



separadores  
con rosca



pernos  
insertables



tuercas  
insertables



**Materiales  
Materials**



ACERO  
STEEL

Acero al carbono  
cincado  
Carbon steel zinc  
plated



INOX  
ST. STEEL

Acero Inox. Serie  
300 pasivado  
300 series st.  
steel passivated



INOX  
ST. STEEL

Acero Inox Endurecido  
pasivado  
Hardening grade st.  
steel passivated



**Tuercas según material de instalación  
Nuts according to installation material**



Material Chapa  
Sheet material

ACERO  
STEEL

ALUMINIO  
ALUMINIUM

INOX  
ST. STEEL

Disponible en  
Available in



ACERO  
STEEL

INOX  
ST. STEEL



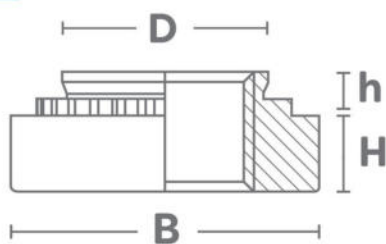
ACERO  
STEEL

INOX  
ST. STEEL

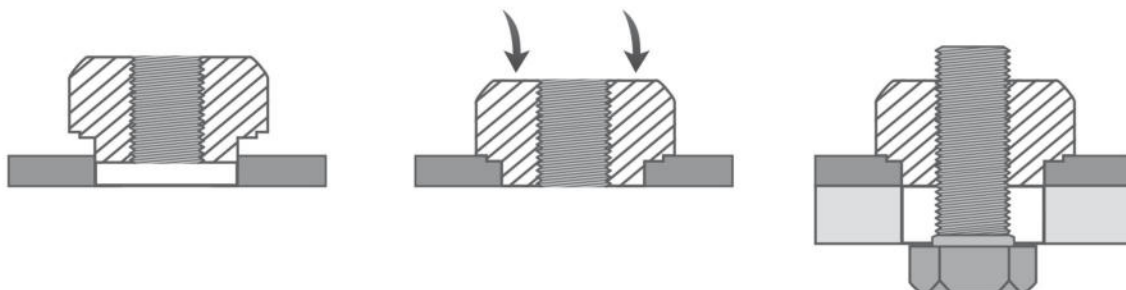


INOX  
ST. STEEL

**Especificaciones  
Specifications**



|          |                                                  |
|----------|--------------------------------------------------|
| <b>B</b> | Diámetro del cuerpo<br>Body diameter             |
| <b>D</b> | Diámetro de instalación<br>Installation diameter |
| <b>h</b> | Altura de inserción<br>Insertion height          |
| <b>H</b> | Altura del Cuerpo<br>Body height                 |


**Aplicación**  
 Aplicaton

**Glosario**  
 Glossary

|                                                                                                   |                                                               |
|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <br>THREAD       | <b>Rosca</b><br>Thread                                        |
| <br>min<br>mm.   | <b>Espesor mínimo de chapa</b><br>Minimun grip range sheet    |
| <br>mm.         | <b>Diametro del agujero</b><br>Hole diameter                  |
| <br>min<br>mm. | <b>Espacio mínimo al borde</b><br>Minimun space to edge       |
| <br>kN         | <b>Fuerza de instalacion</b><br>Installation force            |
| <br>N          | <b>Resistencia a ser expulsada</b><br>Resistance to expulsion |
| <br>Nm         | <b>Par de apriete</b><br>Tightening torque                    |



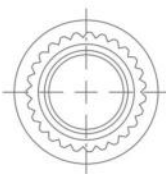
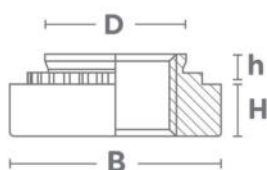
ACERO  
STEEL

INOX  
ST. STEEL



| Tipo<br>Type | Material<br>Material                          | Acabado<br>Finished                       | Uso<br>Working     |
|--------------|-----------------------------------------------|-------------------------------------------|--------------------|
| ST<br>ST     | ACERO AL CARBONO<br>CARBON STEEL              | CINCADO<br>ZINC CLEAR                     | ≤80HRB<br>≤ 80 HRB |
| A2<br>A2     | ACERO INOX. SERIE 300<br>300 SERIES ST. STEEL | PASIVADO ASTM A380<br>PASIVATED ASTM A380 | ≤70HRB<br>≤ 70 HRB |

ROSCA / THREAD: 6g ISO Metric



| THREAD             | Código<br>Acero Carb.<br>Carbon Steel | Code<br>Acero Inox. S300<br>St. Steel S300 | h<br>mm. |  |  |  | D<br>mm. | B<br>mm. | H<br>mm. |  |
|--------------------|---------------------------------------|--------------------------------------------|----------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------|----------|----------|-------------------------------------------------------------------------------------|
| <b>M3</b><br>x0,5  | 02STM03-0                             | 02A2M03-0                                  | 0,76     | 0,8                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
|                    | 02STM03-1                             | 02A2M03-1                                  | 0,97     | 1,0                                                                               | 4,25                                                                              | 4,8                                                                                | 4,22     | 6,3      | 1,55     | 8.000                                                                               |
|                    | 02STM03-2                             | 02A2M03-2                                  | 1,37     | 1,4                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
| <b>M4</b><br>x0,7  | 02STM04-0                             | 02A2M04-0                                  | 0,76     | 0,8                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
|                    | 02STM04-1                             | 02A2M04-1                                  | 0,97     | 1,0                                                                               | 5,4                                                                               | 6,9                                                                                | 5,38     | 7,9      | 2,05     | 4.000                                                                               |
|                    | 02STM04-2                             | 02A2M04-2                                  | 1,37     | 1,4                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
| <b>M5</b><br>x0,8  | 02STM05-0                             | 02A2M05-0                                  | 0,76     | 0,8                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
|                    | 02STM05-1                             | 02A2M05-1                                  | 0,97     | 1,0                                                                               | 6,4                                                                               | 7,1                                                                                | 6,38     | 8,7      | 2,05     | 4.000                                                                               |
|                    | 02STM05-2                             | 02A2M05-2                                  | 1,37     | 1,4                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
| <b>M6</b><br>x1,0  | 02STM06-0                             | 02A2M06-0                                  | 1,15     | 1,4                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
|                    | 02STM06-1                             | 02A2M06-1                                  | 1,37     | 2,3                                                                               | 8,75                                                                              | 8,6                                                                                | 8,72     | 11,05    | 4,08     | 1.000                                                                               |
|                    | 02STM06-2                             | 02A2M06-2                                  | 2,21     | 3,2                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
| <b>M8</b><br>x1,25 | 02STM08-1                             | 02A2M08-1                                  | 1,37     | 1,4                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
|                    | 02STM08-2                             | 02A2M08-2                                  | 2,21     | 2,3                                                                               | 10,5                                                                              | 9,7                                                                                | 10,44    | 12,65    | 5,5      | 600                                                                                 |
| <b>M10</b><br>x1,5 | 02STM10-1                             | 02A2M10-1                                  | 2,21     | 1,4                                                                               |                                                                                   |                                                                                    |          |          |          |                                                                                     |
|                    | 02STM10-2                             | 02A2M10-2                                  | 3,05     | 2,3                                                                               | 14,0                                                                              | 13,5                                                                               | 13,92    | 17,35    | 7,5      | 250                                                                                 |



## DATOS TÉCNICOS INSTALACIÓN GENERAL

### TECHNICAL DATAS IN GENERAL INSTALLATION

| THREAD     | LENGHT CODE | ACERO STEEL                                                                          |                                                                                     |                                                                                      | 5052-H34 ALUMINIO                                                                     |                                                                                       |                                                                                        |
|------------|-------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|            |             |  kN |  N |  Nm |  kN |  N |  Nm |
| <b>M3</b>  | 0           |                                                                                      | 470                                                                                 | 1.47                                                                                 |                                                                                       | 275                                                                                   | 0.9                                                                                    |
|            | 1           | 11.2 - 15.6                                                                          | 550                                                                                 | 1.70                                                                                 | 6.7 - 8.9                                                                             | 390                                                                                   | 1.1                                                                                    |
|            | 2           |                                                                                      | 1010                                                                                | 2.03                                                                                 |                                                                                       | 745                                                                                   | 1.4                                                                                    |
| <b>M4</b>  | 0           |                                                                                      | 490                                                                                 | 2.95                                                                                 |                                                                                       | 290                                                                                   | 2.3                                                                                    |
|            | 1           | 18 - 27                                                                              | 645                                                                                 | 4.00                                                                                 | 11.2 - 13.4                                                                           | 465                                                                                   | 2.6                                                                                    |
|            | 2           |                                                                                      | 1250                                                                                | 5.10                                                                                 |                                                                                       | 965                                                                                   | 4.0                                                                                    |
| <b>M5</b>  | 0           |                                                                                      | 530                                                                                 | 3.60                                                                                 |                                                                                       | 290                                                                                   | 3.0                                                                                    |
|            | 1           | 18-38                                                                                | 800                                                                                 | 4.50                                                                                 | 11.2 - 15.6                                                                           | 475                                                                                   | 3.6                                                                                    |
|            | 2           |                                                                                      | 1112                                                                                | 6.80                                                                                 |                                                                                       | 1180                                                                                  | 4.7                                                                                    |
| <b>M6</b>  | 0           |                                                                                      | 1380                                                                                | 13.0                                                                                 |                                                                                       | 965                                                                                   | 7.7                                                                                    |
|            | 1           | 27-36                                                                                | 1760                                                                                | 17.0                                                                                 | 18 - 32                                                                               | 1570                                                                                  | 9.6                                                                                    |
|            | 2           |                                                                                      | 1760                                                                                | 17.0                                                                                 |                                                                                       | 1570                                                                                  | 9.6                                                                                    |
| <b>M8</b>  | 1           |                                                                                      |                                                                                     | 18.7                                                                                 |                                                                                       |                                                                                       |                                                                                        |
|            | 2           | 27-36                                                                                | 1870                                                                                | 20.3                                                                                 | 18 - 32                                                                               | 1560                                                                                  | 13.0                                                                                   |
| <b>M10</b> | 1           |                                                                                      |                                                                                     | 32.7                                                                                 |                                                                                       |                                                                                       |                                                                                        |
|            | 2           | 32-50                                                                                | 2020                                                                                | 36.2                                                                                 | 22 - 36                                                                               | 1750                                                                                  | 32.7                                                                                   |



# Tuercas Insertables para Acero Inoxidable

## Self Clinch Nuts for Stainless Steel

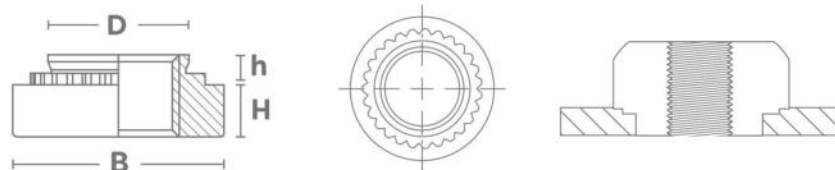


INOX  
ST. STEEL



| Tipo<br>Type | Material<br>Material                                | Acabado<br>Finished                       | Uso<br>Working       |
|--------------|-----------------------------------------------------|-------------------------------------------|----------------------|
| A2E<br>A2E   | ACERO INOX. ENDURECIDO<br>HARDENING GRADE ST. STEEL | PASIVADO ASTM A380<br>PASIVATED ASTM A380 | ≤ 88 HRB<br>≤ 88 HRB |

ROSCA / THREAD: 6g ISO Metric



| THREAD            | Código Code | h<br>mm. | <br>min<br>mm. | <br>mm. | <br>min<br>mm. | D<br>mm. | B<br>mm. | H<br>mm. |       |
|-------------------|-------------|----------|----------------|---------|----------------|----------|----------|----------|-------|
| <b>M3</b><br>x0,5 | 02A2EM03-1  | 0,76     | 0,8 - 1,0      |         |                |          |          |          |       |
|                   | 02A2EM03-2  | 0,97     | 1,0            | 4,25    | 4,8            | 4,22     | 6,3      | 1,5      | 8.000 |
|                   | 02A2EM03-3  | 1,37     | 1,4            |         |                |          |          |          |       |
| <b>M4</b><br>x0,7 | 02A2EM04-1  | 0,76     | 0,8 - 1,0      |         |                |          |          |          |       |
|                   | 02A2EM04-2  | 0,97     | 1,0            | 5,4     | 6,9            | 5,38     | 7,9      | 2,0      | 4.000 |
|                   | 02A2EM04-3  | 1,37     | 1,4            |         |                |          |          |          |       |
| <b>M5</b><br>x0,8 | 02A2EM05-1  | 0,76     | 0,8 - 1,0      |         |                |          |          |          |       |
|                   | 02A2EM05-2  | 0,97     | 1,0            | 6,4     | 7,1            | 6,38     | 8,7      | 2,0      | 4.000 |
|                   | 02A2EM05-3  | 1,37     | 1,4            |         |                |          |          |          |       |
| <b>M6</b><br>x1,0 | 02A2EM06-1  | 1,37     | 2,3            | 8,75    | 8,6            | 8,72     | 11,1     | 4,1      | 1.000 |

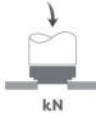
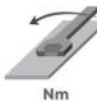


## DATOS TÉCNICOS INSTALACIÓN GENERAL

## TECHNICAL DATAS IN GENERAL INSTALLATION

### ACERO INOXIDABLE

### STAINLESS STEEL

| THREAD    | LENGHT CODE | <br>kN | <br>N | <br>Nm |
|-----------|-------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>M3</b> | 0           |                                                                                         | 570                                                                                    | 1.55                                                                                      |
|           | 1           | 13 - 22                                                                                 | 720                                                                                    | 1.90                                                                                      |
|           | 2           |                                                                                         | 1285                                                                                   | 2.00                                                                                      |
| <b>M4</b> | 0           |                                                                                         | 640                                                                                    | 3.35                                                                                      |
|           | 1           | 22 - 31                                                                                 | 790                                                                                    | 4.15                                                                                      |
|           | 2           |                                                                                         | 1595                                                                                   | 5.05                                                                                      |
| <b>M5</b> | 0           |                                                                                         | 790                                                                                    | 3.90                                                                                      |
|           | 1           | 26 - 40                                                                                 | 1020                                                                                   | 5.05                                                                                      |
|           | 2           |                                                                                         | 1770                                                                                   | 6.75                                                                                      |
| <b>M6</b> | 1           | 40 - 48                                                                                 | 1990                                                                                   | 16.5                                                                                      |



### Materiales Materials



**Cabeza**  
Head

ACERO  
STEEL



INOX  
ST. STEEL

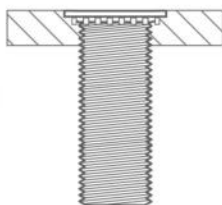


INOX  
ST. STEEL

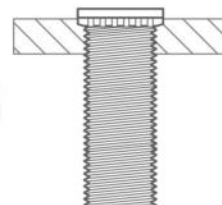


### Tipo de Cabeza Head Type

#### Cabeza embutida Flush Head



#### Cabeza no embutida Non Flush Head



Disponible en  
Available in

ACERO  
STEEL

INOX  
ST. STEEL

INOX  
ST. STEEL

ACERO  
STEEL

INOX  
ST. STEEL

### Pernos según material de instalación Studs according to installation material



Material Chapa  
Sheet material

ACERO  
STEEL



ACERO  
STEEL

INOX  
ST. STEEL

ALUMINIO  
ALUMINIUM



ACERO  
STEEL

INOX  
ST. STEEL

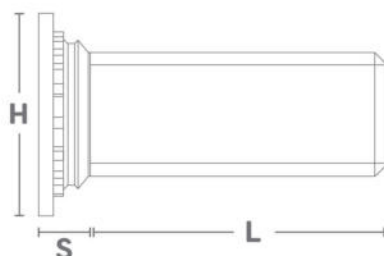
INOX  
ST. STEEL



INOX  
ST. STEEL

Disponible en  
Available in

### Especificaciones Specifications



**L**

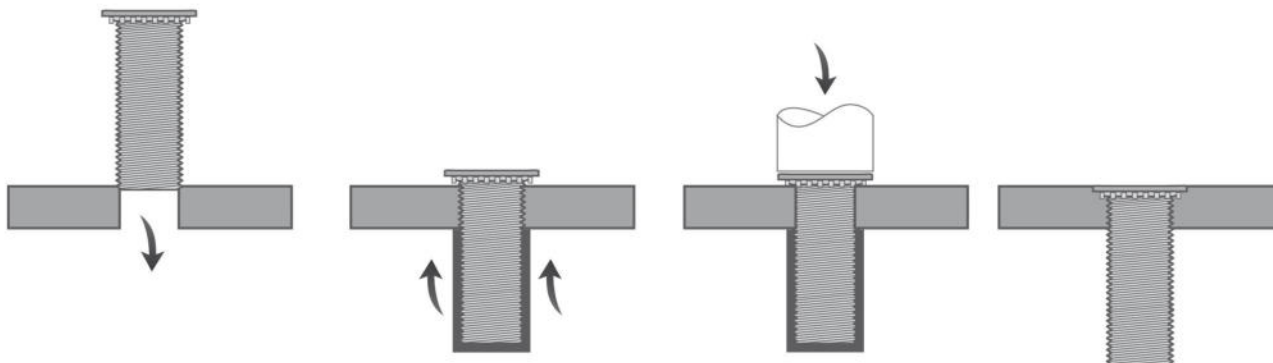
Longitud del cuerpo  
Body diameter

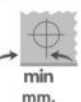
**H**

Diámetro de la cabeza  
Head diameter

**S**

Espesor de la cabeza  
Head thickness


**Aplicación**  
 Aplicaton

**Glosario**  
 Glossary

|                                                                                     |                                                               |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------|
|    | <b>Rosca</b><br>Thread                                        |
|   | <b>Espesor mínimo de chapa</b><br>Minimun grip range sheet    |
|  | <b>Diametro del agujero</b><br>Hole diameter                  |
|  | <b>Espacio mínimo al borde</b><br>Minimun space to edge       |
|  | <b>Fuerza de instalacion</b><br>Installation force            |
|  | <b>Resistencia a ser expulsada</b><br>Resistance to expulsion |
|  | <b>Par de apriete</b><br>Tightening torque                    |



# Pernos Insertables de cabeza embutida Self Clinching flush head Studs



ACERO  
STEEL

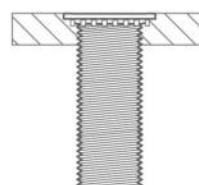
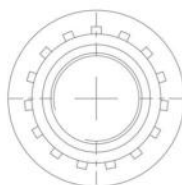
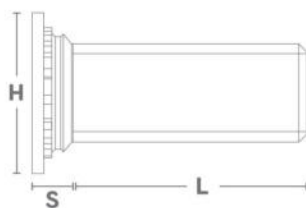
INOX  
ST. STEEL



| Tipo<br>Type | Material<br>Material                               | Acabado<br>Finished                       | Uso<br>Working      |
|--------------|----------------------------------------------------|-------------------------------------------|---------------------|
| ST<br>ST     | ACERO AL CARBONO<br>CARBON STEEL                   | CINCADO<br>ZINC CLEAR                     | ≤80 HRB<br>≤ 80 HRB |
| A2<br>A2     | ACERO INOX SERIE 300<br>300 SERIES STAINLESS STEEL | PASIVADO ASTM A380<br>PASIVATED ASTM A380 | ≤70 HRB<br>≤ 70 HRB |

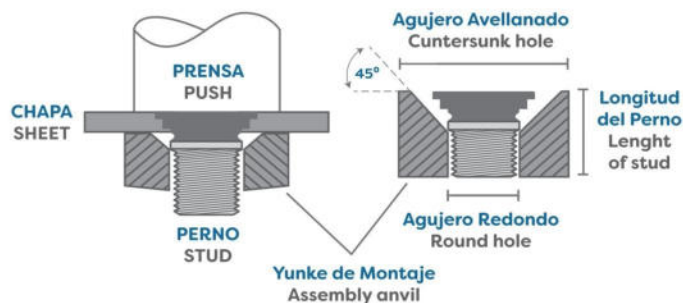
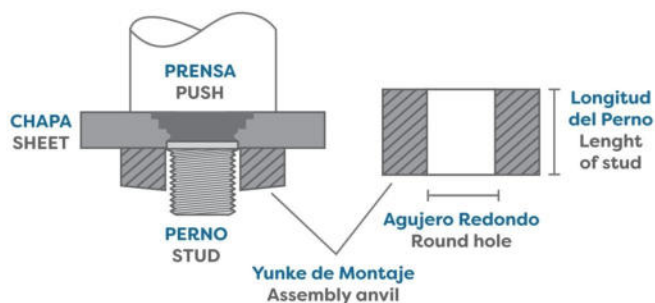
ROSCA / THREAD: 6g ISO Metric

Código Code  
\*xx = L  
Ejemplo/Example: 03M2506ST



| THREAD               | Código Code<br>Acero Carb. Carbon Steel    Acero Inox. S300 St. Steel S300 |           | L<br>mm.                                  | H<br>mm. | S<br>mm. | mm. | min.<br>mm. | min.<br>mm. |       |
|----------------------|----------------------------------------------------------------------------|-----------|-------------------------------------------|----------|----------|-----|-------------|-------------|-------|
| <b>M2.5</b><br>x0,45 | 03M25xxST                                                                  | 03M25xxA2 | 6-8-10                                    | 4,1      | 1,95     | 2,5 | 5,4         | 1,0         | 5.000 |
|                      |                                                                            |           | 12-15-18-20                               |          |          |     |             |             | 2.000 |
| <b>M3</b><br>x0,5    | 03M03xxST                                                                  | 03M03xxA2 | 5-6-7-8-9                                 | 4,6      | 2,10     | 3,0 | 5,6         | 1,0         | 2.000 |
|                      |                                                                            |           | 10-12-14-15-16-18-20<br>22-24-25-26-28-30 |          |          |     |             |             | 1.000 |
| <b>M4</b><br>x0,7    | 03M04xxST                                                                  | 03M04xxA2 | 6-8-10-12-15-18<br>20-22-25-28-30         | 5,9      | 2,40     | 4,0 | 7,2         | 1,0         | 1.000 |
|                      |                                                                            |           | 35-40                                     |          |          |     |             |             | 500   |
| <b>M5</b><br>x0,8    | 03M05xxST                                                                  | 03M05xxA2 | 8-10-12-15-18<br>20-25-30-35              | 6,5      | 2,70     | 5,0 | 7,2         | 1,0         | 1.000 |
|                      |                                                                            |           | 40                                        |          |          |     |             |             | 500   |
| <b>M6</b><br>x1,00   | 03M06xxST                                                                  | 03M06xxA2 | 8-10-12-15-18-20                          | 8,2      | 3,00     | 6,0 | 7,9         | 1,6         | 1.000 |
|                      |                                                                            |           | 25-30-35-40                               |          |          |     |             |             | 500   |
| <b>M8</b><br>x1,25   | 03M08xxST                                                                  | 03M08xxA2 | 10-12-15-16                               | 9,6      | 3,70     | 8,0 | 9,6         | 2,4         | 1.000 |
|                      |                                                                            |           | 18-20-25-26                               |          |          |     |             |             | 500   |
|                      |                                                                            |           | 30-35                                     |          |          |     |             |             | 400   |
|                      |                                                                            |           | 40                                        |          |          |     |             |             | 200   |

Bajo petición disponible en Aluminio.  
On request available on Aluminium.



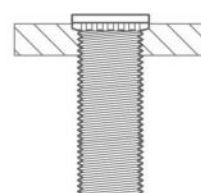
| THREAD      | MATERIAL DE CHAPA Y GROSOR<br>SHEET MATERIAL & THICKNESS | Agujero Redondo<br>Round hole<br>mm. | Agujero Avellanado<br>Countersunk hole<br>mm. | <br>kN | <br>N | <br>Nm |
|-------------|----------------------------------------------------------|--------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|             |                                                          |                                      |                                               |                                                                                           |                                                                                          |                                                                                           |
| <b>M2.5</b> | ALUMINIO ALUMINIUM 1.6 mm                                |                                      |                                               | 8.9                                                                                       | 625                                                                                      | 0.9                                                                                       |
|             | ACERO STEEL 1.5 mm                                       | 2,5                                  | 3,1                                           | 11.1                                                                                      | 1025                                                                                     | 0.9                                                                                       |
| <b>M3</b>   | ALUMINIO ALUMINIUM 1.6 mm                                |                                      |                                               | 12.9                                                                                      | 890                                                                                      | 1.6                                                                                       |
|             | ACERO STEEL 1.5 mm                                       | 3,0                                  | 3,6                                           | 14.7                                                                                      | 1240                                                                                     | 1.6                                                                                       |
| <b>M4</b>   | ALUMINIO ALUMINIUM 1.6 mm                                |                                      |                                               | 22.3                                                                                      | 1290                                                                                     | 2.8                                                                                       |
|             | ACERO STEEL 1.5 mm                                       | 4,0                                  | 4,6                                           | 28.9                                                                                      | 1780                                                                                     | 4.1                                                                                       |
| <b>M5</b>   | ALUMINIO ALUMINIUM 1.6 mm                                |                                      |                                               | 24.5                                                                                      | 1470                                                                                     | 3.4                                                                                       |
|             | ACERO STEEL 1.5 mm                                       | 5,0                                  | 5,6                                           | 33.4                                                                                      | 2440                                                                                     | 6.4                                                                                       |
| <b>M6</b>   | ALUMINIO ALUMINIUM 2.4 mm                                |                                      |                                               | 28.9                                                                                      | 2000                                                                                     | 7.2                                                                                       |
|             | ACERO STEEL 2.2 mm                                       | 6,0                                  | 6,6                                           | 29.8                                                                                      | 3110                                                                                     | 11.2                                                                                      |
| <b>M8</b>   | ALUMINIO ALUMINIUM 2.4 mm                                |                                      |                                               | 29                                                                                        | 2440                                                                                     | 11.2                                                                                      |
|             | ACERO STEEL 2.2 mm                                       | 8,0                                  | -                                             | 44.5                                                                                      | 3780                                                                                     | 19.1                                                                                      |



INOX  
ST. STEEL



**ROSCA / THREAD: 6g ISO Metric**



**Código Code**  
\*xx = L  
**Ejemplo/Example:** 03M2506ST

| THREAD            | Código Code |            | L<br>mm.                         | H<br>mm. | S<br>mm. | <br>mm. | <br>min.<br>mm. | <br>min.<br>mm. |  |
|-------------------|-------------|------------|----------------------------------|----------|----------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>M3</b><br>x0,5 | 03FM03xxST  | 03FM03xxA2 | 6-8                              | 4,5      | 0,64     | 3,0                                                                                        | 5,6                                                                                                | 0,51                                                                                               | 2.000                                                                               |
|                   |             |            | 10-12-15-18                      |          |          |                                                                                            |                                                                                                    |                                                                                                    | 1.000                                                                               |
| <b>M4</b><br>x0,7 | 03FM04xxST  | 03FM04xxA2 | 10-12-15-18-20<br>22-25-28-30    | 5,8      | 0,64     | 4,0                                                                                        | 7,2                                                                                                | 0,51                                                                                               | 1.000                                                                               |
|                   |             |            | 35-38                            |          |          |                                                                                            |                                                                                                    |                                                                                                    | 500                                                                                 |
| <b>M5</b><br>x0,8 | 03FM05xxST  | 03FM05xxA2 | 10-12-15-18-20-22<br>25-28-30-35 | 6,4      | 0,64     | 5,0                                                                                        | 7,2                                                                                                | 0,51                                                                                               | 1.000                                                                               |
|                   |             |            | 38                               |          |          |                                                                                            |                                                                                                    |                                                                                                    | 5.000                                                                               |



| THREAD    | MATERIAL DE CHAPA Y GROSOR<br>SHEET MATERIAL & THICKNESS<br>mm | Par de apriete máximo<br>Maximum tightening torque<br>Nm | Dureza de la Chapa<br>Sheet Hardness<br>HRB |  |  |  |
|-----------|----------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|           |                                                                |                                                          |                                             | kN                                                                                  | N                                                                                   | Nm                                                                                  |
| <b>M3</b> | ACERO STEEL 0.6                                                | 0.74                                                     | 52                                          | 6.7                                                                                 | 290                                                                                 | 1.0                                                                                 |
|           | ALUMINIO ALUMINIUM 0.5                                         |                                                          | 28                                          | 5.3                                                                                 | 190                                                                                 | 0.6                                                                                 |
| <b>M4</b> | ACERO STEEL 0.6                                                | 1.70                                                     | 52                                          | 13.4                                                                                | 495                                                                                 | 2.5                                                                                 |
|           | ALUMINIO ALUMINIUM 0.5                                         |                                                          | 28                                          | 9.8                                                                                 | 245                                                                                 | 0.7                                                                                 |
| <b>M5</b> | ACERO STEEL 0.6                                                | 3.50                                                     | 52                                          | 17.8                                                                                | 665                                                                                 | 2.9                                                                                 |
|           | ALUMINIO ALUMINIUM 0.5                                         |                                                          | 28                                          | 13.4                                                                                | 265                                                                                 | 1.2                                                                                 |



# Pernos Insertables de cabeza embutida para Acero Inox

## Self Clinching flush head Studs for Stainless Steel sheet



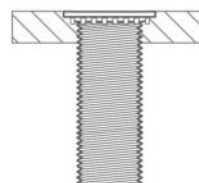
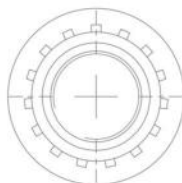
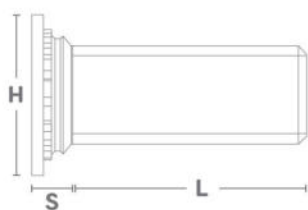
INOX  
ST. STEEL



| Tipo<br>Type | Material<br>Material   | Acabado<br>Finished | Uso<br>Working |
|--------------|------------------------|---------------------|----------------|
| A2E          | ACERO INOXIDABLE       | PASIVADO ASTM A380  | ≤ 92 HRB       |
| A2E          | ENDURECIDO SERIE 400   | PASIVATED ASTM A380 | ≤ 92 HRB       |
|              | HARDENING GRADE 400    |                     |                |
|              | SERIES STAINLESS STEEL |                     |                |

ROSCA / THREAD: 6g ISO Metric

Código Code  
\*xx = L  
Ejemplo/Example: 03M0306A2E



|  | Código Code | L<br>mm.                     | H<br>mm. | S<br>mm. |  |  |  |  |
|-----------------------------------------------------------------------------------|-------------|------------------------------|----------|----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| THREAD                                                                            |             |                              |          |          | mm.                                                                                 | min.<br>mm.                                                                         | min.<br>mm.                                                                         |                                                                                     |
| <b>M3</b><br>x0,5                                                                 | 03M03xxA2E  | 6-8                          | 4,6      | 2,1      | 3,0                                                                                 | 5,6                                                                                 | 1 - 2,4                                                                             | 2.000                                                                               |
|                                                                                   |             | 10-12-15-18-20-25            |          |          |                                                                                     |                                                                                     |                                                                                     | 1.000                                                                               |
| <b>M4</b><br>x0,7                                                                 | 03M04xxA2E  | 6-8-10-12-15<br>18-20-25-30  | 5,9      | 2,4      | 4,0                                                                                 | 7,2                                                                                 | 1 - 2,4                                                                             | 1.000                                                                               |
|                                                                                   |             | 35                           |          |          |                                                                                     |                                                                                     |                                                                                     | 500                                                                                 |
| <b>M5</b><br>x0,8                                                                 | 03M05xxA2E  | 8-10-12-15-18<br>20-25-30-35 | 6,5      | 2,7      | 5,0                                                                                 | 7,2                                                                                 | 1 - 2,4                                                                             | 1.000                                                                               |
|                                                                                   |             |                              |          |          |                                                                                     |                                                                                     |                                                                                     | 500                                                                                 |



| <br>THREAD | <b>MATERIAL DE CHAPA Y GROSOR</b><br><b>SHEET MATERIAL &amp; THICKNESS</b><br>mm | <b>Par de apriete máximo</b><br><b>Maximum tightening torque</b><br>Nm | <b>Dureza de la Chapa</b><br><b>Sheet Hardness</b><br>HRB | <br>kN | <br>N | <br>Nm | <b>PULL THRU</b><br>N |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------|
|                                                                                             |                                                                                  |                                                                        |                                                           |                                                                                          |                                                                                          |                                                                                           |                       |
| <b>M3</b>                                                                                   | <b>ACERO INOXIDABLE 1.5</b><br>STAINLESS STEEL 1.5                               | 0.9                                                                    | 92                                                        | 40                                                                                       | 3290                                                                                     | 1.7                                                                                       | 3510                  |
| <b>M4</b>                                                                                   | <b>ACERO INOXIDABLE 1.5</b><br>STAINLESS STEEL 1.5                               | 2.1                                                                    | 92                                                        | 50                                                                                       | 4400                                                                                     | 6.4                                                                                       | 7960                  |
| <b>M5</b>                                                                                   | <b>ACERO INOXIDABLE 1.5</b><br>STAINLESS STEEL 1.5                               | 4.3                                                                    | 92                                                        | 53                                                                                       | 4850                                                                                     | 10.5                                                                                      | 9980                  |



## Separadores con rosca Threaded Standoffs



### Materiales Materials

ACERO  
STEEL

Acero  
Steel

INOX  
ST. STEEL

Acero Inox  
St. Steel

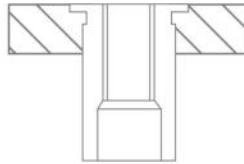
ALUMINIO  
ALUMINIUM

Aluminio  
Aluminium

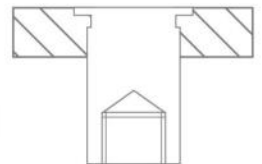


### Tipo de Rosca Head Type

#### Rosca Pasante Thru-Hole



#### Rosca Ciega Blind-Hole



Disponible en  
Available in

ACERO  
STEEL

INOX  
ST. STEEL

ALUMINIO  
ALUMINIUM

ACERO  
STEEL

INOX  
ST. STEEL

ALUMINIO  
ALUMINIUM

### Separadores según material de instalación Threaded Standoffs according to installation material

Material Chapa  
Sheet material

ACERO  
STEEL

ALUMINIO  
ALUMINIUM

Disponible en  
Available in

ACERO  
STEEL

INOX  
ST. STEEL

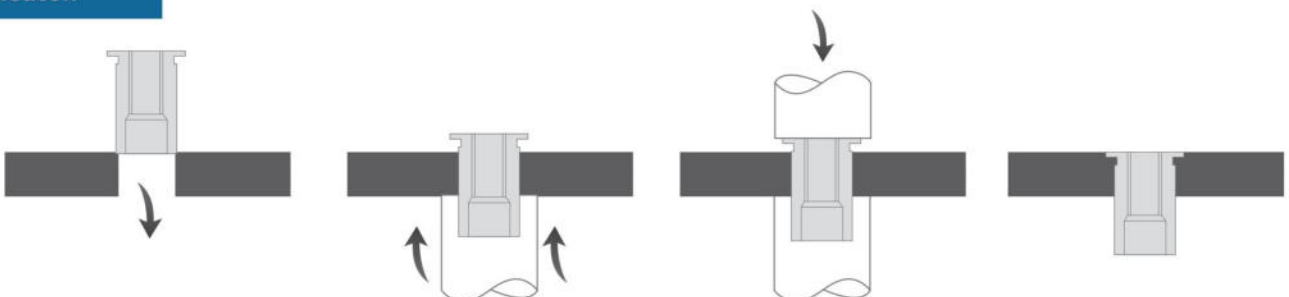
ALUMINIO  
ALUMINIUM

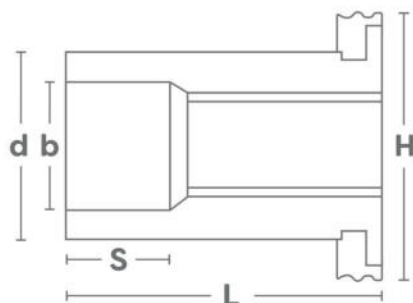
ACERO  
STEEL

INOX  
ST. STEEL

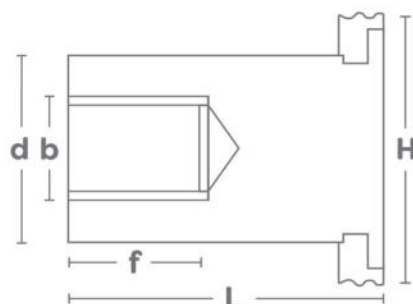
ALUMINIO  
ALUMINIUM

### Aplicación Aplicaton




**Especificaciones**  
**Specifications**
**Rosca Pasante**  
**Thru-Hole**


|          |                                            |
|----------|--------------------------------------------|
| <b>d</b> | Diámetro exterior<br>Outer diameter        |
| <b>b</b> | Diámetro interior<br>Inner diameter        |
| <b>S</b> | Longitud sin roscar<br>Non threaded length |
| <b>L</b> | Longitud del cuerpo<br>Body diameter       |
| <b>H</b> | Diámetro de la cabeza<br>Head diameter     |

**Rosca Ciega**  
**Blind-Hole**


|          |                                        |
|----------|----------------------------------------|
| <b>d</b> | Diámetro exterior<br>Outer diameter    |
| <b>b</b> | Diámetro interior<br>Inner diameter    |
| <b>f</b> | Longitud roscada<br>Threaded length    |
| <b>L</b> | Longitud del cuerpo<br>Body diameter   |
| <b>H</b> | Diámetro de la cabeza<br>Head diameter |

**Glosario**  
**Glossary**

**THREAD**
**Rosca**  
**Thread**

**min mm.**
**Espesor mínimo de chapa**  
**Minimum grip range sheet**

**mm.**
**Diametro del agujero**  
**Hole diameter**

**min mm.**
**Espacio mínimo al borde**  
**Minimum space to edge**

**kN**
**Fuerza de instalacion**  
**Installation force**

**N**
**Resistencia a ser expulsada**  
**Resistance to expulsion**

**Nm**
**Par de apriete**  
**Tightening torque**

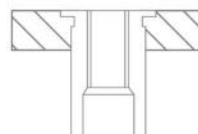


INOX  
ST. STEEL

**ALUMINIO**  
**ALUMINIUM**



**ROSCA / THREAD: 6g ISO Metric**



**Ejemplo/Example:** 04M0306STO

| THREAD        | Acero Carb. Cinc.<br>Carbon Steel | Acero Inox.<br>St. Steel | Aluminio<br>Aluminium | L<br>mm.       | <br>mm. | <br>min<br>mm. | <br>min.<br>mm. | d<br>mm. | b<br>mm. | S<br>mm. | H<br>mm. |  |
|---------------|-----------------------------------|--------------------------|-----------------------|----------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------|----------|----------|----------|-------------------------------------------------------------------------------------|
| M3<br>x0,5    | 04M03xxSTO                        | 04M03xxA2O               | 04M03xxALO            | 3-4-6-8        | 4,2                                                                                      | 6,0                                                                                             | 1,0                                                                                                | 4,19     | 3,2      | none     | 4,8      | 2.000                                                                               |
|               |                                   |                          |                       | 10-12-14       |                                                                                          |                                                                                                 |                                                                                                    |          |          | 4        |          | 1.000                                                                               |
|               |                                   |                          |                       | 16-18          |                                                                                          |                                                                                                 |                                                                                                    |          |          | 8        |          |                                                                                     |
| 3.5M3<br>x0,5 | 04M3503xxSTO                      | 04M3503xxA2O             | 04M3503xxALO          | 3-4-6-8        | 5,4                                                                                      | 7,0                                                                                             | 1,0                                                                                                | 5,38     | 3,2      | none     | 6,4      | 2.000                                                                               |
|               |                                   |                          |                       | 10-12-14       |                                                                                          |                                                                                                 |                                                                                                    |          |          | 4        |          | 1.000                                                                               |
|               |                                   |                          |                       | 16-18          |                                                                                          |                                                                                                 |                                                                                                    |          |          | 8        |          |                                                                                     |
| M4<br>x0,7    | 04M04xxSTO                        | 04M04xxA2O               | 04M04xxALO            | 3-4-6-8        | 7,2                                                                                      | 8,0                                                                                             | 1,3                                                                                                | 7,11     | 4,8      | none     | 7,9      | 1.000                                                                               |
|               |                                   |                          |                       | 10-12-14       |                                                                                          |                                                                                                 |                                                                                                    |          |          | 4        |          |                                                                                     |
|               |                                   |                          |                       | 16-18-20-22-25 |                                                                                          |                                                                                                 |                                                                                                    |          |          | 8        |          |                                                                                     |
| M5<br>x0,8    | 04M05xxSTO                        | 04M04xxA2O               | 04M05xxALO            | 3-4-6-8        | 7,2                                                                                      | 8,0                                                                                             | 1,3                                                                                                | 7,11     | 5,35     | none     | 7,9      | 1.000                                                                               |
|               |                                   |                          |                       | 10-12-14       |                                                                                          |                                                                                                 |                                                                                                    |          |          | 4        |          |                                                                                     |
|               |                                   |                          |                       | 16-18-20       |                                                                                          |                                                                                                 |                                                                                                    |          |          | 8        |          |                                                                                     |
|               |                                   |                          |                       | 22-25          |                                                                                          |                                                                                                 |                                                                                                    |          |          | 11       |          |                                                                                     |



## DATOS TÉCNICOS INSTALACIÓN EN CHAPA DE ALUMINIO DE 1,5 MM

### TECHNICAL DATAS OF INSTALLATION IN 1,5 MM ALUMINIUM SHEET

| THREAD       | MATERIAL SEPARADOR<br>STANDOFF MATERIAL |  kN |  N |  Nm |  PULL THRU |
|--------------|-----------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>M3</b>    | ACERO STEEL                             |                                                                                      |                                                                                       |                                                                                        | 1230                                                                                          |
|              | ACERO INOX. ST. STEEL                   | 4.7                                                                                  | 700                                                                                   | 1.2                                                                                    | 985                                                                                           |
|              | ALUMINIO ALUMINIUM                      |                                                                                      |                                                                                       |                                                                                        | 740                                                                                           |
| <b>3.5M3</b> | ACERO STEEL                             |                                                                                      |                                                                                       |                                                                                        | 1350                                                                                          |
|              | ACERO INOX. ST. STEEL                   | 7.4                                                                                  | 1310                                                                                  | 2.79                                                                                   | 1100                                                                                          |
|              | ALUMINIO ALUMINIUM                      |                                                                                      |                                                                                       |                                                                                        | 810                                                                                           |
| <b>M4</b>    | ACERO STEEL                             |                                                                                      |                                                                                       |                                                                                        | 2550                                                                                          |
|              | ACERO INOX. ST. STEEL                   | 10.5                                                                                 | 1750                                                                                  | 5.01                                                                                   | 2020                                                                                          |
|              | ALUMINIO ALUMINIUM                      |                                                                                      |                                                                                       |                                                                                        | 1525                                                                                          |
| <b>M5</b>    | ACERO STEEL                             |                                                                                      |                                                                                       |                                                                                        | 2550                                                                                          |
|              | ACERO INOX. ST. STEEL                   | 10.5                                                                                 | 1750                                                                                  | 5.01                                                                                   | 2020                                                                                          |
|              | ALUMINIO ALUMINIUM                      |                                                                                      |                                                                                       |                                                                                        | 1525                                                                                          |

## DATOS TÉCNICOS INSTALACIÓN EN CHAPA DE ACERO DE 1,5 MM

### TECHNICAL DATAS OF INSTALLATION IN 1,5 MM COLD ROLLED STEEL SHEET

| THREAD       | MATERIAL SEPARADOR<br>STANDOFF MATERIAL |  mm. |  kN |  N |  Nm |  PULL THRU Nm | REC TIGHTEN<br>TORQUE MAX<br>Nm |
|--------------|-----------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------|
| <b>M3</b>    | ACERO STEEL                             |                                                                                         | 9.6                                                                                    | 990                                                                                    | 2.1                                                                                      | 1450                                                                                               | 0.5                             |
|              | ACERO INOX. ST. STEEL                   | 1                                                                                       | 9.6                                                                                    | 990                                                                                    | 2.1                                                                                      | 1450                                                                                               | 0.4                             |
|              | ALUMINIO ALUMINIUM                      |                                                                                         | nr                                                                                     | nr                                                                                     | nr                                                                                       | nr                                                                                                 | 0.3                             |
| <b>3.5M3</b> | ACERO STEEL                             |                                                                                         | 14.5                                                                                   | 1850                                                                                   | 3.9                                                                                      | 1670                                                                                               | 0.5                             |
|              | ACERO INOX. ST. STEEL                   | 1                                                                                       | 14.5                                                                                   | 1850                                                                                   | 3.9                                                                                      | 1350                                                                                               | 0.4                             |
|              | ALUMINIO ALUMINIUM                      |                                                                                         | nr                                                                                     | nr                                                                                     | nr                                                                                       | nr                                                                                                 | 0.3                             |
| <b>M4</b>    | ACERO STEEL                             |                                                                                         | 17.6                                                                                   | 2460                                                                                   | 8.45                                                                                     | 3100                                                                                               | 1.9                             |
|              | ACERO INOX. ST. STEEL                   | 1.3                                                                                     | 17.6                                                                                   | 2460                                                                                   | 8.45                                                                                     | 2450                                                                                               | 0.9                             |
|              | ALUMINIO ALUMINIUM                      |                                                                                         | nr                                                                                     | nr                                                                                     | nr                                                                                       | nr                                                                                                 | 1.1                             |
| <b>M5</b>    | ACERO STEEL                             |                                                                                         | 17.6                                                                                   | 2460                                                                                   | 8.45                                                                                     | 3100                                                                                               | 3.4                             |
|              | ACERO INOX. ST. STEEL                   | 1.3                                                                                     | 17.6                                                                                   | 2460                                                                                   | 8.45                                                                                     | 2450                                                                                               | 2.7                             |
|              | ALUMINIO ALUMINIUM                      |                                                                                         | nr                                                                                     | nr                                                                                     | nr                                                                                       | nr                                                                                                 | 2.1                             |

nr= No recomendado.  
 nr= Not recommended.



## Separadores de rosca ciega Blind Threaded Standoffs



ACERO  
STEEL

INOX  
ST. STEEL

ALUMINIO  
ALUMINIUM

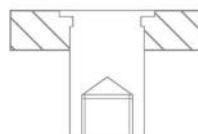
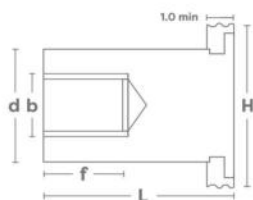


| Tipo<br>Type | Material                                     | Acabado<br>Finished                       | Uso<br>Working       |
|--------------|----------------------------------------------|-------------------------------------------|----------------------|
| STO<br>STO   | ACERO AL CARBONO<br>CARBON STEEL             | CINCADO<br>ZINC PLATED                    | ≤ 80 HRB<br>≤ 80 HRB |
| A2O<br>A2O   | ACERO INOX. SERIE 303<br>303 STAINLESS STEEL | PASIVADO ASTM A380<br>PASIVATED ASTM A380 | ≤ 70 HRB<br>≤ 70 HRB |
| ALO<br>ALO   | ALUMINIO 7075-T6<br>7075-T6 ALUMINIUM        | PULIDO<br>POLISHED                        | ≤ 50 HRB<br>≤ 50 HRB |

ROSCA / THREAD: 6g ISO Metric

Código Code  
\*xx = L

Ejemplo/Example: 04M0306STO



| THREAD        | Acero Carb. Cinc.<br>Carbon Steel | Acero Inox.<br>St. Steel | Aluminio<br>Aluminium | L<br>mm.    | mm. | min<br>mm. | min.<br>mm. | d<br>mm. | b<br>mm. | f<br>mm. | H<br>mm. | Box   |
|---------------|-----------------------------------|--------------------------|-----------------------|-------------|-----|------------|-------------|----------|----------|----------|----------|-------|
| M3<br>x0,5    | 04M03xxSTC                        | 04M03xxA2C               | 04M03xxALC            | 8           | 4,2 | 6,0        | 1,0         | 4,19     | 3,2      | 4        | 4,8      | 2.000 |
|               |                                   |                          |                       | 10          |     |            |             |          |          | 4        |          | 1.000 |
|               |                                   |                          |                       | 11          |     |            |             |          |          | 5        |          |       |
|               |                                   |                          |                       | 14-16       |     |            |             |          |          | 6,5      |          |       |
|               |                                   |                          |                       | 18-20-22-25 |     |            |             |          |          | 9,5      |          |       |
| 3.5M3<br>x0,5 | 04M3.503xxSTC                     | 04M3.503xxA2C            | 04M3.503xxALC         | 6           | 5,4 | 7,0        | 1,0         | 5,38     | 3,2      | 3,2      | 6,4      | 2.000 |
|               |                                   |                          |                       | 8           |     |            |             |          |          | 4        |          | 1.000 |
|               |                                   |                          |                       | 10          |     |            |             |          |          | 4        |          |       |
|               |                                   |                          |                       | 11          |     |            |             |          |          | 5        |          |       |
|               |                                   |                          |                       | 14-16       |     |            |             |          |          | 6,5      |          |       |
| M4<br>x0,7    | 04M04xxSTC                        | 04M04xxA2C               | 04M04xxALC            | 18-20-22-25 | 7,2 | 8,0        | 1,3         | 7,11     | 4,8      | 9,5      | 7,9      | 1.000 |
|               |                                   |                          |                       | 8-10        |     |            |             |          |          | 4        |          |       |
|               |                                   |                          |                       | 11          |     |            |             |          |          | 5        |          |       |
|               |                                   |                          |                       | 14-16       |     |            |             |          |          | 6,5      |          |       |
|               |                                   |                          |                       | 18-20-22-25 |     |            |             |          |          | 9,5      |          |       |
| M5<br>x0,8    | 04M05xxSTC                        | 04M05xxA2C               | 04M05xxALC            | 8-10        | 7,2 | 8,0        | 1,3         | 7,11     | 5,35     | 4        | 7,9      | 1.000 |
|               |                                   |                          |                       | 11          |     |            |             |          |          | 5        |          |       |
|               |                                   |                          |                       | 14-16       |     |            |             |          |          | 6,5      |          |       |
|               |                                   |                          |                       | 18-20-22-25 |     |            |             |          |          | 9,5      |          |       |
|               |                                   |                          |                       |             |     |            |             |          |          |          |          |       |



## DATOS TÉCNICOS INSTALACIÓN EN CHAPA DE ALUMINIO DE 1,5 MM

### TECHNICAL DATAS OF INSTALLATION IN 1,5 MM ALUMINIUM SHEET

| THREAD       | MATERIAL SEPARADOR<br>STANDOFF MATERIAL |  mm. |  kN |  N |  Nm |  PULL THRU |
|--------------|-----------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>M3</b>    | ACERO STEEL                             |                                                                                       |                                                                                      |                                                                                       |                                                                                        | 1230                                                                                          |
|              | ACERO INOX. ST. STEEL                   | 1                                                                                     | 4.7                                                                                  | 700                                                                                   | 1.2                                                                                    | 985                                                                                           |
|              | ALUMINIO ALUMINIUM                      |                                                                                       |                                                                                      |                                                                                       |                                                                                        | 740                                                                                           |
| <b>3.5M3</b> | ACERO STEEL                             |                                                                                       |                                                                                      |                                                                                       |                                                                                        | 1350                                                                                          |
|              | ACERO INOX. ST. STEEL                   | 1                                                                                     | 7.4                                                                                  | 1310                                                                                  | 2.79                                                                                   | 1100                                                                                          |
|              | ALUMINIO ALUMINIUM                      |                                                                                       |                                                                                      |                                                                                       |                                                                                        | 810                                                                                           |
| <b>M4</b>    | ACERO STEEL                             |                                                                                       |                                                                                      |                                                                                       |                                                                                        | 2550                                                                                          |
|              | ACERO INOX. ST. STEEL                   | 1,3                                                                                   | 10.5                                                                                 | 1750                                                                                  | 5.01                                                                                   | 2020                                                                                          |
|              | ALUMINIO ALUMINIUM                      |                                                                                       |                                                                                      |                                                                                       |                                                                                        | 1525                                                                                          |
| <b>M5</b>    | ACERO STEEL                             |                                                                                       |                                                                                      |                                                                                       |                                                                                        | 2550                                                                                          |
|              | ACERO INOX. ST. STEEL                   | 1,3                                                                                   | 10.5                                                                                 | 1750                                                                                  | 5.01                                                                                   | 2020                                                                                          |
|              | ALUMINIO ALUMINIUM                      |                                                                                       |                                                                                      |                                                                                       |                                                                                        | 1525                                                                                          |

## DATOS TÉCNICOS INSTALACIÓN EN CHAPA DE ACERO DE 1,5 MM

### TECHNICAL DATAS OF INSTALLATION IN 1,5 MM COLD ROLLED STEEL SHEET

| THREAD       | MATERIAL SEPARADOR<br>STANDOFF MATERIAL |  mm. |  kN |  N |  Nm |  PULL THRU Nm |  REC TIGHTEN TORQUE MAX Nm |
|--------------|-----------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>M3</b>    | ACERO STEEL                             |                                                                                         | 9.6                                                                                    | 990                                                                                    | 2.1                                                                                      | 1450                                                                                               | 0.5                                                                                                             |
|              | ACERO INOX. ST. STEEL                   | 1                                                                                       | 9.6                                                                                    | 990                                                                                    | 2.1                                                                                      | 1450                                                                                               | 0.4                                                                                                             |
|              | ALUMINIO ALUMINIUM                      |                                                                                         | nr                                                                                     | nr                                                                                     | nr                                                                                       | nr                                                                                                 | 0.3                                                                                                             |
| <b>3.5M3</b> | ACERO STEEL                             |                                                                                         | 14.5                                                                                   | 1850                                                                                   | 3.9                                                                                      | 1670                                                                                               | 0.5                                                                                                             |
|              | ACERO INOX. ST. STEEL                   | 1                                                                                       | 14.5                                                                                   | 1850                                                                                   | 3.9                                                                                      | 1350                                                                                               | 0.4                                                                                                             |
|              | ALUMINIO ALUMINIUM                      |                                                                                         | nr                                                                                     | nr                                                                                     | nr                                                                                       | nr                                                                                                 | 0.3                                                                                                             |
| <b>M4</b>    | ACERO STEEL                             |                                                                                         | 17.6                                                                                   | 2460                                                                                   | 8.45                                                                                     | 3100                                                                                               | 1.9                                                                                                             |
|              | ACERO INOX. ST. STEEL                   | 1.3                                                                                     | 17.6                                                                                   | 2460                                                                                   | 8.45                                                                                     | 2450                                                                                               | 0.9                                                                                                             |
|              | ALUMINIO ALUMINIUM                      |                                                                                         | nr                                                                                     | nr                                                                                     | nr                                                                                       | nr                                                                                                 | 1.1                                                                                                             |
| <b>M5</b>    | ACERO STEEL                             |                                                                                         | 17.6                                                                                   | 2460                                                                                   | 8.45                                                                                     | 3100                                                                                               | 3.4                                                                                                             |
|              | ACERO INOX. ST. STEEL                   | 1.3                                                                                     | 17.6                                                                                   | 2460                                                                                   | 8.45                                                                                     | 2450                                                                                               | 2.7                                                                                                             |
|              | ALUMINIO ALUMINIUM                      |                                                                                         | nr                                                                                     | nr                                                                                     | nr                                                                                       | nr                                                                                                 | 2.1                                                                                                             |

nr= No recomendado.  
 nr= Not recommended.