | 51 | 20 | 12    | 5,93  |
| 11044        | 152 | 51 | 20 | 11    | 6,66  |





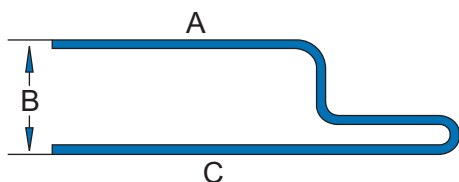
## PERFIL CADEIRINHA

| N.º PERFIL | A   | B  | C   | KG/BR |
|------------|-----|----|-----|-------|
| 16002      | 20  | 20 | 35  | 3,57  |
| 16004      | 25  | 20 | 40  | 3,93  |
| 16006      | 100 | 25 | 115 | 9,70  |
| 16008      | 80  | 25 | 95  | 8,25  |
| 16010*     | 75  | 25 | 90  | 7,90  |
| 16012      | 65  | 25 | 80  | 7,17  |
| 16014*     | 50  | 25 | 65  | 6,09  |
| 16016      | 45  | 25 | 60  | 5,70  |
| 16018*     | 40  | 25 | 55  | 5,37  |
| 16020*     | 35  | 25 | 50  | 5,00  |
| 16022*     | 30  | 25 | 45  | 4,65  |
| 16024*     | 25  | 25 | 40  | 4,29  |
| 16026      | 20  | 25 | 35  | 3,93  |
| 16028      | 10  | 25 | 30  | 3,57  |
| 16040      | 100 | 30 | 115 | 10,05 |
| 16042      | 85  | 30 | 100 | 8,97  |
| 16044      | 80  | 30 | 95  | 8,57  |
| 16046*     | 75  | 30 | 90  | 8,25  |
| 16048      | 65  | 30 | 80  | 7,53  |
| 16050      | 60  | 30 | 75  | 7,17  |
| 16052      | 50  | 30 | 65  | 6,45  |
| 16054      | 45  | 30 | 60  | 6,09  |
| 16056      | 40  | 30 | 55  | 5,73  |
| 16058      | 35  | 30 | 50  | 5,37  |
| 16060*     | 30  | 30 | 45  | 5,00  |
| 16062      | 25  | 30 | 40  | 4,65  |
| 16064      | 20  | 30 | 35  | 4,29  |
| 16066      | 15  | 30 | 30  | 3,93  |



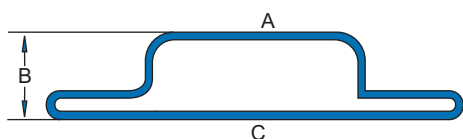
## PERFIL CADEIRINHA

| N.º PERFIL | A  | B  | C  | KG/BR |
|------------|----|----|----|-------|
| 16131      | 80 | 40 | 95 | 9,22  |
| 16133      | 40 | 40 | 55 | 6,34  |

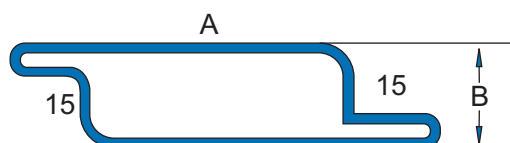


## PERFIL CADEIRINHA ABERTA

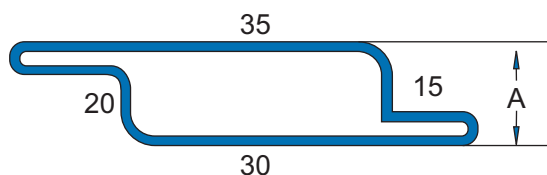
| N.º PERFIL | A  | B  | C  | KG/BR |
|------------|----|----|----|-------|
| 16141      | 50 | 25 | 65 | 5,37  |
| 16142      | 45 | 25 | 60 | 5,00  |
| 16143      | 40 | 25 | 55 | 4,65  |
| 16144      | 35 | 25 | 50 | 4,29  |
| 16145*     | 30 | 25 | 45 | 3,93  |
| 16146*     | 25 | 25 | 40 | 3,57  |
| 16147      | 20 | 25 | 35 | 3,21  |
| 16151      | 45 | 30 | 60 | 5,19  |
| 16152      | 35 | 30 | 50 | 4,47  |
| 16153      | 30 | 30 | 45 | 4,11  |
| 16154      | 25 | 30 | 40 | 3,75  |
| 16155      | 20 | 30 | 35 | 3,39  |



| N.º PERFIL | A  | B  | C  | PERFIL TÊ<br>KG/BR |
|------------|----|----|----|--------------------|
| 16161      | 50 | 25 | 80 | 7,13               |
| 16162      | 40 | 25 | 70 | 6,41               |
| 16163      | 35 | 25 | 65 | 6,05               |
| 16164*     | 30 | 25 | 60 | 5,69               |
| 16165*     | 25 | 25 | 55 | 5,33               |
| 16166*     | 20 | 25 | 50 | 4,97               |
| 16167*     | 15 | 25 | 45 | 4,61               |
| 16171      | 50 | 30 | 80 | 7,50               |
| 16172      | 40 | 30 | 70 | 6,77               |
| 16173      | 35 | 30 | 65 | 6,41               |
| 16174*     | 30 | 30 | 60 | 6,05               |
| 16175      | 25 | 30 | 55 | 5,70               |
| 16176*     | 20 | 30 | 50 | 5,33               |
| 16177*     | 15 | 30 | 45 | 4,97               |

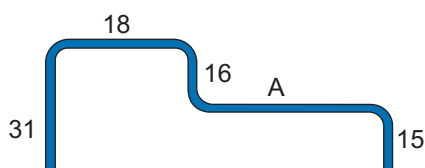


| N.º PERFIL | A  | B  | PERFIL ZÊ<br>PESO |
|------------|----|----|-------------------|
| 16301*     | 30 | 25 | 4,61              |
| 16302*     | 35 | 25 | 4,97              |
| 16303      | 30 | 30 | 4,97              |
| 16304      | 35 | 30 | 5,33              |

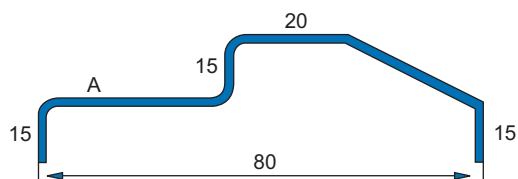


| N.º PERFIL | A  | PERFIL ZÊ<br>PESO |
|------------|----|-------------------|
| 16311      | 25 | 4,97              |
| 16312      | 30 | 5,33              |

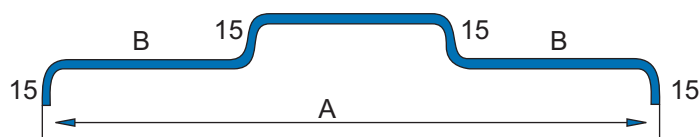




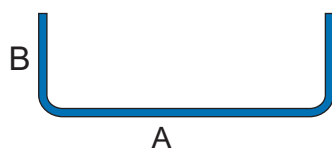
|            |    | BATENTE |
|------------|----|---------|
| N.º PERFIL | A  | KG/BR   |
| 16231      | 43 | 4,11    |
| 16232*     | 33 | 3,75    |
| 16233*     | 28 | 3,57    |
| 14231      | 43 | 5,33    |
| 14232*     | 33 | 4,85    |
| 14233*     | 28 | 4,61    |



|            |    | BATENTE |
|------------|----|---------|
| N.º PERFIL | A  | KG/BR   |
| 16234      | 43 | 4,50    |
| 16235*     | 33 | 4,43    |
| 16236*     | 28 | 4,40    |

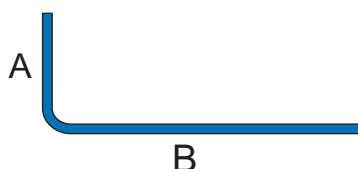


|            |     |    | BATENTE DUPLO |
|------------|-----|----|---------------|
| N.º PERFIL | A   | B  | KG/BR         |
| 16251      | 150 | 33 | 7,17          |
| 16252      | 140 | 33 | 6,77          |
| 16253      | 130 | 33 | 6,41          |
| 16254      | 120 | 33 | 6,05          |
| 16255      | 150 | 28 | 7,17          |
| 16256      | 140 | 28 | 6,77          |
| 16257      | 130 | 28 | 6,41          |
| 16258      | 120 | 28 | 6,05          |



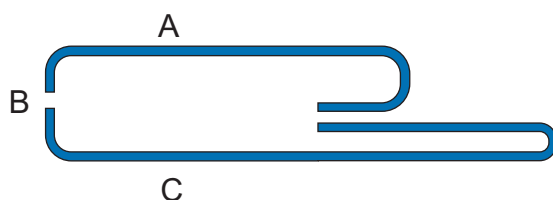
## CONTRA-MARCO

| N.º PERFIL | A   | B  | PESO |
|------------|-----|----|------|
| 16581      | 150 | 15 | 6,27 |
| 16582      | 140 | 15 | 5,91 |
| 16583      | 130 | 15 | 5,55 |
| 16584      | 120 | 15 | 5,19 |
| 16585*     | 100 | 15 | 4,47 |
| 16586      | 46  | 15 | 2,52 |
| 16587*     | 36  | 15 | 2,16 |
| 16588*     | 31  | 15 | 1,98 |
| 14589      | 50  | 20 | 3,94 |
| 16590      | 22  | 10 | 1,30 |
| 16591*     | 20  | 10 | 1,23 |
| 16592      | 18  | 10 | 1,16 |



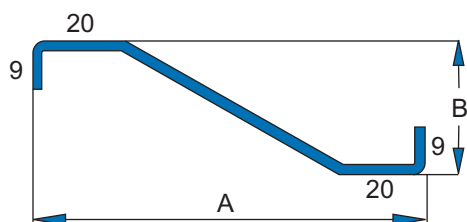
## CAPA

| N.º PERFIL | A  | B  | PESO |
|------------|----|----|------|
| 16611      | 10 | 15 | 0,80 |

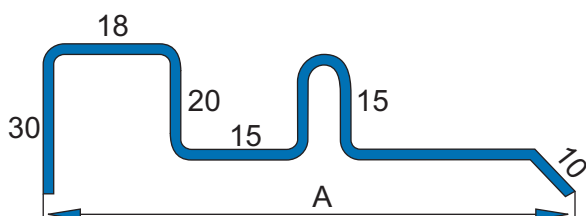


## ALMOFADA

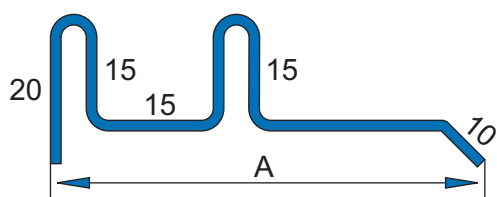
| N.º PERFIL | A   | B  | C   | KG/BR |
|------------|-----|----|-----|-------|
| 16111      | 300 | 25 | 315 | 24,10 |
| 16113*     | 200 | 25 | 215 | 16,90 |
| 16115      | 150 | 25 | 165 | 13,29 |
| 16117      | 300 | 30 | 315 | 24,50 |
| 16119*     | 200 | 30 | 215 | 17,25 |
| 16121      | 150 | 30 | 165 | 13,65 |



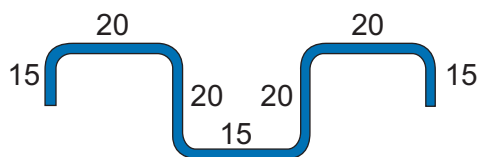
| N.º PERFIL | A  | B  | PALHETA<br>PESO |
|------------|----|----|-----------------|
| 18501      | 80 | 20 | 2,94            |
| 18502      | 80 | 25 | 3,03            |



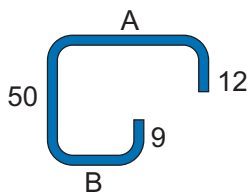
| N.º PERFIL | A   | SOLEIRA<br>PESO |
|------------|-----|-----------------|
| 16451      | 140 | 7,78            |
| 16452      | 130 | 7,42            |
| 16453      | 120 | 7,06            |
| 16454*     | 100 | 6,34            |



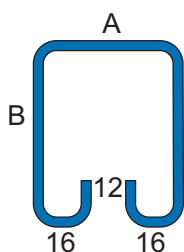
| N.º PERFIL | A   | SOLEIRA<br>PESO |
|------------|-----|-----------------|
| 16461      | 130 | 7,06            |
| 16462      | 120 | 6,70            |
| 16463*     | 100 | 5,98            |



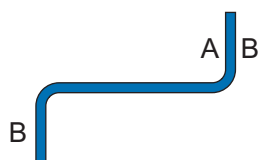
| N.º PERFIL | TRILHO GAIVOTA COMUM E ZINCADA<br>PESO |
|------------|----------------------------------------|
| 16471      | 4,07                                   |
| 14471      | 5,24                                   |



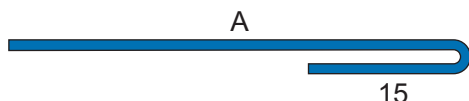
| N.º PERFIL | A  | B  | TRILHO G<br>PESO |
|------------|----|----|------------------|
| 16381*     | 35 | 25 | 4,36             |
| 16382*     | 40 | 30 | 4,72             |
| 14381      | 35 | 25 | 5,57             |
| 14382      | 40 | 30 | 6,05             |



| N.º PERFIL | A  | B  | TRILHO STALEY<br>PESO |
|------------|----|----|-----------------------|
| 16392*     | 50 | 60 | 7,53                  |
| 14392*     | 50 | 60 | 9,70                  |

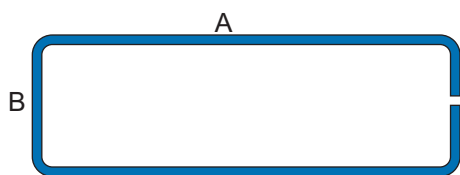


| N.º PERFIL | A  | B  | ZÊ MAGRO<br>PESO |
|------------|----|----|------------------|
| 14421*     | 26 | 15 | 2,69             |
| 14422*     | 23 | 15 | 2,56             |
| 14423*     | 20 | 15 | 2,12             |

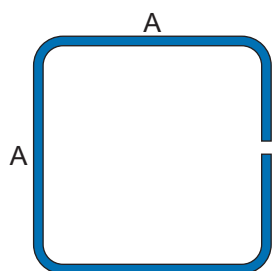


| N.º PERFIL | A  | CAPA<br>PESO |
|------------|----|--------------|
| 16411      | 70 | 3,06         |
| 16412*     | 60 | 2,70         |
| 16413*     | 55 | 2,52         |
| 16414*     | 50 | 2,34         |





| N.º PERFIL | COLUNA RETAGULAR |    |       |
|------------|------------------|----|-------|
|            | A                | B  | PESO  |
| 16341      | 50               | 25 | 4,97  |
| 16342      | 40               | 25 | 4,25  |
| 16343      | 100              | 30 | 8,93  |
| 16344*     | 80               | 30 | 7,50  |
| 16345      | 60               | 30 | 6,05  |
| 16346      | 50               | 30 | 5,33  |
| 16347*     | 80               | 40 | 8,21  |
| 14347*     | 80               | 40 | 10,76 |

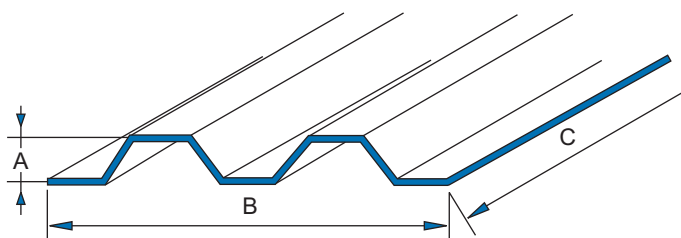
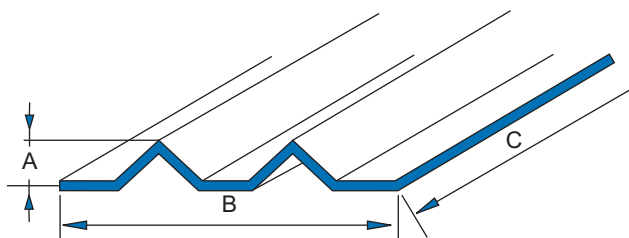
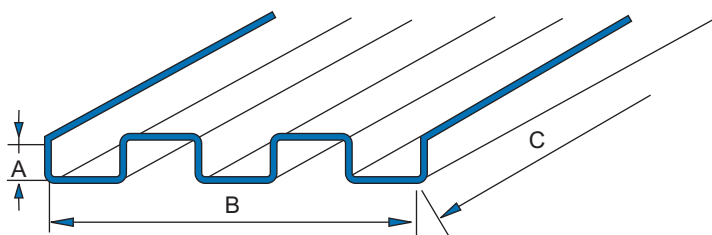
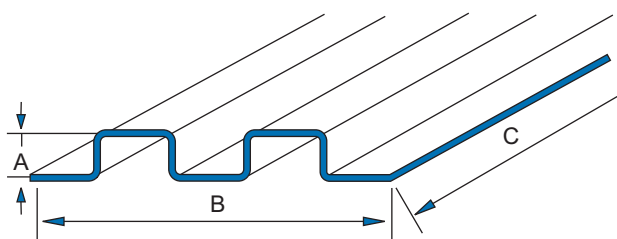


| N.º PERFIL | COLUNA QUADRADA |       |
|------------|-----------------|-------|
|            | A               | PESO  |
| 16361*     | 100             | 13,97 |
| 16362*     | 80              | 11,09 |
| 16363      | 70              | 9,65  |
| 16364*     | 60              | 8,21  |
| 16365*     | 50              | 6,77  |
| 16366      | 40              | 5,33  |
| 14361      | 100             | 18,44 |
| 14362*     | 80              | 14,60 |
| 14364*     | 60              | 10,76 |
| 14365*     | 50              | 8,84  |
| 14366      | 40              | 6,92  |

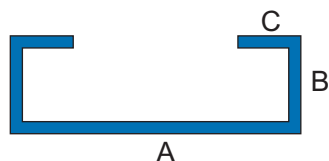
**Medida A = Altura dos Gomos**

**Medida B = Largura do Painel**

**Medida C = Altura do Painel**



**PAINÉIS PARA PORTÕES**  
**880 X 2000mm**  
**880 X 2500mm**  
**880 x 3000mm**  
**E SOB MEDIDA**



## KIT PARA PORTÃO BASCULANTE

### CAIXA LATERAL

| N.º PERFIL | A   | B   | C  | COMP. |
|------------|-----|-----|----|-------|
| 16612      | 150 | 150 | 15 | 2500  |
| 16613      | 160 | 160 | 15 | 2500  |
| 16614      | 180 | 180 | 15 | 2500  |
| 16615      | 200 | 200 | 15 | 2500  |



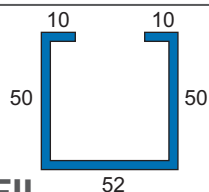
### TAMPA DA CAIXA LATERAL

| N.º PERFIL | A   | COMP. |
|------------|-----|-------|
| 16616      | 150 | 2500  |
| 16617      | 160 | 2500  |
| 16618      | 180 | 2500  |
| 16619      | 200 | 2500  |



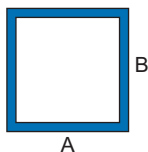
### CAIXA SUPERIOR

| N.º PERFIL | A   | B   | COMP.     |
|------------|-----|-----|-----------|
| 16620      | 150 | 166 | 2500/3000 |
| 16621      | 160 | 100 | 2500/3000 |
| 16622      | 180 | 100 | 2500/3000 |
| 16623      | 200 | 100 | 2500/3000 |



### TRILHO LATERAL

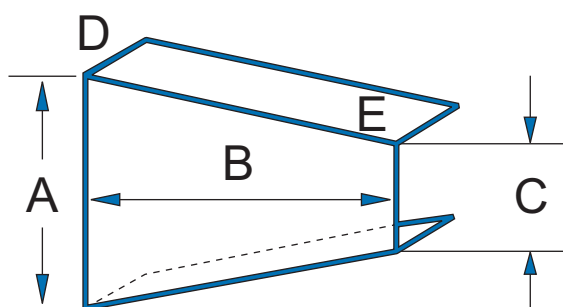
| N.º PERFIL | COMP.     |
|------------|-----------|
| 14522      | 2500/3000 |



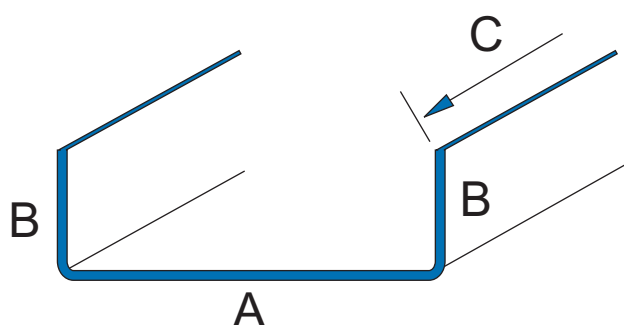
### CAIXA DE PESO

| N.º PERFIL | A   | B   | COMP. |
|------------|-----|-----|-------|
| 16624      | 130 | 130 | 1000  |
| 16625      | 140 | 140 | 1000  |
| 16626      | 160 | 160 | 1000  |
| 16627      | 180 | 180 | 1000  |

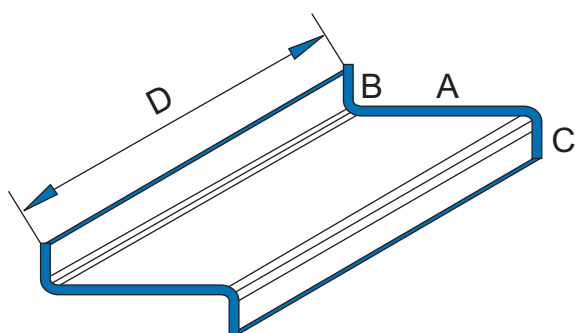
## DEGRAUS PARA ESCADA



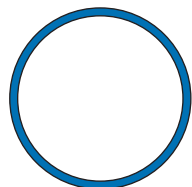
CARACOL



RETO U



RETO Z



## TUBO COM COSTURA SEÇÃO CIRCULAR

| DIÂMETRO<br>EXT. D<br>MM/POL | ESPESSURA<br>mm | Kg<br>6mts |
|------------------------------|-----------------|------------|
| 15,87<br>5/8                 | 0,90            | 1,99       |
|                              | 1,20            | 2,60       |
|                              | 1,50            | 3,19       |
| 19,05<br>3/4                 | 0,90            | 2,41       |
|                              | 1,20            | 3,16       |
|                              | 1,50            | 3,89       |
| 22,22<br>7/8                 | 0,90            | 2,84       |
|                              | 1,20            | 3,73       |
|                              | 1,50            | 4,60       |
| 25,40<br>1"                  | 0,90            | 3,38       |
|                              | 1,20            | 4,29       |
|                              | 1,50            | 5,55       |
|                              | 2,00            | 7,34       |
|                              | 2,25            | 8,22       |
| 31,75<br>1 1/4               | 0,90            | 4,11       |
|                              | 1,20            | 5,42       |
|                              | 1,50            | 6,71       |
|                              | 2,00            | 8,80       |
|                              | 2,25            | 9,82       |
| 38,10<br>1 1/2               | 2,65            | 11,41      |
|                              | 0,90            | 5,16       |
|                              | 1,20            | 6,55       |
|                              | 1,50            | 8,41       |
|                              | 2,00            | 10,68      |
|                              | 2,25            | 11,93      |
|                              | 2,65            | 13,90      |
|                              | 3,00            | 15,58      |

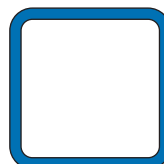
| DIÂMETRO<br>EXT. D<br>MM/POL | ESPESSURA<br>mm | Kg<br>6mts |
|------------------------------|-----------------|------------|
| 44,45<br>1 3/4               | 0,90            | 5,78       |
|                              | 1,20            | 7,68       |
|                              | 1,50            | 9,53       |
|                              | 2,00            | 12,56      |
| 50,80<br>2"                  | 2,25            | 14,05      |
|                              | 0,90            | 6,62       |
|                              | 1,20            | 8,80       |
|                              | 1,50            | 10,94      |
|                              | 2,00            | 14,44      |
| 63,50<br>2 1/2               | 2,25            | 16,16      |
|                              | 2,65            | 18,88      |
|                              | 3,00            | 21,21      |
|                              | 1,20            | 11,06      |
|                              | 1,50            | 13,76      |
| 76,20<br>3"                  | 2,00            | 18,20      |
|                              | 2,25            | 20,39      |
|                              | 2,65            | 23,86      |
|                              | 3,00            | 26,85      |
| 88,90<br>3 1/2               | 1,50            | 16,57      |
|                              | 2,00            | 21,95      |
|                              | 2,25            | 24,61      |
|                              | 2,65            | 28,84      |
| 101,6<br>4"                  | 3,00            | 32,49      |
|                              | 1,50            | 19,39      |
|                              | 2,00            | 25,71      |
|                              | 2,25            | 28,84      |
|                              | 2,65            | 33,82      |
|                              | 3,00            | 38,13      |
|                              | 2,00            | 29,47      |
|                              | 2,25            | 33,07      |
|                              | 2,65            | 38,90      |
|                              | 3,00            | 43,77      |





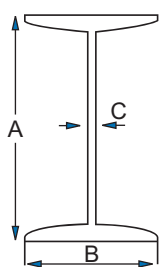
## TUBO COM COSTURA SEÇÃO RETANGULAR

| BITOLA<br>EXT. D<br>MM/POL | ESPESSURA<br>mm | Kg<br>6mts |
|----------------------------|-----------------|------------|
| 30X20                      | 0,90            | 4,11       |
|                            | 1,20            | 5,42       |
|                            | 1,50            | 6,71       |
| 40X20                      | 0,90            | 5,16       |
|                            | 1,20            | 6,55       |
|                            | 1,50            | 8,41       |
| 40X30                      | 0,90            | 5,78       |
|                            | 1,20            | 7,68       |
|                            | 1,50            | 9,53       |
| 50X20                      | 0,90            | 5,78       |
|                            | 1,20            | 7,68       |
|                            | 1,50            | 9,53       |
| 50X30                      | 0,90            | 6,62       |
|                            | 1,20            | 8,80       |
|                            | 1,50            | 9,53       |
| 70X30                      | 1,20            | 11,06      |
|                            | 1,50            | 13,76      |
|                            | 2,00            | 18,20      |
|                            | 2,25            | 20,39      |
|                            | 2,65            | 23,86      |
| 80X40                      | 3,00            | 26,85      |
|                            | 1,50            | 16,57      |
|                            | 2,00            | 21,95      |
|                            | 2,25            | 24,61      |
|                            | 2,65            | 28,84      |
| 80X60                      | 3,00            | 32,49      |
|                            | 1,50            | 19,39      |
|                            | 2,00            | 25,71      |
|                            | 2,25            | 28,84      |
|                            | 2,65            | 33,82      |
|                            | 3,00            | 38,13      |



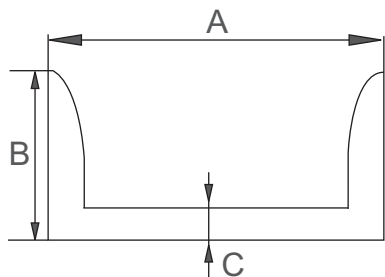
## TUBO COM COSTURA SEÇÃO QUADRADA

| BITOLA<br>EXT. D<br>MM/POL | ESPESSURA<br>mm | Kg<br>6mts |
|----------------------------|-----------------|------------|
| 20X20                      | 0,90            | 3,38       |
|                            | 1,20            | 4,29       |
|                            | 1,50            | 5,55       |
| 25X25                      | 0,90            | 4,11       |
|                            | 1,20            | 5,42       |
|                            | 1,50            | 6,71       |
| 30X30                      | 0,90            | 5,16       |
|                            | 1,20            | 6,55       |
|                            | 1,50            | 8,41       |
| 40X40                      | 0,90            | 6,62       |
|                            | 1,20            | 8,80       |
|                            | 1,50            | 10,94      |
| 50X50                      | 1,20            | 11,06      |
|                            | 1,50            | 13,76      |
|                            | 2,00            | 18,20      |
|                            | 2,25            | 20,39      |
| 60X60                      | 2,65            | 23,86      |
|                            | 1,50            | 16,57      |
|                            | 2,00            | 21,95      |
|                            | 2,25            | 24,61      |
|                            | 2,65            | 28,84      |
| 70X70                      | 3,00            | 32,49      |
|                            | 1,50            | 19,39      |
|                            | 2,00            | 25,71      |
|                            | 2,25            | 28,84      |
| 80X80                      | 2,65            | 33,82      |
|                            | 3,00            | 38,13      |
|                            | 2,00            | 29,47      |
|                            | 2,25            | 33,07      |
|                            | 2,65            | 38,90      |
|                            | 3,00            | 43,77      |



VIGA I LAMINADA

| TAMANHO NOMINAL |            | ALTURA |      | PESO    | B      | C     |
|-----------------|------------|--------|------|---------|--------|-------|
| MM              | POL.       | MM     | POL. | KG/6mts | MM     | MM    |
| 76,20X60,33     | 3 X 2-3/8  | 76,20  | 3    | 50,88   | 59,18  | 4,32  |
|                 |            |        |      | 58,02   | 61,24  | 6,38  |
|                 |            |        |      | 66,96   | 63,73  | 8,86  |
| 101,60X66,68    | 4 X 2-5/8  | 101,60 | 4    | 68,76   | 67,56  | 4,83  |
|                 |            |        |      | 75,90   | 69,16  | 6,43  |
|                 |            |        |      | 84,84   | 71,02  | 8,29  |
|                 |            |        |      | 93,78   | 72,90  | 10,18 |
| 127,00X76,20    | 5 X 3      | 127,00 | 5    | 89,28   | 76,20  | 5,33  |
|                 |            |        |      | 109,38  | 79,88  | 8,81  |
|                 |            |        |      | 131,70  | 53,41  | 12,55 |
| 152,40X85,73    | 6 X 3-3/8  | 152,40 | 6    | 111,60  | 84,56  | 5,84  |
|                 |            |        |      | 131,70  | 87,45  | 8,71  |
|                 |            |        |      | 154,02  | 90,55  | 11,81 |
| 203,20X101,60   | 8 X 4      | 203,20 | 8    | 164,28  | 101,80 | 6,86  |
|                 |            |        |      | 183,28  | 103,80 | 8,86  |
|                 |            |        |      | 183,00  | 105,94 | 11,20 |
|                 |            |        |      | 205,32  | 106,25 | 13,51 |
|                 |            |        |      | 227,64  | 116,36 | 7,67  |
| 254,00X101,60   | 10 X 4-5/8 | 254,00 | 10   | 226,80  | 121,84 | 11,35 |
|                 |            |        |      | 267,90  | 125,58 | 15,09 |
|                 |            |        |      | 312,54  | 129,31 | 18,82 |
|                 |            |        |      | 357,18  | 133,35 | 11,68 |
| 304,80X133,35   | 12 X 5-1/4 | 304,80 | 12   | 364,26  | 136,00 | 14,35 |
|                 |            |        |      | 402,22  | 139,12 | 17,45 |
|                 |            |        |      | 446,46  | 142,24 | 20,67 |
|                 |            |        |      | 491,10  | 152,40 | 11,68 |
| 457,20X162,42   | 18 X 6     | 457,20 | 18   | 488,80  | 154,61 | 13,90 |
|                 |            |        |      | 580,38  | 156,89 | 16,00 |
|                 |            |        |      | 625,08  | 158,80 | 18,08 |
| 508,00X177,30   | 20 X 7     | 508,00 | 20   | 726,84  | 177,80 | 15,24 |
|                 |            |        |      | 759,00  | 179,15 | 16,59 |
|                 |            |        |      | 804,00  | 181,00 | 18,44 |
|                 |            |        |      | 849,36  | 182,90 | 20,32 |
|                 |            |        |      | 893,40  | 184,70 | 23,30 |



VIGA U LAMINADA

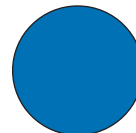
| TAMANHO NOMINAL |            | ALTURA |      | PESO    | B     | C     |
|-----------------|------------|--------|------|---------|-------|-------|
| MM              | POL.       | MM     | POL. | KG/6mts | MM    | MM    |
| 76,20X38,10     | 3 X 1-1/2  | 76,20  | 3    | 36,60   | 35,81 | 4,32  |
|                 |            |        |      | 44,64   | 38,05 | 6,55  |
|                 |            |        |      | 52,58   | 40,54 | 9,04  |
| 101,60X41,28    | 4 X 1-5/8  | 101,60 | 4    | 48,24   | 40,13 | 4,57  |
|                 |            |        |      | 55,80   | 41,83 | 6,27  |
|                 |            |        |      | 64,74   | 43,69 | 8,13  |
| 152,40X50,80    | 6 X 2      | 152,40 | 6    | 73,20   | 48,77 | 5,08  |
|                 |            |        |      | 94,98   | 51,66 | 7,98  |
|                 |            |        |      | 116,10  | 54,79 | 11,10 |
|                 |            |        |      | 138,42  | 57,89 | 14,20 |
| 203,20X57,15    | 8 X 2-1/4  | 203,20 | 8    | 102,66  | 57,40 | 5,59  |
|                 |            |        |      | 122,76  | 59,51 | 7,70  |
|                 |            |        |      | 145,08  | 61,85 | 10,03 |
|                 |            |        |      | 167,40  | 64,19 | 12,37 |
|                 |            |        |      | 189,72  | 66,52 | 14,71 |
| 254,00X66,68    | 10 X 2-5/8 | 254,00 | 10   | 136,62  | 66,04 | 6,10  |
|                 |            |        |      | 178,56  | 69,57 | 9,63  |
|                 |            |        |      | 223,20  | 73,30 | 13,36 |
|                 |            |        |      | 267,90  | 77,04 | 17,09 |
|                 |            |        |      | 312,54  | 80,77 | 20,83 |
| 304,80X76,20    | 12 X 3     | 304,80 | 12   | 184,86  | 74,68 | 7,11  |
|                 |            |        |      | 223,20  | 77,39 | 9,83  |
|                 |            |        |      | 267,90  | 80,52 | 12,95 |
|                 |            |        |      | 312,54  | 83,62 | 16,05 |
|                 |            |        |      | 357,18  | 86,74 | 19,18 |
| 381,00X85,73    | 15X 3-3/8  | 381,00 | 15   | 302,70  | 86,36 | 10,16 |
|                 |            |        |      | 312,54  | 86,92 | 10,72 |
|                 |            |        |      | 357,18  | 89,41 | 13,21 |
|                 |            |        |      | 401,82  | 91,90 | 15,70 |
|                 |            |        |      | 446,46  | 94,39 | 18,19 |
|                 |            |        |      | 491,10  | 96,68 | 20,68 |

## PESO TEÓRICO POR BARRA DE 6mts

FERRO

REDONDO

QUADRADO



DIÂM. EM POL.

|        |       |        |
|--------|-------|--------|
| 3/16"  | 0,84  | 1,07   |
| 1/4"   | 1,50  | 1,92   |
| 5/16"  | 2,34  | 2,94   |
| 3/8"   | 3,36  | 4,26   |
| 7/16"  | 4,56  | 5,82   |
| 1/2"   | 5,94  | 7,62   |
| 9/16"  | 7,56  | 9,60   |
| 5/8"   | 9,30  | 11,88  |
| 3/4"   | 13,44 | 17,10  |
| 7/8"   | 18,24 | 23,22  |
| 1"     | 28,82 | 30,36  |
| 1-1/8" | 30,18 | 38,40  |
| 1-1/4" | 37,26 | 47,46  |
| 1-3/8" | 45,06 | 57,42  |
| 1-1/2" | 53,64 | 68,34  |
| 1-5/8" | 62,94 | 80,16  |
| 1-3/4" | 73,02 | 93,00  |
| 2"     | 95,40 | 121,44 |

## FERRO CHATO - PESO POR BARRA DE 6mts

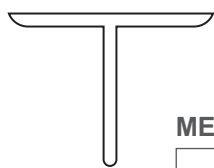
|        | 1/8"  | 3/16" | 1/4"  | 5/16" | 3/8"  | 1/2"  | 5/8"  | 3/4"   | 7/8"   | 1"     | 1.1/4" |
|--------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 3/8"   | 1,38  |       |       |       |       |       |       |        |        |        |        |
| 1/2"   | 1,86  | 2,82  | 3,78  |       |       |       |       |        |        |        |        |
| 5/8"   | 2,34  | 3,54  | 4,74  |       |       |       |       |        |        |        |        |
| 3/4"   | 2,82  | 4,26  | 5,64  | 7,20  | 8,52  | 11,40 |       |        |        |        |        |
| 7/8"   | 3,30  | 4,98  | 6,60  | 8,40  | 9,96  | 13,20 |       |        |        |        |        |
| 1"     | 3,78  | 5,64  | 7,56  | 9,48  | 11,34 | 15,18 | 18,96 | 22,80  |        |        |        |
| 1-1/4" | 4,74  | 7,08  | 9,48  | 11,82 | 14,22 | 18,96 | 23,70 | 28,50  |        |        |        |
| 1-1/2" | 5,64  | 8,52  | 11,34 | 14,22 | 17,02 | 22,74 | 28,44 | 34,20  |        |        |        |
| 1-3/4" | 6,60  | 9,96  | 13,26 | 16,80 | 20,10 | 26,52 | 33,18 | 39,90  |        |        |        |
| 2"     | 7,56  | 11,34 | 15,18 | 18,96 | 22,74 | 30,36 | 37,92 | 45,54  | 53,16  | 68,34  |        |
| 2-1/4" | 8,52  | 12,78 | 17,10 | 21,42 | 25,80 | 34,20 | 42,72 | 53,10  | 59,76  | 60,72  |        |
| 2-1/2" | 9,48  | 14,22 | 18,96 | 24,00 | 28,44 | 37,92 | 47,40 | 56,88  | 66,42  | 75,90  | 75,90  |
| 2-3/4" | 9,84  | 15,66 | 20,88 | 26,10 | 31,32 | 41,76 | 52,20 | 62,64  | 73,08  | 83,52  | 85,38  |
| 3"     | 11,40 | 17,10 | 22,74 | 28,80 | 34,14 | 45,54 | 56,88 | 68,28  | 79,68  | 91,08  | 94,86  |
| 3-1/4" | 12,30 | 18,48 | 24,66 | 30,84 | 37,02 | 49,32 | 61,68 | 73,98  | 86,34  | 98,64  | 113,22 |
| 3-1/2" | 13,36 | 19,92 | 26,52 | 33,18 | 39,90 | 53,10 | 66,42 | 79,68  | 93,00  | 106,26 | 132,84 |
| 4"     | 15,24 | 22,80 | 30,36 | 37,98 | 45,60 | 60,60 | 75,90 | 91,08  | 106,26 | 121,44 | 151,80 |
| 5"     | 19,02 | 28,50 | 37,98 | 47,46 | 56,94 | 75,90 | 94,86 | 113,82 | 132,84 | 151,80 |        |



## PESO TEÓRICO POR BARRA

## CANTONEIRAS PESO TEÓRICO POR BARRA

| BITOLA  |   |       |       | BITOLA  |   |       |        |
|---------|---|-------|-------|---------|---|-------|--------|
| DE 6mts |   |       |       | DE 6mts |   |       |        |
| 1/2"    | X | 1/8"  | 3,42  | 1 1/2"  | X | 5/16" | 25,56  |
| 5/8"    | X | 1/8"  | 4,38  | 2"      | X | 5/16" | 34,98  |
| 3/4"    | X | 1/8"  | 5,16  | 2 1/2"  | X | 5/16" | 44,46  |
| 7/8"    | X | 1/8"  | 6,24  | 3"      | X | 5/16" | 53,94  |
| 1"      | X | 1/8"  | 7,62  | 3 1/2"  | X | 5/16" | 64,20  |
| 1 1/4"  | X | 1/8"  | 9,12  | 4"      | X | 5/16" | 73,20  |
| 1 1/2"  | X | 1/8"  | 10,98 | 1 1/2"  | X | 3/8"  | 29,94  |
| 1 3/4"  | X | 1/8"  | 12,84 | 2"      | X | 3/8"  | 41,94  |
| 2"      | X | 1/8"  | 14,76 | 2 1/2"  | X | 3/8"  | 52,68  |
| 1"      | X | 3/16" | 10,38 | 3"      | X | 3/8"  | 64,14  |
| 1 1/4"  | X | 3/16" | 13,14 | 3 1/2"  | X | 3/8"  | 75,48  |
| 1 1/2"  | X | 3/16" | 15,96 | 4"      | X | 3/8"  | 86,46  |
| 1 3/4"  | X | 3/16" | 18,90 | 2"      | X | 1/2"  | 53,82  |
| 2"      | X | 3/16" | 21,78 | 2 1/4"  | X | 1/2"  | 60,72  |
| 2 1/2"  | X | 3/16" | 27,42 | 2 1/2"  | X | 1/2"  | 68,76  |
| 1"      | X | 1/4"  | 13,26 | 2 3/4"  | X | 1/2"  | 75,90  |
| 1 1/4"  | X | 1/4"  | 17,16 | 3"      | X | 1/2"  | 83,58  |
| 1 1/2"  | X | 1/4"  | 20,88 | 3 1/2"  | X | 1/2"  | 98,64  |
| 1 3/4"  | X | 1/4"  | 24,72 | 4"      | X | 1/2"  | 113,82 |
| 2"      | X | 1/4"  | 28,50 | 4 1/2"  | X | 1/2"  | 129,12 |
| 2 1/2"  | X | 1/4"  | 36,60 | 5"      | X | 1/2"  | 144,18 |
| 3"      | X | 1/4"  | 43,74 |         |   |       |        |
| 4"      | X | 1/4"  | 58,86 |         |   |       |        |



## FERRO T (ABAS IGUAIS)

### PESO TEÓRICO POR BARRA DE 6mts

### MEDIDAS

|        |   |        |   |       |       |
|--------|---|--------|---|-------|-------|
| 3/4"   | X | 3/4"   | X | 1/8"  | 5,46  |
| 7/8"   | X | 7/8"   | X | 1/8"  | 6,54  |
| 1"     | X | 1"     | X | 1/8"  | 7,56  |
| 1 1/4" | X | 1 1/4" | X | 1/8"  | 9,72  |
| 1 1/2" | X | 1 1/2" | X | 1/8"  | 10,86 |
| 1"     | X | 1"     | X | 3/16" | 10,74 |
| 1 1/4" | X | 1 1/4" | X | 3/16" | 13,86 |
| 1 1/2" | X | 1 1/2" | X | 3/16" | 16,98 |
| 2"     | X | 2"     | X | 3/16" | 21,78 |
| 1 1/4" | X | 1 1/4" | X | 1/4"  | 17,70 |
| 1 1/2" | X | 1 1/2" | X | 1/4"  | 21,72 |
| 1 3/4" | X | 1 3/4" | X | 1/4"  | 25,92 |
| 2"     | X | 2"     | X | 1/4"  | 31,80 |



## CHAPAS FINAS A FRIO

| Nº | mm   | KG/M2 |
|----|------|-------|
| 30 | 0,30 | 2,40  |
| 28 | 0,38 | 3,04  |
| 26 | 0,45 | 3,60  |
| 24 | 0,60 | 4,80  |
| 22 | 0,75 | 6,00  |
| 20 | 0,90 | 7,20  |
| 19 | 1,06 | 8,48  |
| 18 | 1,25 | 10,00 |
| 16 | 1,50 | 12,00 |

## CHAPAS FINAS A QUENTE

| Nº   | mm   | KG/M2 |
|------|------|-------|
| 18   | 1,20 | 10,00 |
| 16   | 1,50 | 12,00 |
| 14   | 2,00 | 16,00 |
| 13   | 2,25 | 18,00 |
| 12   | 2,65 | 21,20 |
| 11   | 3,00 | 24,00 |
| 10   | 3,35 | 26,80 |
| 9    | 3,75 | 30,00 |
| 8    | 4,25 | 34,00 |
| 7    | 4,50 | 36,00 |
| 3/16 | 4,75 | 38,00 |

## CHAPAS GROSSAS

| Nº   | mm    | KG/M2  |
|------|-------|--------|
| 1/4  | 6,35  | 49,78  |
| 5/16 | 7,94  | 62,25  |
| 3/8  | 9,52  | 74,72  |
| 1/2  | 12,70 | 99,57  |
| 5/8  | 15,87 | 124,50 |
| 3/4  | 19,05 | 149,40 |
| 7/8  | 22,22 | 174,20 |
| 1    | 25,40 | 199,10 |
| 11/8 | 28,57 | 226,20 |
| 11/4 | 31,75 | 248,90 |
| 13/8 | 34,93 | 273,90 |
| 11/2 | 38,10 | 298,70 |
| 2    | 50,80 | 398,30 |

## CHAPAS ZINCADAS

| Nº | mm   | KG/M2 |
|----|------|-------|
| 30 | 0,35 | 2,80  |
| 28 | 0,43 | 3,44  |
| 26 | 0,50 | 4,00  |
| 24 | 0,65 | 5,20  |
| 22 | 0,80 | 6,40  |
| 20 | 0,95 | 7,60  |
| 19 | 1,11 | 8,88  |
| 18 | 1,30 | 10,40 |
| 16 | 1,55 | 12,40 |
| 14 | 1,95 | 15,60 |



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