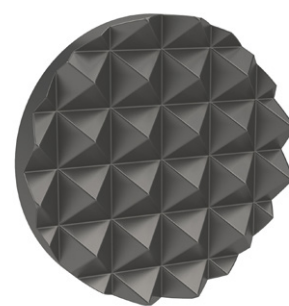
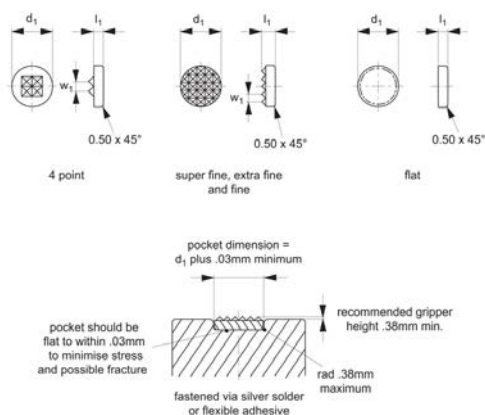




# Gripper Pads - Carbide

round

## Grippers & Rest Pads



35300

GRIPPERS & REST PADS

### Material

Solid carbide.

### Technical Notes

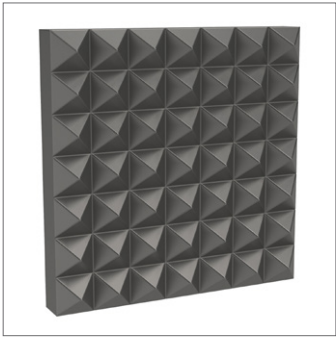
Solid carbide pads are mounted into fixtures and press down on the surface of the clamped workpiece to give safe holding

without distortion. Carbide insert pads are especially suited for clamping cast and forged parts, as well as delicate workpieces such as pipes and tubes. Carbide insert pads can be built into clamps, stops and fixtures as well as chucks and vices.

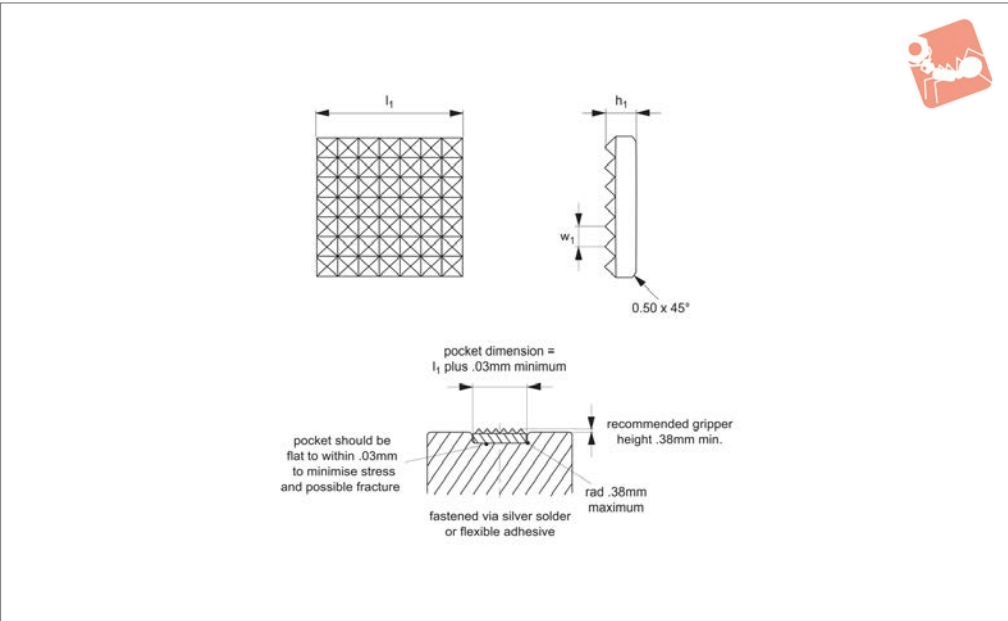
### Tips

Can be fastened via silver solder or a flexible adhesive. Note installation recommendations in technical diagram.

| Order No.   | Tooth pattern | $d_1$<br>+0.00 -0.13 | $l_1$<br>+0.13 -0.00 | $w_1$   |
|-------------|---------------|----------------------|----------------------|---------|
| 35300.W0004 | 4 Point       | 7.9                  | 3.2                  | 3,9x90° |
| 35300.W0008 | 4 Point       | 9.5                  | 3.2                  | 3,9x90° |
| 35300.W0012 | 4 Point       | 11.1                 | 3.2                  | 3,9x90° |
| 35300.W0015 | 4 Point       | 12.7                 | 4.0                  | 3,9x90° |
| 35300.W0025 | Super Fine    | 6.4                  | 3.2                  | 1,6x90° |
| 35300.W0026 | Super Fine    | 7.9                  | 3.2                  | 1,6x90° |
| 35300.W0001 | Extra Fine    | 6.4                  | 3.2                  | 2,4x90° |
| 35300.W0003 | Extra Fine    | 7.9                  | 3.2                  | 2,4x90° |
| 35300.W0007 | Extra Fine    | 9.5                  | 3.2                  | 2,4x90° |
| 35300.W0011 | Extra Fine    | 11.1                 | 3.2                  | 2,4x90° |
| 35300.W0014 | Extra Fine    | 12.7                 | 3.2                  | 2,4x90° |
| 35300.W0018 | Extra Fine    | 15.9                 | 3.2                  | 2,4x90° |
| 35300.W0021 | Extra Fine    | 19.1                 | 3.2                  | 2,4x90° |
| 35300.W0023 | Extra Fine    | 25.4                 | 4.0                  | 2,4x90° |
| 35300.W0006 | Fine          | 9.5                  | 3.2                  | 2,2x90° |
| 35300.W0010 | Fine          | 11.1                 | 3.2                  | 2,2x90° |
| 35300.W0013 | Fine          | 12.7                 | 3.2                  | 2,2x90° |
| 35300.W0017 | Fine          | 15.9                 | 3.2                  | 2,2x90° |
| 35300.W0020 | Fine          | 19.1                 | 3.2                  | 2,2x90° |
| 35300.W0002 | Flat          | 6.4                  | 3.2                  | -       |
| 35300.W0005 | Flat          | 7.9                  | 3.2                  | -       |
| 35300.W0009 | Flat          | 9.5                  | 3.2                  | -       |
| 35300.W0016 | Flat          | 12.7                 | 3.2                  | -       |
| 35300.W0019 | Flat          | 15.9                 | 3.2                  | -       |
| 35300.W0022 | Flat          | 19.1                 | 3.2                  | -       |
| 35300.W0024 | Flat          | 25.4                 | 4.0                  | -       |



## 35310



### Material

Solid carbide.

### Technical Notes

Solid carbide pads are mounted into fixtures and press down on the surface of the clamped workpiece to give safe holding

without distortion. Carbide insert pads are especially suited for clamping cast and forged parts, as well as delicate workpieces such as pipes and tubes. Carbide insert pads can be built into clamps, stops and fixtures as well as chucks and vices.

### Tips

Can be fastened via silver solder or a flexible adhesive.

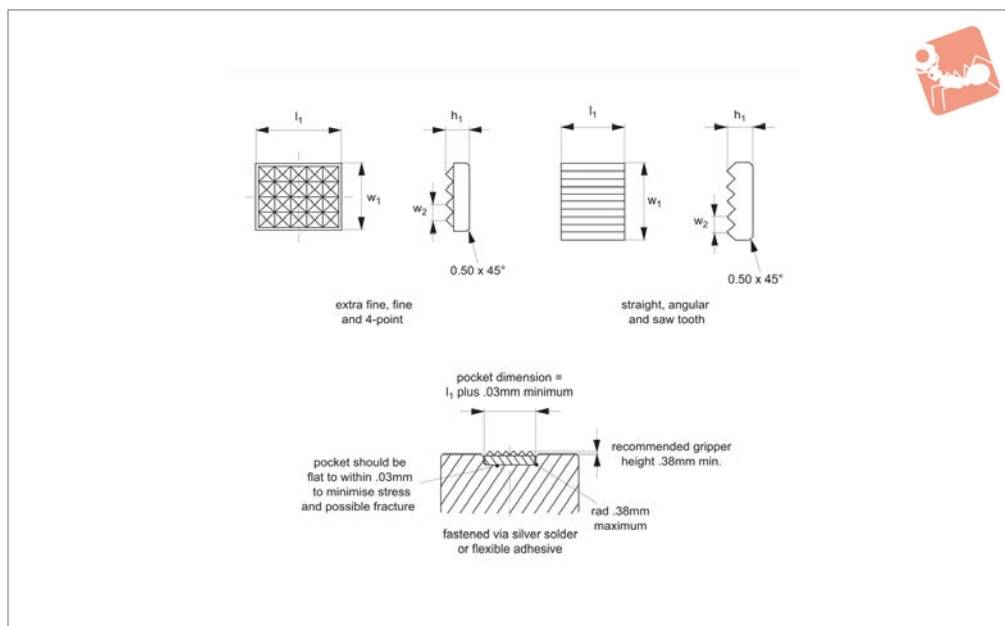
Note installation recommendations in technical diagram.

| Order No.   | Tooth pattern | $l_1$<br>$+0.00 -0.13$ | $w_1$   | $h_1$<br>$+0.13 -0.00$ |
|-------------|---------------|------------------------|---------|------------------------|
| 35310.W0000 | Fine          | 9.5                    | 3,2x90° | 3.2                    |
| 35310.W0001 | Fine          | 12.7                   | 3,2x90° | 3.2                    |
| 35310.W0002 | Extra Fine    | 12.7                   | 2,4x90° | 3.2                    |
| 35310.W0003 | Extra Fine    | 15.9                   | 2,4x90° | 3.2                    |
| 35310.W0004 | Extra Fine    | 19.1                   | 2,4x90° | 4.0                    |
| 35310.W0005 | Extra Fine    | 25.4                   | 2,4x90° | 4.0                    |
| 35310.W0006 | Extra Fine    | 9.5                    | 2,4x90° | 3.2                    |



# Gripper Pads - Carbide rectangular

## Grippers & Rest Pads



35320

GRIPPERS & REST PADS

### Material

Solid carbide.

### Technical Notes

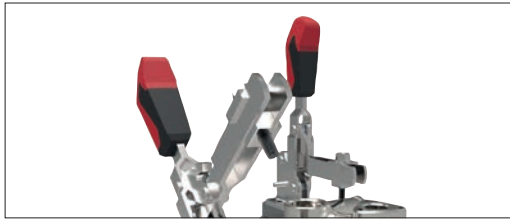
Solid carbide pads are mounted into fixtures and press down on the surface of the clamped workpiece to give safe holding

without distortion. Carbide insert pads are especially suited for clamping cast and forged parts, as well as delicate workpieces such as pipes and tubes. Carbide insert pads can be built into clamps, stops and fixtures as well as chucks and vices.

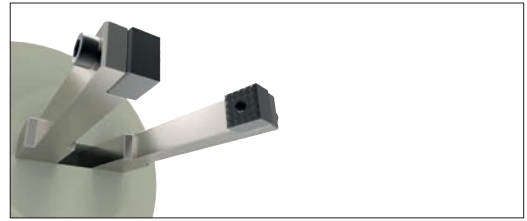
### Tips

Can be fastened via silver solder or a flexible adhesive. Note installation recommendations in technical diagram.

| Order No.   | Tooth pattern | $l_1$<br>+0.00 -0.13 | $w_1$<br>+0.00 -0.13 | $w_2$   | $h_1$<br>+0.13 -0.00 |
|-------------|---------------|----------------------|----------------------|---------|----------------------|
| 35320.W0001 | Extra Fine    | 9.5                  | 6.4                  | 2,4x90° | 3.2                  |
| 35320.W0003 | Extra Fine    | 12.7                 | 10.3                 | 2,4x90° | 3.2                  |
| 35320.W0008 | Extra Fine    | 25.4                 | 12.7                 | 2,4x90° | 4.8                  |
| 35320.W0002 | Fine          | 12.7                 | 10.3                 | 3,2x90° | 3.2                  |
| 35320.W0005 | Fine          | 11.5                 | 10.3                 | 3,2x90° | 3.2                  |
| 35320.W0004 | 4 Point       | 11.5                 | 10.3                 | 3,9x90° | 3.2                  |
| 35320.W0006 | Straight      | 11.5                 | 10.3                 | 2,9x90° | 3.2                  |
| 35320.W0007 | Angular       | 11.5                 | 10.3                 | 2,9x90° | 3.2                  |
| 35320.W0009 | Saw Tooth     | 25.4                 | 12.7                 | -       | 4.8                  |
| 35320.W0010 | Saw Tooth     | 38.1                 | 19.1                 | -       | 6.4                  |



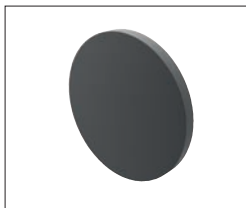
Grippers enhance workholding for multiple machining operations.



Grippers increase handling capability.

## Pads and Gripper Options

### Pads



#### Solid Carbide

High impact carbide pads, can be brazed or bonded into place.



#### Carbide Tipped

Constructed with high impact carbide pad brazed to a heat treated alloy steel body. Mount via tapped hole or a flat on the outside diameter for set screw mounting.



#### Hardened Steel

Made from 8620 steel, carburized and hardened to Rc 58/60 1.2mm with black oxide finish. Mount via tapped or counter bored hole.



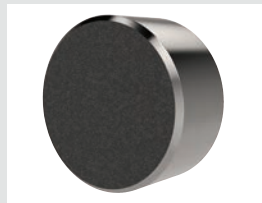
#### Non-marking Thermoplast

Made from white thermoplast. Mount via tapped or counter bored hole.



#### Stainless Steel

Pad from 17-4 stainless steel, hardened to Rc 43/46. Mount via tapped or counter bored hole.



#### Abrasive Diamond Surface

Abrasive surface permanently fused to a 17-4 stainless steel pad, hardened to Rc 43/46. The surface texture is comparable to a 100 grit abrasive. Mount via tapped or counter bored hole.



#### Soft Urethane Surface

Urethane surface is permanently bonded to a 300 series stainless steel pad. The urethane provides excellent protection against damage on delicate work surfaces. Tapped hole mounting.

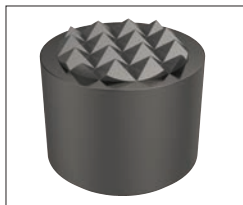
see our website for our full range:  
**wixroyd.com**

### Grippers



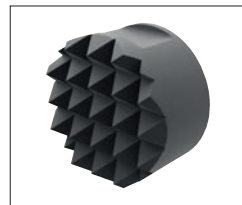
#### High Speed Tool Steel

Manufactured from M-2 high speed tool steel, hardened to Rc 60/62 with black oxide finish. Mount via tapped hole, counter bored hole or a flat on the outside diameter for set screw mounting.



#### Carbide Tipped

Constructed with high impact carbide pad brazed to a heat treated alloy steel body. Mounts via tapped hole or a flat on the outside diameter for set screw mounting.



#### Solid Carbide

Manufactured from high impact carbide in a solid gripper pad or as a solid gripper body with a threaded brazed-in steel insert. Mount via tapped hole or a flat on the outside diameter for set screw mounting.



### Tooth Pattern Specifications

|               |                                               |                                            |                                                |                                                        |                                                            |
|---------------|-----------------------------------------------|--------------------------------------------|------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------|
|               |                                               |                                            |                                                |                                                        |                                                            |
| <b>Smooth</b> | <b>4 Point</b><br>$x = 3.429 \times 90^\circ$ | <b>Fine</b><br>$x = 2.921 \times 90^\circ$ | <b>Straight</b><br>$x = 2.921 \times 90^\circ$ | <b>Angular straight</b><br>$x = 2.921 \times 90^\circ$ | <b>3 Point/90° straight</b><br>$x = 3.175 \times 90^\circ$ |

|                                                       |                                                       |                                            |                                              |                                                    |                                                      |
|-------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|----------------------------------------------|----------------------------------------------------|------------------------------------------------------|
|                                                       |                                                       |                                            |                                              |                                                    |                                                      |
| <b>Super Fine "SF"</b><br>$x = 1.600 \times 90^\circ$ | <b>Extra Fine "EF"</b><br>$x = 2.387 \times 90^\circ$ | <b>Fine</b><br>$x = 3.175 \times 90^\circ$ | <b>Coarse</b><br>$x = 4.775 \times 90^\circ$ | <b>Single point</b><br>$x = 5.461 \times 90^\circ$ | <b>4 Point square</b><br>$x = 3.962 \times 90^\circ$ |

### Angular Grippers

Our carbide and hardened steel grippers are available with a variety of tooth patterns, as specified on the product data tables.

### Round/Square Grippers

### Mounting options

①

pocket dimension =  $d_1$  plus .03mm minimum

recommended gripper height .38mm min.

pocket should be flat to within .03mm to minimise stress and possible fracture

rad. .38mm maximum

fasten from rear using appropriate bolt

②

pocket dimension =  $d_1$  plus .03mm minimum

recommended gripper height .38mm min.

pocket should be flat to within .03mm to minimise stress and possible fracture

rad. .38mm maximum

fasten from front using appropriate socket head cap screw

③

pocket dimension =  $d_1$  plus .03mm minimum

recommended gripper height .38mm min.

pocket should be flat to within .03mm to minimise stress and possible fracture

rad. .38mm maximum

fasten via set screw from side, to flat on gripper

④

pocket dimension =  $d_1$  plus .03mm minimum

recommended gripper height .38mm min.

pocket should be flat to within .03mm to minimise stress and possible fracture

rad. .38mm maximum

differential screw from front or back utilising l.h. tapped hole in pocket

⑤

pocket dimension =  $d_1$  plus .03mm minimum

recommended gripper height .38mm min.

pocket should be flat to within .03mm to minimise stress and possible fracture

rad. .38mm maximum

fastened via silver solder or flexible adhesive

⑥

recommended gripper height .38mm min.

load bearing surface

rad. .38mm maximum

bolt through from top using a low head socket cap screw can only be used with edge style serrated gripper pads

### Mounting Options for Carbide and Hardened Steel Grippers and Inserts.

Our carbide grippers and inserts can be installed in a number of different ways, the most suitable mounting method depends upon the specific insert – please refer to the product data table for specific information.

- ① Round or square grippers and rest pads with tapped blind-hole or through hole tap.
- ② Round or square grippers and rest pads with counter-bored hole.
- ③ Round grippers with flat on the O.D. for set screw mounting. Also square gripper mounting.
- ④ Round or square grippers with through tapped hole.
- ⑤ Round or square carbide pads.
- ⑥ Counter-bored edge grippers.



## A Range of Specialist Gripping Pads to Suit Your Application

### Urethane Coated



Unique urethane coat prevents marking of delicate components during machining or manipulation by robots. The urethane pad is permanently bonded to the stainless steel body of the gripping pad. With a bubbled texture, air is able to escape and hence avoid any suction action - enabling easy releasing of parts.

These are available in three different urethane durometers.



35 durometer:  
Pencil rubber top

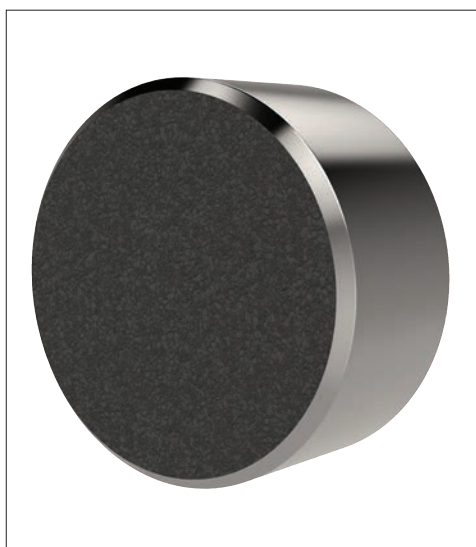


60 durometer:  
Car tyre



80 durometer:  
Skateboard wheel

### Abrasive Diamond Coated



To improve handling of smooth or slippery components, with a minimum of clamping pressure, our abrasive diamond coated pads provide an excellent solution.

Diamond powders are permanently fused to a 17-4 stainless pad, to provide an abrasive surface comparable to 100 grit value.

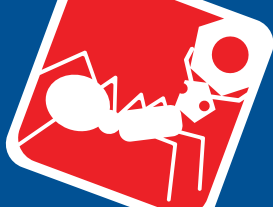


Sandpaper of 100  
grit texture

### Stainless Pads



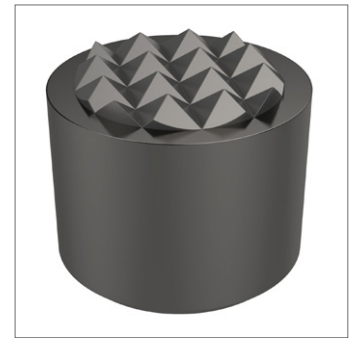
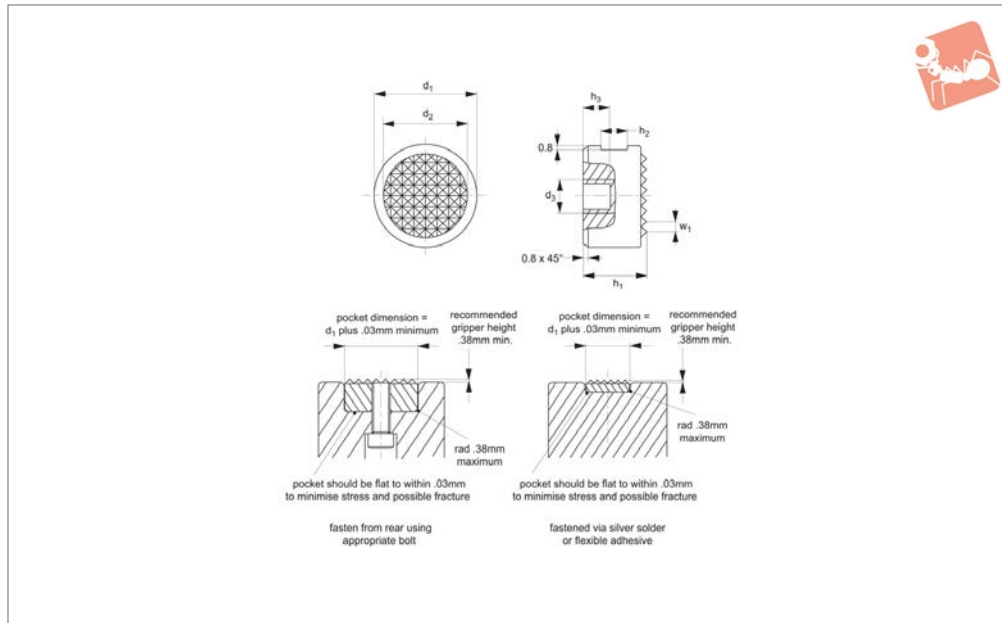
Pads of 17-4 Stainless, hardened to RC 43/46 provide solutions to applications where material selection is of greater importance; for example nuclear or food processing or pharmaceutical applications.



# Grippers - Carbide Tipped

steel body - round - rear fixing

# Grippers & Rest Pads



35330

GRIPPERS & REST PADS

## Material

Solid carbide tipped grippers, in steel body.

to give safe holding without distortion. Especially suitable in chucks, vices and robotic grippers for extra grip.

appropriate bolt of thread  $d_2$ . Note installation recommendations in technical diagram.

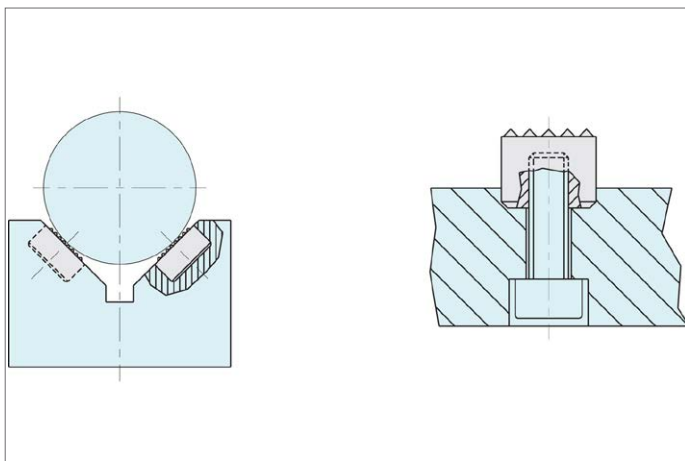
## Technical Notes

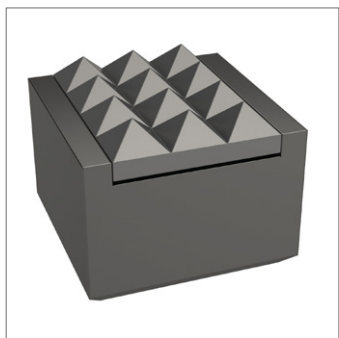
These carbide tipped gripping pads press down onto the surface of the components

## Tips

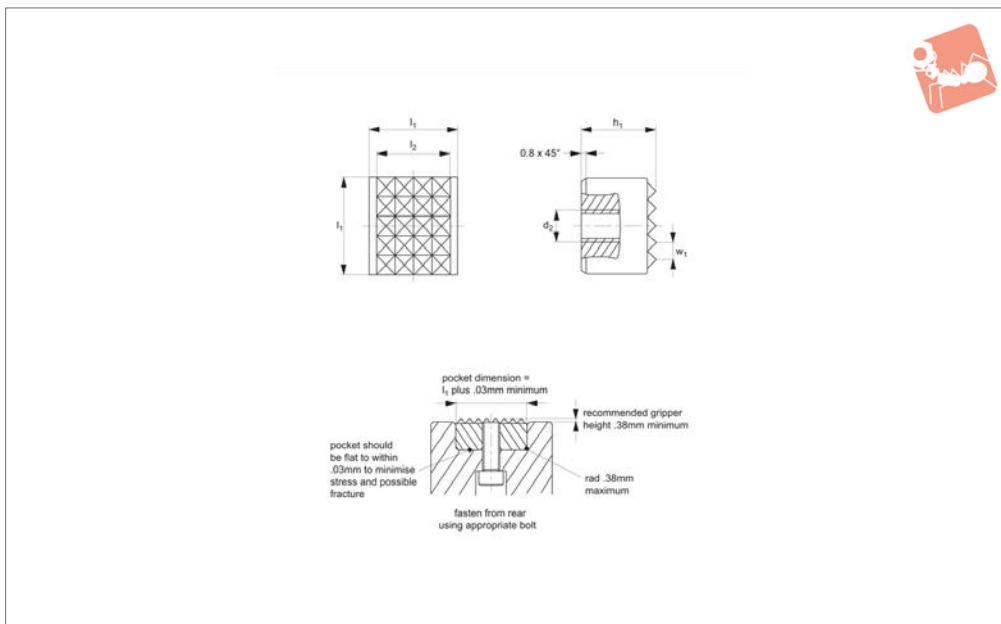
Can be fastened via use of set screw from side to flat on gripper, or from rear using

| Order No.   | Tooth pattern | $d_1$<br>+0.00 -0.13 | $h_1$<br>+0.00 -0.13 | $h_2$ | $h_3$ | $d_2$ | $d_3$   | $w_1$   |
|-------------|---------------|----------------------|----------------------|-------|-------|-------|---------|---------|
| 35330.W0001 | Extra Fine    | 10                   | 10                   | 4.5   | 4.8   | 7.9   | M 5x0,8 | 2,4x90° |
| 35330.W0002 | Extra Fine    | 10                   | 12                   | 6.0   | 4.8   | 7.9   | M 5x0,8 | 2,4x90° |
| 35330.W0003 | Fine          | 12                   | 10                   | 4.5   | 4.8   | 9.5   | M 5x0,8 | 3,2x90° |
| 35330.W0004 | Fine          | 12                   | 12                   | 6.0   | 4.8   | 9.5   | M 5x0,8 | 3,2x90° |
| 35330.W0005 | Fine          | 16                   | 10                   | 4.5   | 4.8   | 12.7  | M 6x1,0 | 3,2x90° |
| 35330.W0006 | Fine          | 16                   | 12                   | 6.0   | 4.8   | 12.7  | M 6x1,0 | 3,2x90° |
| 35330.W0007 | Fine          | 20                   | 10                   | 4.5   | 4.8   | 15.9  | M 6x1,0 | 3,2x90° |
| 35330.W0008 | Fine          | 20                   | 12                   | 6.0   | 4.8   | 15.9  | M 6x1,0 | 3,2x90° |
| 35330.W0009 | Fine          | 25                   | 10                   | 4.5   | 4.8   | 19.1  | M 6x1,0 | 3,2x90° |
| 35330.W0010 | Fine          | 25                   | 12                   | 6.0   | 4.8   | 19.1  | M 6x1,0 | 3,2x90° |





## 35340



### Material

Solid carbide tipped grippers, in steel body.

### Technical Notes

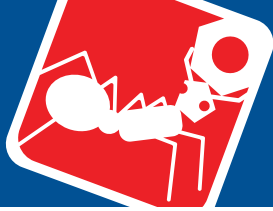
These carbide tipped gripping pads press

down onto the surface of the component to give safe holding without distortion. Especially suitable in chucks, vices and robotic grippers for extra grip.

### Tips

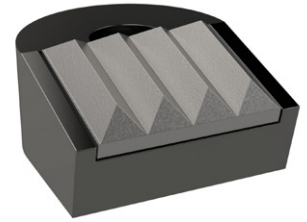
Can be fastened from rear using appropriate bolt. Note installation recommendations in technical diagram.

| Order No.   | Tooth pattern | $l_1$ | $l_2$ | $h_1$ | $d_2$   | $w_1$     |
|-------------|---------------|-------|-------|-------|---------|-----------|
| 35340.W0001 | Fine          | 12.0  | 10.32 | 10.00 | M 5x0,8 | 3,175x90° |
| 35340.W0002 | Fine          | 12.0  | 10.32 | 12.00 | M 5x0,8 | 3,175x90° |
| 35340.W0003 | Ex-fine       | 12.7  | 10.32 | 9.53  | M 6x1,0 | 2,387x90° |



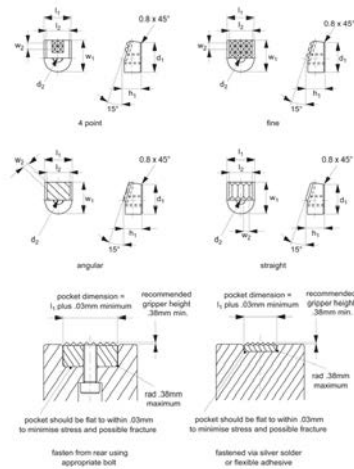
# Grippers - Carbide Tipped steel body - angled - rear fixing

## Grippers & Rest Pads



35350

GRIPPERS & REST PADS



### Material

Steel, heat-treated with brazed on carbide pad.

### Technical Notes

Also available with imperial threads on

request. These angle gripper inserts press down on the surface of the clamped work-piece to give safe holding without distortion. They can be built into clamps, stops and fixtures, as well as chucks, vices and

robotic grippers for extra grip.

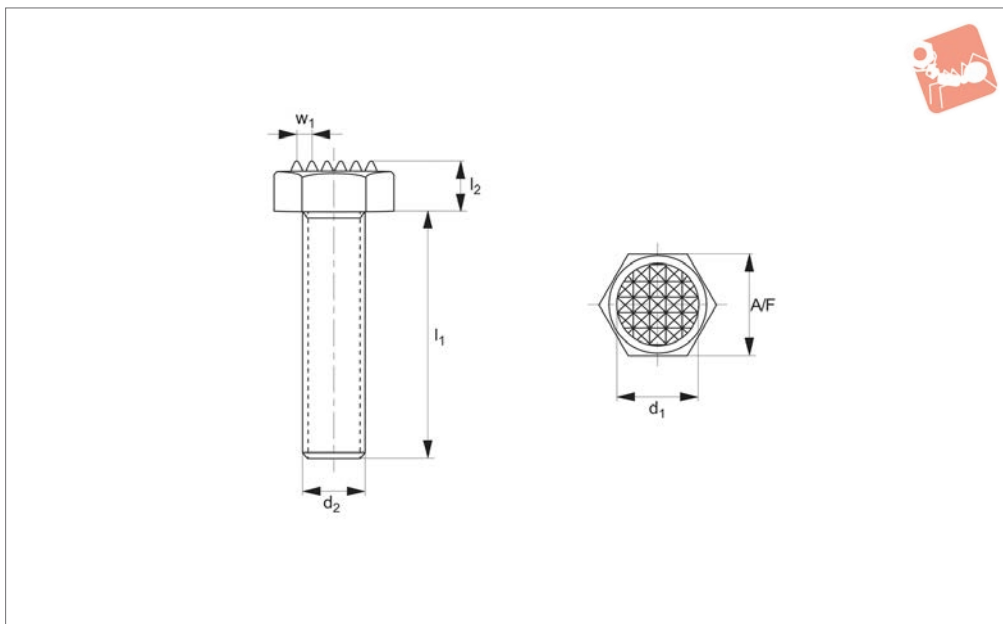
### Tips

Can be fastened from rear using appropriate bolt. Note installation recommendations in technical diagram.

| Order No.   | Tooth pattern | d <sub>1</sub> | $l_1$<br>+0.000 -0.002 | $l_2$ | $h_1$<br>+0.000 -0.005 | d <sub>2</sub> | $w_1$<br>+0.000 -0.010 | $w_2$   |
|-------------|---------------|----------------|------------------------|-------|------------------------|----------------|------------------------|---------|
| 35350.W0001 | 4 Point       | 15             | 14.29                  | 11.9  | 9.5                    | M 5x0,8        | 16.5                   | 3,4x90° |
| 35350.W0002 | Fine          | 15             | 14.29                  | 11.9  | 9.5                    | M 5x0,8        | 16.5                   | 2,9x90° |
| 35350.W0003 | Straight      | 15             | 14.29                  | 11.9  | 9.5                    | M 5x0,8        | 16.5                   | 2,9x90° |
| 35350.W0004 | Angular       | 15             | 14.29                  | 11.9  | 9.5                    | M 5x0,8        | 16.5                   | 2,9x90° |



## 35400



### Material

Hex headed steel bolt with solid carbide tipped insert.

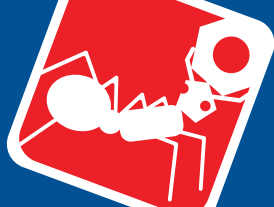
### Technical Notes

Adjustable carbide tipped grippers are

used in jigs and fixtures, modular fixtures and tooling. They are especially suitable for holding castings and other components. Adjustment can be made within the thread length. Use a DIN 439B

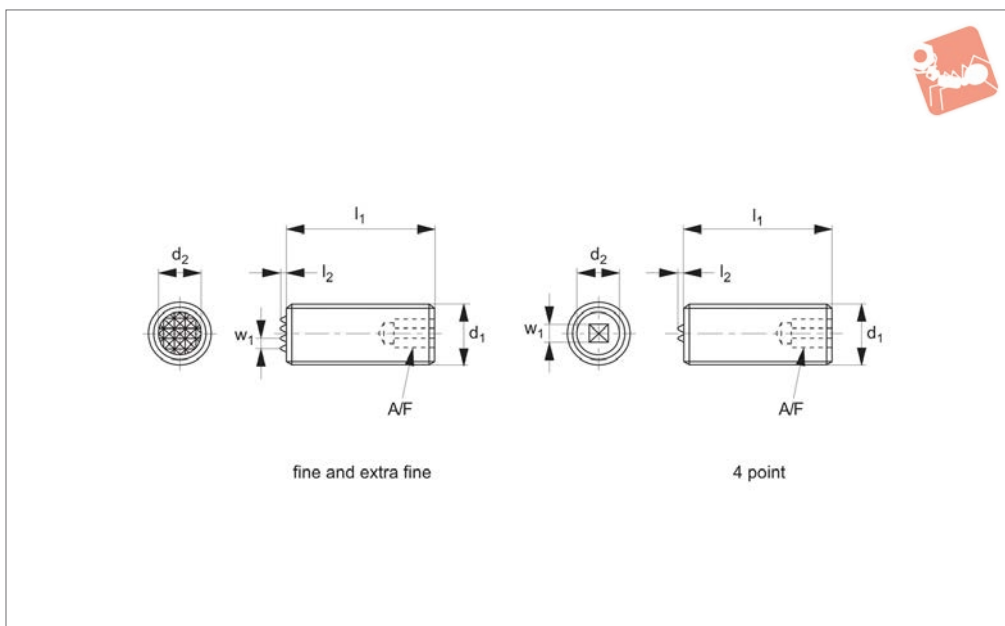
hex. nut for adjustment and securing.

| Order No.   | Tooth pattern | d <sub>1</sub> | l <sub>1</sub> | l <sub>2</sub> | d <sub>2</sub> | w <sub>1</sub> | A/F |
|-------------|---------------|----------------|----------------|----------------|----------------|----------------|-----|
| 35400.W0001 | Ex-fine       | 7.94           | 12             | 5.0            | M 6x1,00       | 2,387x90°      | 10  |
| 35400.W0002 | Ex-fine       | 7.94           | 25             | 5.0            | M 6x1,00       | 2,387x90°      | 10  |
| 35400.W0003 | Fine          | 9.53           | 12             | 6.4            | M 8x1,25       | 3,175x90°      | 13  |
| 35400.W0004 | Fine          | 9.53           | 25             | 6.4            | M 8x1,25       | 3,175x90°      | 13  |
| 35400.W0005 | Fine          | 9.53           | 35             | 6.4            | M 8x1,25       | 3,175x90°      | 13  |
| 35400.W0006 | Fine          | 12.70          | 12             | 7.5            | M10x1,50       | 3,175x90°      | 17  |
| 35400.W0007 | Fine          | 12.70          | 25             | 7.5            | M10x1,50       | 3,175x90°      | 17  |
| 35400.W0008 | Fine          | 12.70          | 40             | 7.5            | M10x1,50       | 3,175x90°      | 17  |
| 35400.W0009 | Fine          | 15.88          | 25             | 8.7            | M12x1,75       | 3,175x90°      | 19  |
| 35400.W0010 | Fine          | 15.88          | 40             | 8.7            | M12x1,75       | 3,175x90°      | 19  |
| 35400.W0011 | Fine          | 19.05          | 35             | 11.0           | M16x2,00       | 3,175x90°      | 24  |
| 35400.W0012 | Fine          | 19.05          | 50             | 11.0           | M16x2,00       | 3,175x90°      | 24  |
| 35400.W0013 | Ex-fine       | 25.40          | 40             | 13.7           | M20x2,50       | 2,387x90°      | 30  |
| 35400.W0014 | Ex-fine       | 25.40          | 60             | 13.7           | M20x2,50       | 2,387x90°      | 30  |



# Grippers - Carbide Tipped set screw

## Grippers & Rest Pads



**35410**

GRIPPERS & REST PADS

### Material

Steel set screw with hex socket and solid carbide tipped insert.

### Technical Notes

Adjustable carbide tipped grippers are

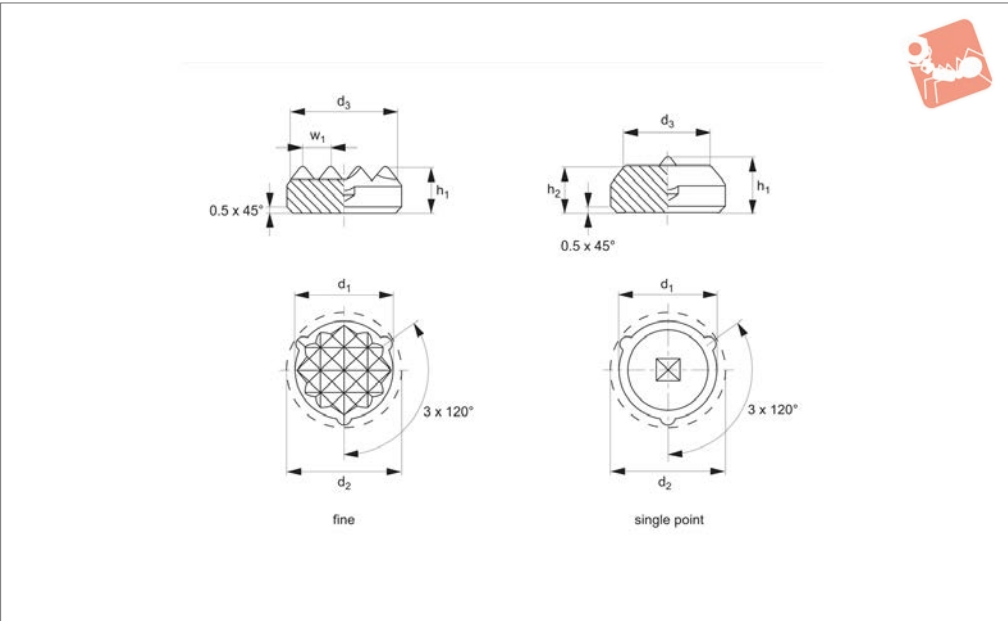
used in jigs and fixtures, modular fixtures and tooling. They are especially suitable for holding castings and other components. Adjustment can be made by using the hex key in socket, and can be

adjusted within the thread length. Use a DIN 439B hex nut for adjustment and securing.

| Order No.   | Tooth pattern | d <sub>1</sub> | l <sub>1</sub> | l <sub>2</sub> | d <sub>2</sub> | w <sub>1</sub> | A/F |
|-------------|---------------|----------------|----------------|----------------|----------------|----------------|-----|
| 35410.W0001 | Extra Fine    | M10x1,5        | 25             | 1.3            | 6.4            | 2,4x90°        | 5   |
| 35410.W0002 | Extra Fine    | M10x1,5        | 50             | 1.3            | 6.4            | 2,4x90°        | 5   |
| 35410.W0004 | Extra Fine    | M12x1,75       | 25             | 1.3            | 7.9            | 2,4x90°        | 6   |
| 35410.W0006 | Extra Fine    | M12x1,75       | 50             | 1.3            | 7.9            | 2,4x90°        | 6   |
| 35410.W0014 | Extra Fine    | M20x2,5        | 50             | 1.3            | 12.7           | 2,4x90°        | 10  |
| 35410.W0008 | Fine          | M16x2,0        | 25             | 1.3            | 11.1           | 3,2x90°        | 8   |
| 35410.W0010 | Fine          | M16x2,0        | 50             | 1.3            | 11.1           | 3,2x90°        | 8   |
| 35410.W0012 | Fine          | M20x2,5        | 25             | 1.3            | 12.7           | 3,2x90°        | 10  |
| 35410.W0003 | 4 Point       | M12x1,75       | 25             | 1.3            | 7.9            | 3,9x90°        | 6   |
| 35410.W0005 | 4 Point       | M12x1,75       | 50             | 1.3            | 7.9            | 3,9x90°        | 6   |
| 35410.W0007 | 4 Point       | M16x2,0        | 25             | 1.3            | 11.1           | 3,9x90°        | 8   |
| 35410.W0009 | 4 Point       | M16x2,0        | 50             | 1.3            | 11.1           | 3,9x90°        | 8   |
| 35410.W0011 | 4 Point       | M20x2,5        | 25             | 1.3            | 12.7           | 3,9x90°        | 10  |
| 35410.W0013 | 4 Point       | M20x2,5        | 50             | 1.3            | 12.7           | 3,9x90°        | 10  |



## 35440



### Material

Hard metal ribbed, hard metal pointed, 60 HRc.

### Technical Notes

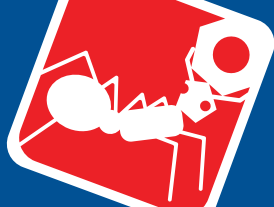
$d_1$  - for use when press-fitting into softer

metals such as aluminium. The three protrusions ensure centering of insert.  
 $d_2$  - for use when gluing or soldering in place.

### Tips

Can be integrated into fixtures, clamping jaws etc., to provide an abrasion-proof transmission of high holding forces on cast or forged workpieces.

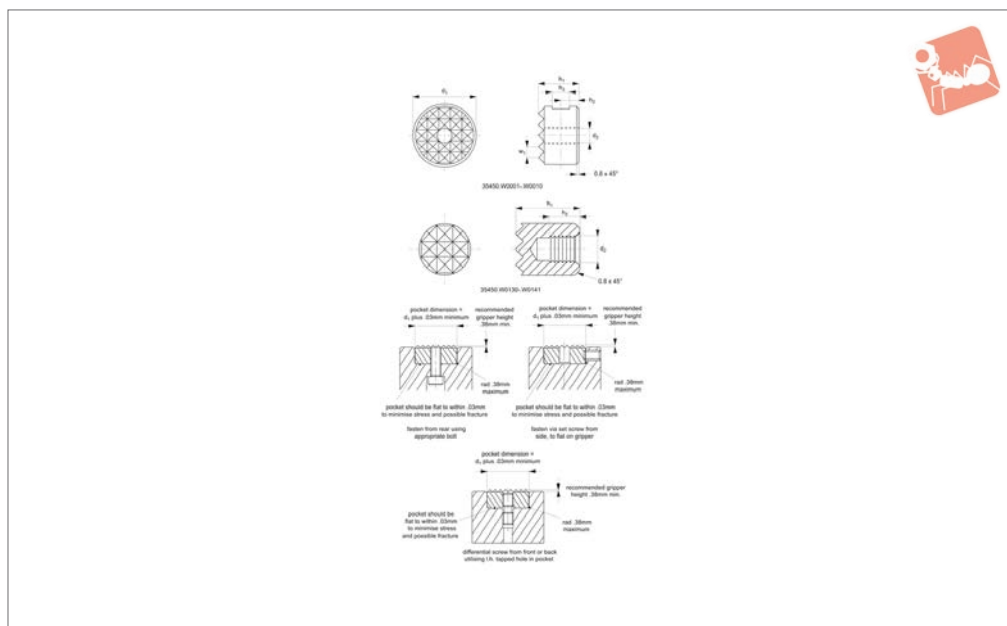
| Order No.   | Tooth pattern | $d_1$<br>$\pm 0.1$                  | $h_1$ | $h_2$ | $d_2$<br>$\pm 0.2$ | $d_3$<br>$\approx$ | $w_1$ | Weight<br>g |
|-------------|---------------|-------------------------------------|-------|-------|--------------------|--------------------|-------|-------------|
| 35440.W0608 | Fine          | 8.3                                 | 5.0   | -     | 9.1                | 7.7                | 2     | 3           |
| 35440.W0611 | Fine          | 11.3                                | 5.0   | -     | 12.1               | 10.6               | 2     | 6           |
| 35440.W0613 | Fine          | 12.6                                | 5.0   | -     | 13.4               | 11.9               | 3     | 7           |
| 35440.W0615 | Fine          | 16,6 <sup><math>\pm 15</math></sup> | 5.0   | -     | 17.4               | 16.0               | 3     | 12          |
| 35440.W0617 | Fine          | 21,6 <sup><math>\pm 15</math></sup> | 5.0   | -     | 22.4               | 21.0               | 3     | 20          |
| 35440.W0628 | Single Point  | 8.3                                 | 5.8   | 5     | 9.1                | 6.3                | -     | 3           |
| 35440.W0631 | Single Point  | 11.3                                | 5.8   | 5     | 12.1               | 9.3                | -     | 7           |
| 35440.W0633 | Single Point  | 12.6                                | 5.8   | 5     | 13.4               | 10.0               | -     | 8           |



# Grippers - Hard Tool Steel

round - screw fixing

# Grippers & Rest Pads



35450

GRIPPERS & REST PADS

## Material

M2 tungsten-molybdenum high-speed steel, hardened to HRC 60-62.

## Technical Notes

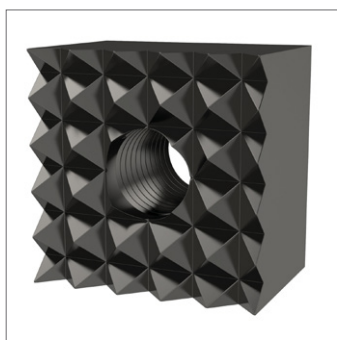
These hardened steel gripping pads press down on to the surface of the clamped

workpiece for safe holding without distortion. They are especially suitable where high load or clamping force is applied. Can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip. M3 to M4 blind hole tapped.

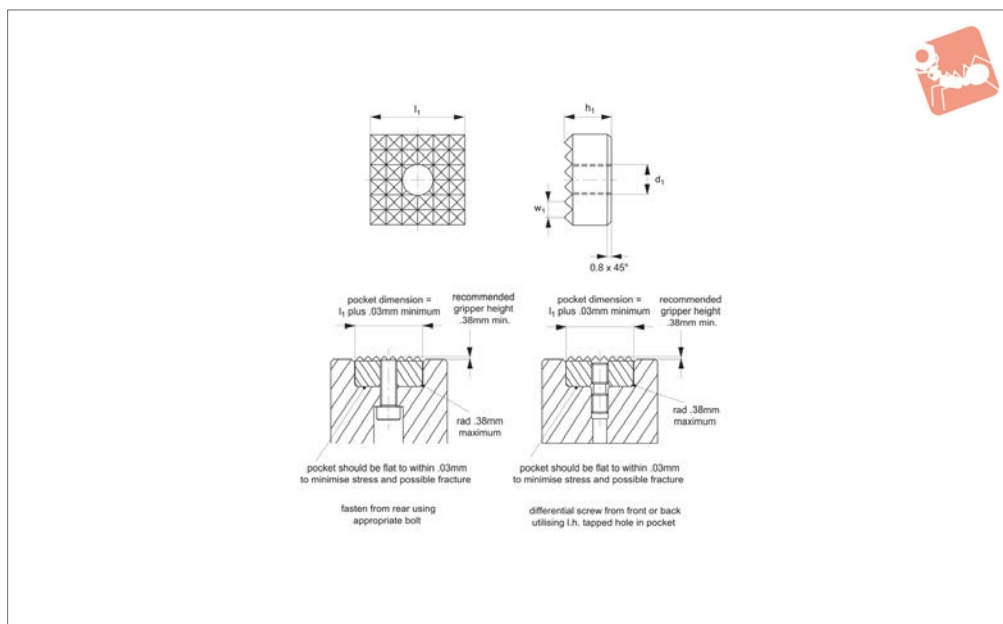
## Tips

Can be fastened via use of set screw or from rear using appropriate screw (thread  $d_2$ ). Note installation recommendations in technical diagram.

| Order No.   | Tooth pattern | $d_1$<br>+0.00/-0.13 | $h_1$<br>+0.00/-0.13 | $h_2$ | $d_2$   | $h_3$ | $w_1$   |
|-------------|---------------|----------------------|----------------------|-------|---------|-------|---------|
| 35450.W0001 | Extra Fine    | 10                   | 10                   | 4.5   | M 5x0,8 | 4.8   | 2,4x90° |
| 35450.W0002 | Extra Fine    | 10                   | 12                   | 6.0   | M 5x0,8 | 4.8   | 2,4x90° |
| 35450.W0003 | Fine          | 12                   | 10                   | 4.5   | M 5x0,8 | 4.8   | 3,2x90° |
| 35450.W0004 | Fine          | 12                   | 12                   | 6.0   | M 5x0,8 | 4.8   | 3,2x90° |
| 35450.W0005 | Fine          | 16                   | 10                   | 4.5   | M 6x1,0 | 4.8   | 3,2x90° |
| 35450.W0006 | Fine          | 16                   | 12                   | 6.0   | M 6x1,0 | 4.8   | 3,2x90° |
| 35450.W0007 | Fine          | 20                   | 10                   | 4.5   | M 6x1,0 | 4.8   | 3,2x90° |
| 35450.W0008 | Fine          | 20                   | 12                   | 6.0   | M 6x1,0 | 4.8   | 3,2x90° |
| 35450.W0009 | Fine          | 25                   | 10                   | 4.5   | M 6x1,0 | 4.8   | 3,2x90° |
| 35450.W0010 | Fine          | 25                   | 12                   | 6.0   | M 6x1,0 | 4.8   | 3,2x90° |
| 35450.W0130 | Super Fine    | 6                    | 10                   | 5.0   | M 3x0,5 | -     | 1,6x90° |
| 35450.W0131 | Super Fine    | 6                    | 12                   | 7.0   | M 3x0,5 | -     | 1,6x90° |
| 35450.W0140 | Super Fine    | 8                    | 10                   | 5.0   | M 4x0,7 | -     | 1,6x90° |
| 35450.W0141 | Super Fine    | 8                    | 12                   | 7.0   | M 4x0,7 | -     | 1,6x90° |



## 35460



### Material

M2 tungsten-molybdenum high-speed steel, hardened to HRC 60-62.

### Technical Notes

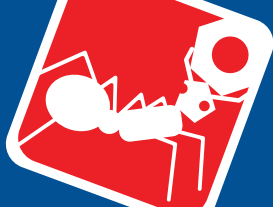
These hardened steel gripping pads press down on to the surface of the clamped

workpiece for safe holding without distortion. They are especially suitable where high load or clamping force is applied. Can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip.

### Tips

Can be fastened via use of set screw or from rear using appropriate screw (thread  $d_2$ ). Note installation recommendations in technical diagram.

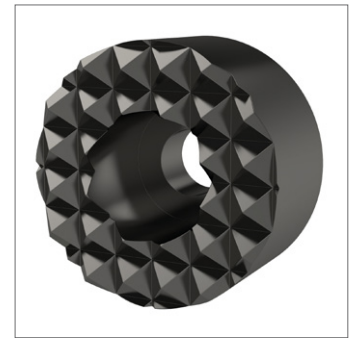
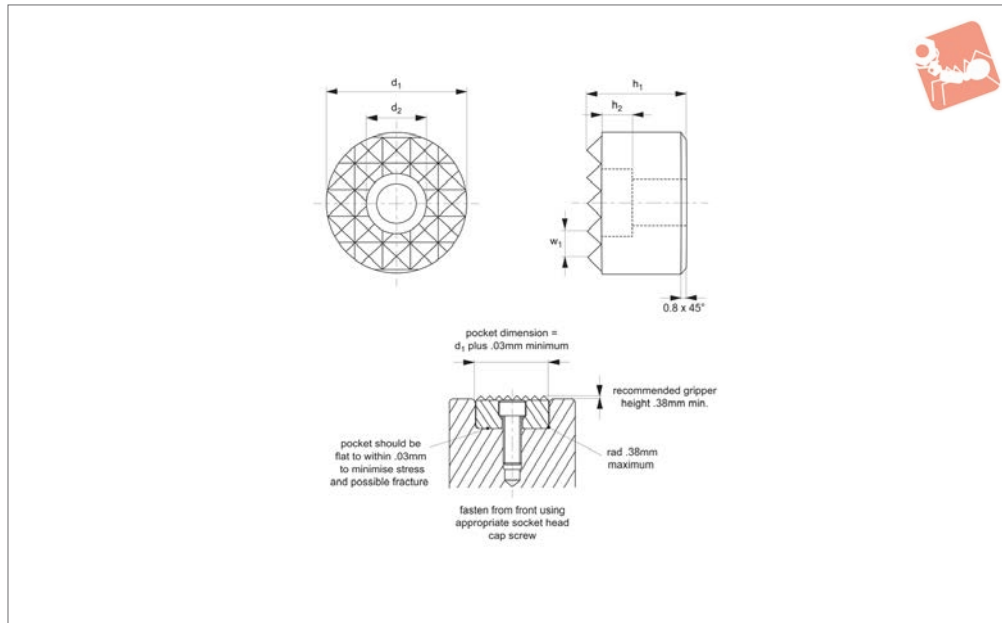
| Order No.   | Tooth pattern | $l_1$<br>+0.00 -0.13 | $d_1$   | $h_1$<br>+0.00 -0.13 | $w_1$   |
|-------------|---------------|----------------------|---------|----------------------|---------|
| 35460.W0001 | Extra Fine    | 10                   | M 5x0,8 | 10                   | 2,4x90° |
| 35460.W0002 | Extra Fine    | 10                   | M 5x0,8 | 12                   | 2,4x90° |
| 35460.W0003 | Fine          | 12                   | M 5x0,8 | 10                   | 3,2x90° |
| 35460.W0004 | Fine          | 12                   | M 5x0,8 | 12                   | 3,2x90° |
| 35460.W0005 | Fine          | 20                   | M 5x0,8 | 10                   | 3,2x90° |
| 35460.W0006 | Fine          | 20                   | M 5x0,8 | 12                   | 3,2x90° |
| 35460.W0007 | Fine          | 25                   | M 6x1,0 | 10                   | 3,2x90° |
| 35460.W0008 | Fine          | 25                   | M 6x1,0 | 12                   | 3,2x90° |
| 35460.W0161 | Fine          | 16                   | M 6x1,0 | 10                   | 3,2x90° |
| 35460.W0162 | Fine          | 16                   | M 6x1,0 | 12                   | 3,2x90° |



# Grippers - Hard Tool Steel

round - front fixing

## Grippers & Rest Pads



35480

GRIPPERS & REST PADS

### Material

M2 tungsten-molybdenum high-speed steel, hardened to HRC 60-62.

### Technical Notes

These hardened steel gripping pads press down onto the surface of the clamped

workpiece for safe holding without distortion. They are especially suitable where a high load or clamping force is applied. They can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip.

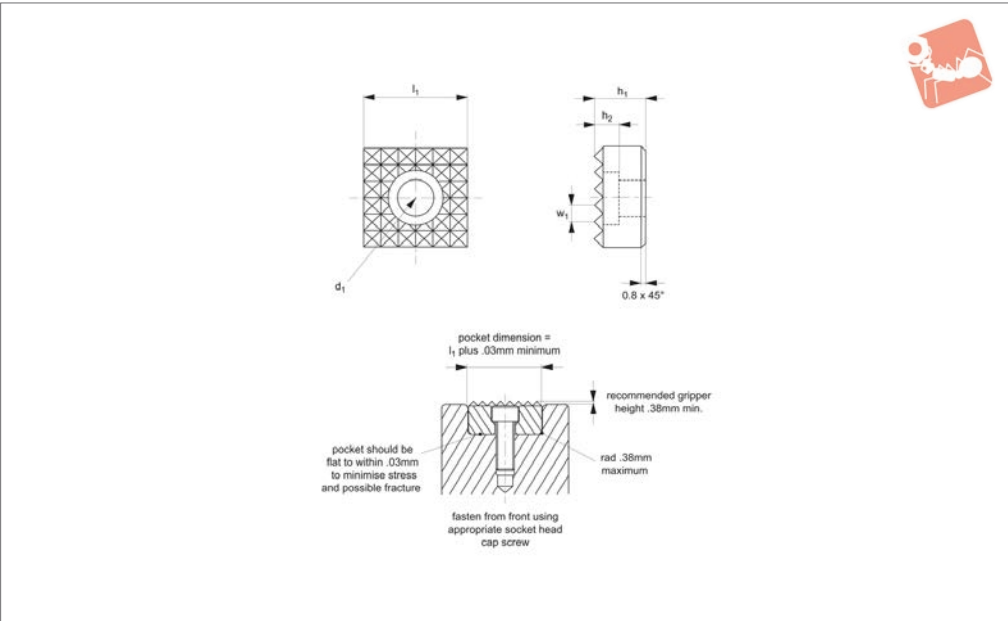
### Tips

Can be fastened from the front using a socket head cap screw. Note installation recommendations in technical diagram.

| Order No.   | Tooth pattern | $d_1$<br>+0.00 -0.13 | $h_1$<br>+0.00 -0.13 | $h_2$ | $d_2$ to fit DIN 912 | $w_1$   |
|-------------|---------------|----------------------|----------------------|-------|----------------------|---------|
| 35480.W0001 | Fine          | 12                   | 10                   | 5.6   | M 4                  | 3,2x90° |
| 35480.W0002 | Fine          | 12                   | 12                   | 5.6   | M 4                  | 3,2x90° |
| 35480.W0003 | Fine          | 16                   | 10                   | 5.6   | M 4                  | 3,2x90° |
| 35480.W0004 | Fine          | 16                   | 12                   | 5.6   | M 4                  | 3,2x90° |
| 35480.W0005 | Fine          | 20                   | 10                   | 6.6   | M 5                  | 3,2x90° |
| 35480.W0006 | Fine          | 20                   | 12                   | 6.6   | M 5                  | 3,2x90° |
| 35480.W0007 | Fine          | 25                   | 10                   | 7.6   | M 6                  | 3,2x90° |
| 35480.W0008 | Fine          | 25                   | 12                   | 7.6   | M 6                  | 3,2x90° |



## 35490



### Material

M2 tungsten-molybdenum high-speed steel, hardened to HRC 60-62.

### Technical Notes

These hardened steel gripping pads press down onto the surface of the clamped

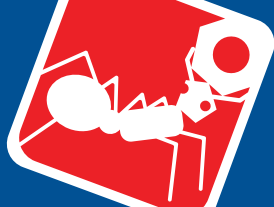
workpiece for safe holding without distortion. They are especially suitable where a high load or clamping force is applied. They can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip.

### Tips

Can be fastened from the front using a socket head cap screw.

Note installation recommendations in technical diagram.

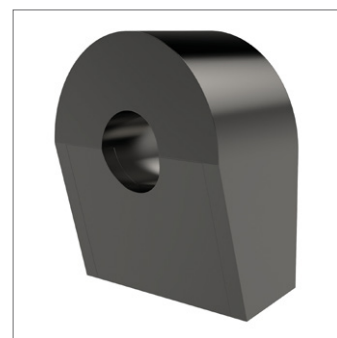
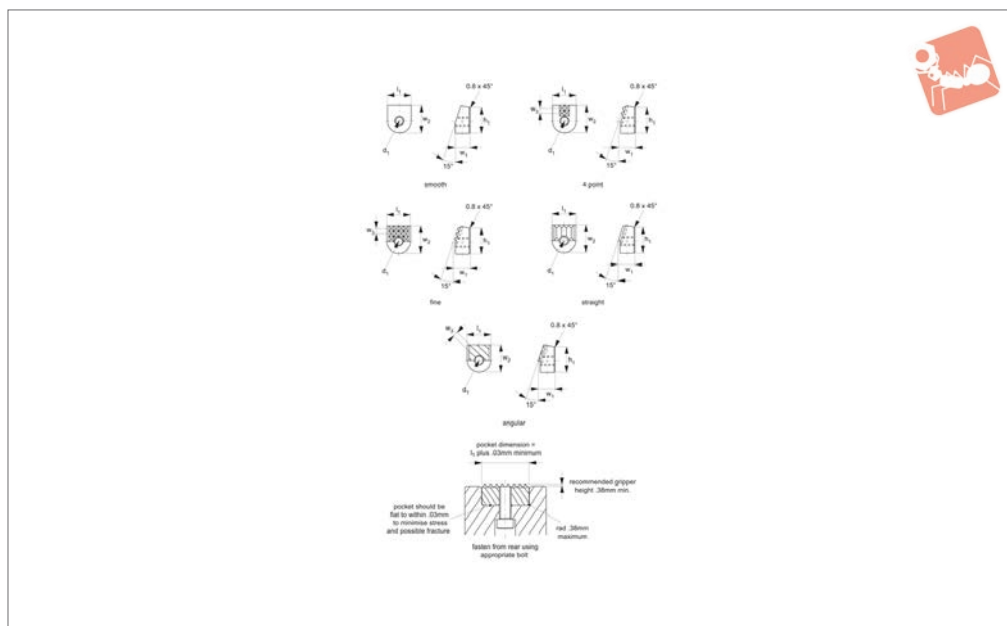
| Order No.   | Tooth pattern | $l_1$<br>+0.00 -0.13 | $d_1$ to fit DIN 912 | $h_1$<br>+0.00 -0.13 | $h_2$ | $w_1$   |
|-------------|---------------|----------------------|----------------------|----------------------|-------|---------|
| 35490.W0001 | Fine          | 12                   | M 4                  | 10                   | 5.6   | 3,2x90° |
| 35490.W0002 | Fine          | 12                   | M 4                  | 12                   | 5.6   | 3,2x90° |
| 35490.W0003 | Fine          | 20                   | M 5                  | 10                   | 6.6   | 3,2x90° |
| 35490.W0004 | Fine          | 20                   | M 5                  | 12                   | 6.6   | 3,2x90° |
| 35490.W0005 | Fine          | 25                   | M 6                  | 10                   | 7.6   | 3,2x90° |
| 35490.W0006 | Fine          | 25                   | M 6                  | 12                   | 7.6   | 3,2x90° |
| 35490.W0161 | Fine          | 16                   | M 4                  | 10                   | 5.6   | 3,2x90° |
| 35490.W0162 | Fine          | 16                   | M 4                  | 12                   | 5.6   | 3,2x90° |



# Grippers - Hard Tool Steel

angled - rear fixing

## Grippers & Rest Pads



35500

GRIPPERS & REST PADS

### Material

High-speed steel (M2), hardened to HRC 60-62.

### Technical Notes

These angle gripper inserts press down onto the surface of the clamped workpiece

for safe holding without distortion. Especially suitable where a high load or clamping force is applied. They can be built into clamps, stops and fixtures as well as chucks, vices and robotic grippers for extra grip.

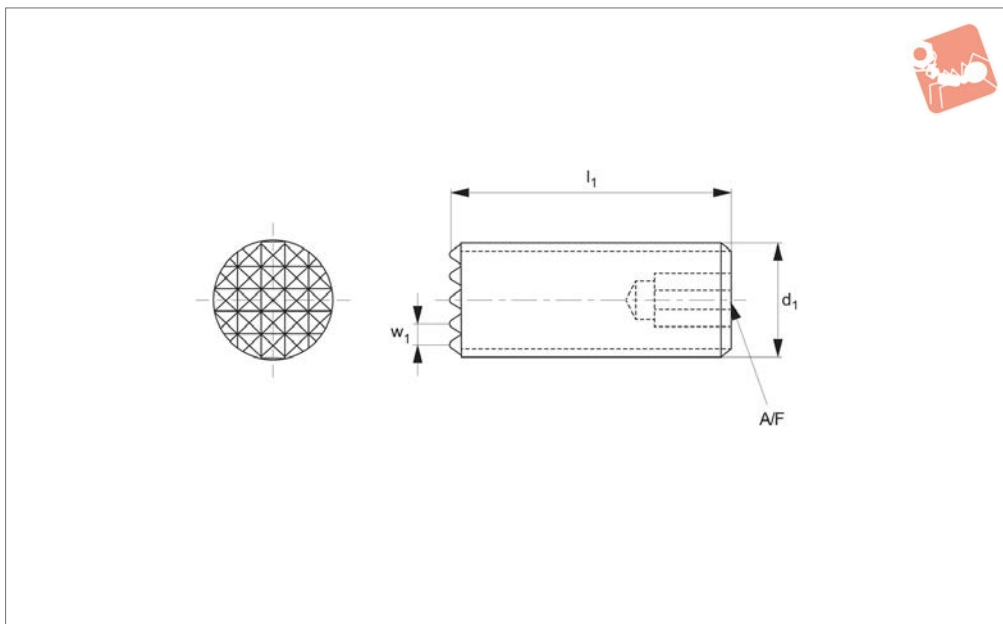
### Tips

Can be fastened from rear using appropriate bolt. Note installation recommendations in technical diagram.

| Order No.   | Tooth pattern | $l_1$<br>+0.000 -0.002 | $d_1$   | $h_1$ | $w_1$<br>+0.000 -0.005 | $w_2$<br>+0.000 -0.005 | $w_3$   |
|-------------|---------------|------------------------|---------|-------|------------------------|------------------------|---------|
| 35500.W0002 | 4 Point       | 14.3                   | M 5x0,8 | 15.2  | 9.5                    | 16.5                   | 3,4x90° |
| 35500.W0009 | 4 Point       | 10.0                   | M 5x0,8 | 15.2  | 9.5                    | 16.5                   | 3,4x90° |
| 35500.W0003 | Fine          | 14.3                   | M 5x0,8 | 15.2  | 9.5                    | 16.5                   | 2,9x90° |
| 35500.W0006 | Straight      | 14.3                   | M 5x0,8 | 15.2  | 9.5                    | 16.5                   | 2,9x90° |
| 35500.W0010 | Straight      | 10.0                   | M 5x0,8 | 15.2  | 9.5                    | 16.5                   | 2,9x90° |
| 35500.W0008 | Smooth        | 10.0                   | M 5x0,8 | 15.2  | 9.5                    | 16.5                   | -       |
| 35500.W0007 | Angular       | 14.3                   | M 5x0,8 | 15.2  | 9.5                    | 16.5                   | 2,9x90° |
| 35500.W0011 | Angular       | 10.0                   | M 5x0,8 | 15.2  | 9.5                    | 16.5                   | 2,9x90° |



## 35510



### Material

Hardened tool steel to HRC 55-58, black oxide finish.

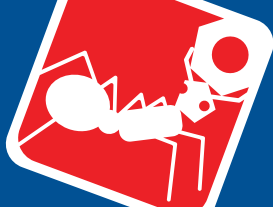
### Technical Notes

These hardened tool steel gripping pads

press down on to the surface of the clamped workpiece for safe holding without distortion. They are especially suitable where high load or clamping force is applied. Can be built into clamps, stops

and fixtures as well as chucks, vices and robotic grippers for extra grip. Use a DIN 439B hex. nut for adjustment and securing.

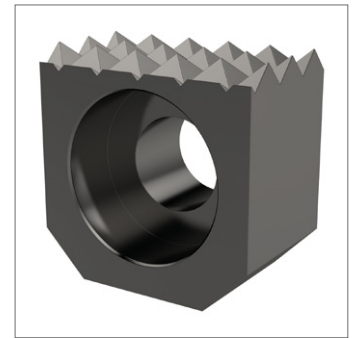
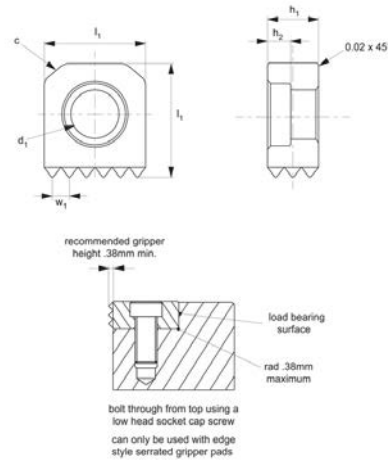
| Order No.   | Tooth pattern | $l_1$ | $d_1$    | $w_1$   | A/F |
|-------------|---------------|-------|----------|---------|-----|
| 35510.W0001 | Extra Fine    | 40    | M10x1,50 | 2,4x90° | 3   |
| 35510.W0002 | Fine          | 25    | M12x1,75 | 3,2x90° | 5   |
| 35510.W0003 | Fine          | 40    | M12x1,75 | 3,2x90° | 5   |
| 35510.W0004 | Fine          | 40    | M16x2,00 | 3,2x90° | 6   |
| 35510.W0005 | Fine          | 40    | M20x2,50 | 3,2x90° | 8   |



# Grippers - Hard Tool Steel

## edge gripper - front fixing

# Grippers & Rest Pads



## 35520

GRIPPERS & REST PADS

### Material

Tool steel, hardened to HRC 60-62.

### Technical Notes

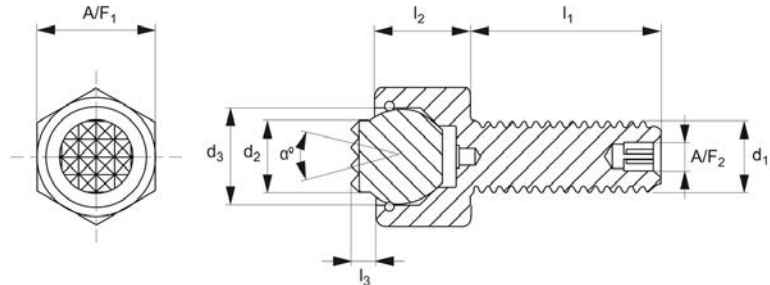
Square edge grippers have serrations on

one side. Counterbored hole for front mounting with a socket head or low head cap screw (SHCS - socket head cap screw, LHCS- low head cap screw).

| Order No.   | Tooth pattern | Serration type | $l_1$<br>+0.00 -0.13 | $d_1$    | $h_1$<br>+0.00 -0.13 | $h_2$ | Chamfer c | $w_1$   |
|-------------|---------------|----------------|----------------------|----------|----------------------|-------|-----------|---------|
| 35520.W0201 | Extra Fine    | Diamond        | 10                   | M 3 SHCS | 6                    | 3.8   | 1,6x45°   | 2,4x90° |
| 35520.W0202 | Extra Fine    | Diamond        | 10                   | M 3 SHCS | 10                   | 3.8   | 1,6x45°   | 2,4x90° |
| 35520.W0203 | Fine          | Diamond        | 12                   | M 4 SHCS | 6                    | 4.1   | 2,3x45°   | 3,2x90° |
| 35520.W0204 | Fine          | Diamond        | 12                   | M 4 SHCS | 10                   | 4.1   | 2,3x45°   | 3,2x90° |
| 35520.W0205 | Fine          | Diamond        | 12                   | M 4 SHCS | 12                   | 4.1   | 2,3x45°   | 3,2x90° |
| 35520.W0206 | Fine          | Diamond        | 16                   | M 6 LHCS | 6                    | 4.2   | 3,2x45°   | 3,2x90° |
| 35520.W0207 | Fine          | Diamond        | 16                   | M 6 LHCS | 10                   | 4.2   | 3,2x45°   | 3,2x90° |
| 35520.W0208 | Fine          | Diamond        | 16                   | M 6 LHCS | 12                   | 5.1   | 3,2x45°   | 3,2x90° |
| 35520.W0209 | Fine          | Diamond        | 20                   | M 8 LHCS | 6                    | 5.1   | 3,2x45°   | 3,2x90° |
| 35520.W0210 | Fine          | Diamond        | 20                   | M 8 LHCS | 10                   | 5.1   | 3,2x45°   | 3,2x90° |
| 35520.W0211 | Fine          | Diamond        | 20                   | M 8 LHCS | 12                   | 5.1   | 3,2x45°   | 3,2x90° |
| 35520.W0212 | Fine          | Diamond        | 25                   | M10 LHCS | 10                   | 6.6   | 3,2x45°   | 3,2x90° |
| 35520.W0213 | Fine          | Diamond        | 25                   | M10 LHCS | 12                   | 6.6   | 3,2x45°   | 3,2x90° |
| 35520.W0301 | Extra Fine    | Straight       | 10                   | M 3 SHCS | 6                    | 3.8   | 1,6x45°   | 2,4x90° |
| 35520.W0302 | Extra Fine    | Straight       | 10                   | M 3 SHCS | 10                   | 3.8   | 1,6x45°   | 2,4x90° |
| 35520.W0303 | Fine          | Straight       | 12                   | M 4 SHCS | 6                    | 4.1   | 2,3x45°   | 3,2x90° |
| 35520.W0304 | Fine          | Straight       | 12                   | M 4 SHCS | 10                   | 4.1   | 2,3x45°   | 3,2x90° |
| 35520.W0305 | Fine          | Straight       | 12                   | M 4 SHCS | 12                   | 4.1   | 2,3x45°   | 3,2x90° |
| 35520.W0306 | Fine          | Straight       | 16                   | M 6 LHCS | 6                    | 4.2   | 3,2x45°   | 3,2x90° |
| 35520.W0307 | Fine          | Straight       | 16                   | M 6 LHCS | 10                   | 4.2   | 3,2x45°   | 3,2x90° |
| 35520.W0308 | Fine          | Straight       | 16                   | M 6 LHCS | 12                   | 4.2   | 3,2x45°   | 3,2x90° |
| 35520.W0309 | Fine          | Straight       | 20                   | M 8 LHCS | 6                    | 5.1   | 3,2x45°   | 3,2x90° |
| 35520.W0310 | Fine          | Straight       | 20                   | M 8 LHCS | 10                   | 5.1   | 3,2x45°   | 3,2x90° |
| 35520.W0311 | Fine          | Straight       | 20                   | M 8 LHCS | 12                   | 5.1   | 3,2x45°   | 3,2x90° |
| 35520.W0312 | Fine          | Straight       | 25                   | M10 LHCS | 10                   | 6.6   | 3,2x45°   | 3,2x90° |
| 35520.W0313 | Fine          | Straight       | 25                   | M10 LHCS | 12                   | 6.6   | 3,2x45°   | 3,2x90° |



**35530.1**



## Material

Body: steel, hardened to HRc 43/46, black oxide finish.

Ball: M2 high speed steel, hardened to HRc 60/62.

Viton o-ring holds ball in place and prevents ingress of other material.

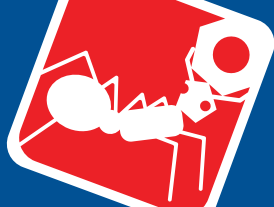
## Technical Notes

These adjustable self-aligning pads serve

as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.

Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

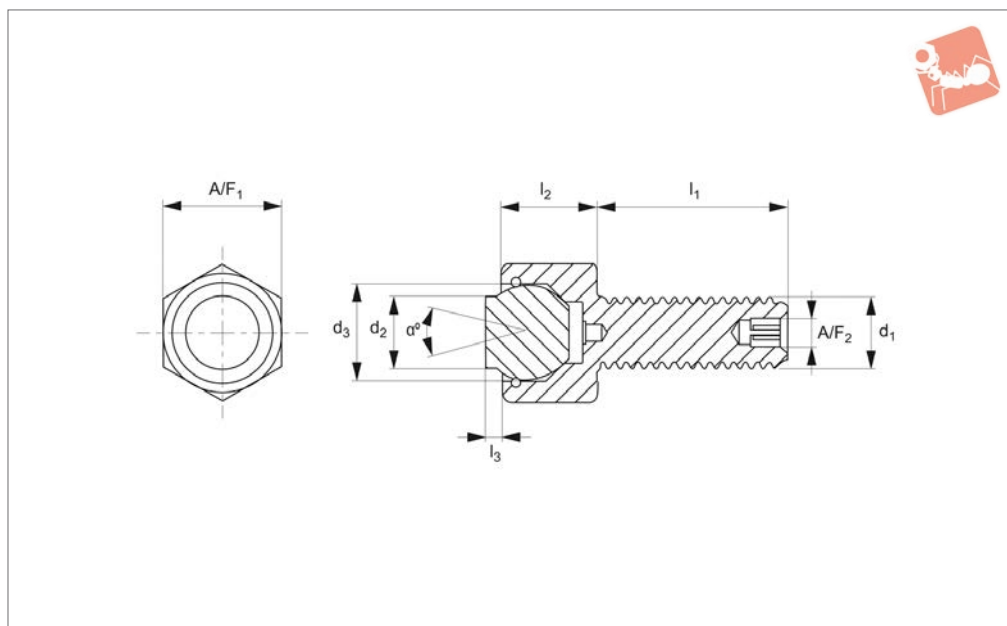
| Order No.   | Tooth pattern | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | l <sub>1</sub> | l <sub>2</sub><br>±0.05 | l <sub>3</sub> | Swivel angle a° | Load rating<br>kg | A/F <sub>1</sub> | A/F <sub>2</sub> |
|-------------|---------------|----------------|----------------|----------------|----------------|-------------------------|----------------|-----------------|-------------------|------------------|------------------|
| 35530.W0001 | Super Fine    | M6X1,0         | 6.0            | 7              | 12             | 8.0                     | 1.5            | 28              | 935               | 10               | -                |
| 35530.W0002 | Super Fine    | M6X1,0         | 6.0            | 7              | 12             | 8.0                     | 3.0            | 28              | 935               | 10               | -                |
| 35530.W0003 | Super Fine    | M6X1,0         | 6.0            | 7              | 25             | 8.0                     | 1.5            | 28              | 935               | 10               | -                |
| 35530.W0004 | Super Fine    | M6X1,0         | 6.0            | 7              | 25             | 8.0                     | 3.0            | 28              | 935               | 10               | -                |
| 35530.W0005 | Super Fine    | M6X1,0         | 6.0            | 7              | 40             | 8.0                     | 1.5            | 28              | 935               | 10               | -                |
| 35530.W0006 | Super Fine    | M6X1,0         | 6.0            | 7              | 40             | 8.0                     | 3.0            | 28              | 935               | 10               | -                |
| 35530.W0007 | Extra Fine    | M8X1,25        | 8.5            | 10             | 12             | 11.5                    | 1.5            | 24              | 1565              | 13               | -                |
| 35530.W0008 | Extra Fine    | M8X1,25        | 8.5            | 10             | 12             | 11.5                    | 3.0            | 24              | 1565              | 13               | -                |
| 35530.W0009 | Extra Fine    | M8X1,25        | 8.5            | 10             | 25             | 11.5                    | 1.5            | 24              | 1565              | 13               | -                |
| 35530.W0010 | Extra Fine    | M8X1,25        | 8.5            | 10             | 25             | 11.5                    | 3.0            | 24              | 1565              | 13               | -                |
| 35530.W0011 | Extra Fine    | M8X1,25        | 8.5            | 10             | 40             | 11.5                    | 1.5            | 24              | 1565              | 13               | -                |
| 35530.W0012 | Extra Fine    | M8X1,25        | 8.5            | 10             | 40             | 11.5                    | 3.0            | 24              | 1565              | 13               | -                |
| 35530.W0013 | Extra Fine    | M10X1,5        | 10.0           | 13             | 15             | 13.0                    | 4.0            | 42              | 1902              | 17               | 3                |
| 35530.W0014 | Extra Fine    | M10X1,5        | 10.0           | 13             | 15             | 13.0                    | 6.0            | 42              | 1902              | 17               | 3                |
| 35530.W0015 | Extra Fine    | M10X1,5        | 10.0           | 13             | 30             | 13.0                    | 4.0            | 42              | 1902              | 17               | 3                |
| 35530.W0016 | Extra Fine    | M10X1,5        | 10.0           | 13             | 30             | 13.0                    | 6.0            | 42              | 1902              | 17               | 3                |
| 35530.W0017 | Extra Fine    | M10X1,5        | 10.0           | 13             | 50             | 13.0                    | 4.0            | 42              | 1902              | 17               | 3                |
| 35530.W0018 | Extra Fine    | M10X1,5        | 10.0           | 13             | 50             | 13.0                    | 6.0            | 42              | 1902              | 17               | 3                |
| 35530.W0019 | Fine          | M12X1,75       | 12.0           | 15             | 20             | 15.0                    | 4.0            | 45              | 3006              | 19               | 5                |
| 35530.W0020 | Fine          | M12X1,75       | 12.0           | 15             | 20             | 15.0                    | 6.0            | 45              | 3006              | 19               | 5                |
| 35530.W0021 | Fine          | M12X1,75       | 12.0           | 15             | 40             | 15.0                    | 4.0            | 45              | 3006              | 19               | 5                |
| 35530.W0022 | Fine          | M12X1,75       | 12.0           | 15             | 40             | 15.0                    | 6.0            | 45              | 3006              | 19               | 5                |
| 35530.W0023 | Fine          | M12X1,75       | 12.0           | 15             | 60             | 15.0                    | 4.0            | 45              | 3006              | 19               | 5                |
| 35530.W0024 | Fine          | M12X1,75       | 12.0           | 15             | 60             | 15.0                    | 6.0            | 45              | 3006              | 19               | 5                |
| 35530.W0025 | Fine          | M16X2,0        | 16.0           | 20             | 25             | 19.0                    | 4.0            | 40              | 5073              | 24               | 6                |
| 35530.W0027 | Fine          | M16X2,0        | 16.0           | 20             | 50             | 19.0                    | 4.0            | 40              | 5073              | 24               | 6                |
| 35530.W0028 | Fine          | M16X2,0        | 16.0           | 20             | 50             | 19.0                    | 6.0            | 40              | 5073              | 24               | 6                |
| 35530.W0029 | Fine          | M16X2,0        | 16.0           | 20             | 80             | 19.0                    | 4.0            | 40              | 5073              | 24               | 6                |
| 35530.W0030 | Fine          | M16X2,0        | 16.0           | 20             | 80             | 19.0                    | 6.0            | 40              | 5073              | 24               | 6                |



# Grippers - Self Aligning - HTS

flat - threaded bolt

## Grippers & Rest Pads



**35530.2**

GRIPPERS & REST PADS

### Material

Body: steel, hardened to HRC 43/46, black oxide finish.

Ball: M2 high speed steel, hardened to HRC 60/62.

Viton o-ring holds ball in place and prevents ingress of other material.

### Technical Notes

These adjustable self-aligning pads serve

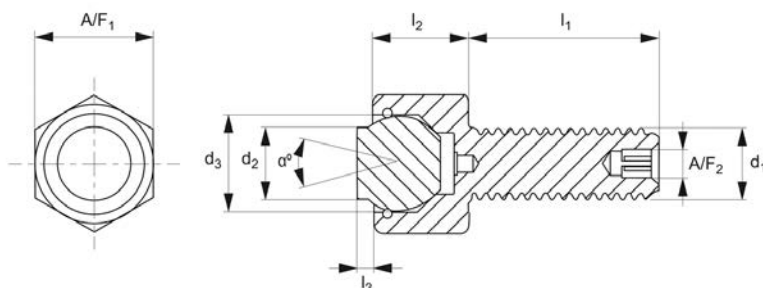
as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.

Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

| Order No.   | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | l <sub>1</sub> | l <sub>2</sub><br>±0.05 | l <sub>3</sub> | Swivel angle a<br>° | Load rating<br>kg | A/F <sub>1</sub> | A/F <sub>2</sub> |
|-------------|----------------|----------------|----------------|----------------|-------------------------|----------------|---------------------|-------------------|------------------|------------------|
| 35530.W0101 | M6X1,0         | 6.0            | 7              | 12             | 8.0                     | 1.5            | 28                  | 935               | 10               | -                |
| 35530.W0102 | M6X1,0         | 6.0            | 7              | 12             | 8.0                     | 3.0            | 28                  | 935               | 10               | -                |
| 35530.W0103 | M6X1,0         | 6.0            | 7              | 25             | 8.0                     | 1.5            | 28                  | 935               | 10               | -                |
| 35530.W0104 | M6X1,0         | 6.0            | 7              | 25             | 8.0                     | 3.0            | 28                  | 935               | 10               | -                |
| 35530.W0105 | M6X1,0         | 6.0            | 7              | 40             | 8.0                     | 1.5            | 28                  | 935               | 10               | -                |
| 35530.W0106 | M6X1,0         | 6.0            | 7              | 40             | 8.0                     | 3.0            | 28                  | 935               | 10               | -                |
| 35530.W0107 | M8X1,25        | 8.5            | 10             | 12             | 11.5                    | 1.5            | 24                  | 1565              | 13               | -                |
| 35530.W0108 | M8X1,25        | 8.5            | 10             | 12             | 11.5                    | 3.0            | 24                  | 1565              | 13               | -                |
| 35530.W0109 | M8X1,25        | 8.5            | 10             | 25             | 11.5                    | 1.5            | 24                  | 1565              | 13               | -                |
| 35530.W0110 | M8X1,25        | 8.5            | 10             | 25             | 11.5                    | 3.0            | 24                  | 1565              | 13               | -                |
| 35530.W0111 | M8X1,25        | 8.5            | 10             | 40             | 11.5                    | 1.5            | 24                  | 1565              | 13               | -                |
| 35530.W0112 | M8X1,25        | 8.5            | 10             | 40             | 11.5                    | 3.0            | 24                  | 1565              | 13               | -                |
| 35530.W0113 | M10X1,5        | 10.0           | 13             | 15             | 13.0                    | 4.0            | 42                  | 1902              | 17               | 3                |
| 35530.W0114 | M10X1,5        | 10.0           | 13             | 15             | 13.0                    | 6.0            | 42                  | 1902              | 17               | 3                |
| 35530.W0115 | M10X1,5        | 10.0           | 13             | 30             | 13.0                    | 4.0            | 42                  | 1902              | 17               | 3                |
| 35530.W0116 | M10X1,5        | 10.0           | 13             | 30             | 13.0                    | 6.0            | 42                  | 1902              | 17               | 3                |
| 35530.W0117 | M10X1,5        | 10.0           | 13             | 50             | 13.0                    | 4.0            | 42                  | 1902              | 17               | 3                |
| 35530.W0118 | M10X1,5        | 10.0           | 13             | 50             | 13.0                    | 6.0            | 42                  | 1902              | 17               | 3                |
| 35530.W0119 | M12X1,75       | 12.0           | 15             | 20             | 15.0                    | 4.0            | 45                  | 3006              | 19               | 5                |
| 35530.W0120 | M12X1,75       | 12.0           | 15             | 20             | 15.0                    | 6.0            | 45                  | 3006              | 19               | 5                |
| 35530.W0121 | M12X1,75       | 12.0           | 15             | 40             | 15.0                    | 4.0            | 45                  | 3006              | 19               | 5                |
| 35530.W0122 | M12X1,75       | 12.0           | 15             | 40             | 15.0                    | 6.0            | 45                  | 3006              | 19               | 5                |
| 35530.W0123 | M12X1,75       | 12.0           | 15             | 60             | 15.0                    | 4.0            | 45                  | 3006              | 19               | 5                |
| 35530.W0124 | M12X1,75       | 12.0           | 15             | 60             | 15.0                    | 6.0            | 45                  | 3006              | 19               | 5                |
| 35530.W0125 | M16X2,0        | 16.0           | 20             | 25             | 19.0                    | 4.0            | 40                  | 5073              | 24               | 6                |
| 35530.W0127 | M16X2,0        | 16.0           | 20             | 50             | 19.0                    | 4.0            | 40                  | 5073              | 24               | 6                |
| 35530.W0129 | M16X2,0        | 16.0           | 20             | 80             | 19.0                    | 4.0            | 40                  | 5073              | 24               | 6                |



### 35530.3



#### Material

Body: steel, hardened to HRc 43/46, black oxide finish.

Ball: thermoplastic, white.

Viton o-ring holds ball in place and

prevents ingress of other material.

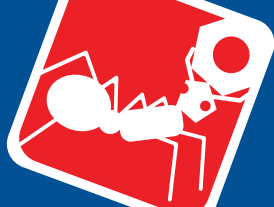
#### Technical Notes

These adjustable self-aligning pads serve as stops, supports and thrust elements in

jigs and fixtures. They can also be fitted to existing workholding elements.

Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

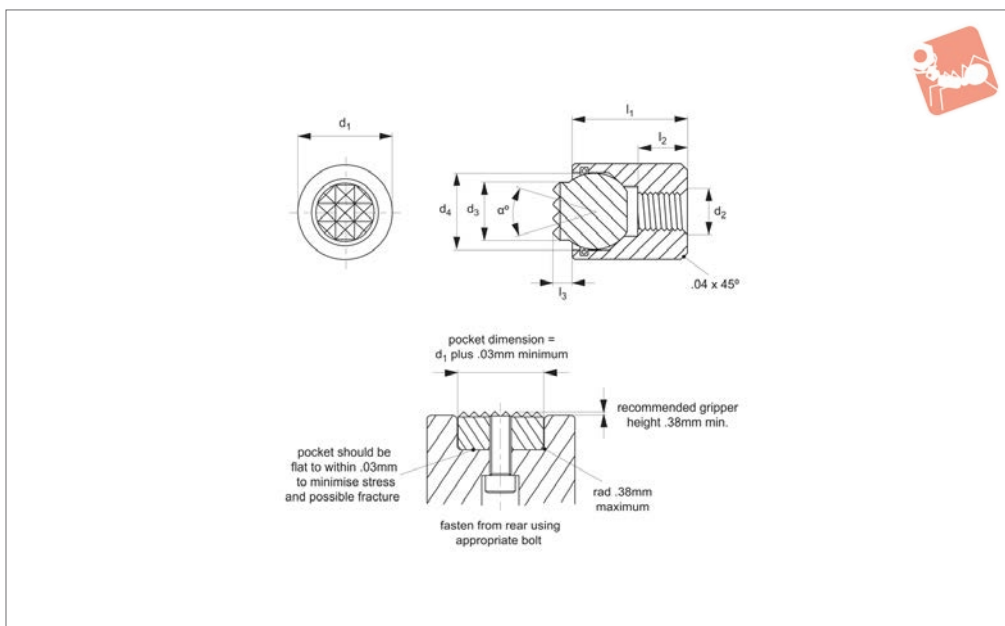
| Order No.   | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | l <sub>1</sub> | l <sub>2</sub><br>±0.05 | l <sub>3</sub> | Swivel angle a | A/F <sub>1</sub> | A/F <sub>2</sub> |
|-------------|----------------|----------------|----------------|----------------|-------------------------|----------------|----------------|------------------|------------------|
| 35530.W0201 | M 6X1,0        | 6.0            | 7              | 12             | 8.0                     | 1.5            | 28             | 10               | -                |
| 35530.W0202 | M 6X1,0        | 6.0            | 7              | 12             | 8.0                     | 3.0            | 28             | 10               | -                |
| 35530.W0203 | M 6X1,0        | 6.0            | 7              | 25             | 8.0                     | 1.5            | 28             | 10               | -                |
| 35530.W0204 | M 6X1,0        | 6.0            | 7              | 25             | 8.0                     | 3.0            | 28             | 10               | -                |
| 35530.W0205 | M 6X1,0        | 6.0            | 7              | 40             | 8.0                     | 1.5            | 28             | 10               | -                |
| 35530.W0206 | M 6X1,0        | 6.0            | 7              | 40             | 8.0                     | 3.0            | 28             | 10               | -                |
| 35530.W0207 | M 8X1,25       | 8.5            | 10             | 12             | 11.5                    | 1.5            | 24             | 13               | -                |
| 35530.W0208 | M 8X1,25       | 8.5            | 10             | 12             | 11.5                    | 3.0            | 24             | 13               | -                |
| 35530.W0209 | M 8X1,25       | 8.5            | 10             | 25             | 11.5                    | 1.5            | 24             | 13               | -                |
| 35530.W0210 | M 8X1,25       | 8.5            | 10             | 25             | 11.5                    | 3.0            | 24             | 13               | -                |
| 35530.W0211 | M 8X1,25       | 8.5            | 10             | 40             | 11.5                    | 1.5            | 24             | 13               | -                |
| 35530.W0212 | M 8X1,25       | 8.5            | 10             | 40             | 11.5                    | 3.0            | 24             | 13               | -                |
| 35530.W0213 | M10X1,5        | 10.0           | 13             | 15             | 13.0                    | 4.0            | 42             | 17               | 3                |
| 35530.W0214 | M10X1,5        | 10.0           | 13             | 15             | 13.0                    | 6.0            | 42             | 17               | 3                |
| 35530.W0215 | M10X1,5        | 10.0           | 13             | 30             | 13.0                    | 4.0            | 42             | 17               | 3                |
| 35530.W0216 | M10X1,5        | 10.0           | 13             | 30             | 13.0                    | 6.0            | 42             | 17               | 3                |
| 35530.W0217 | M10X1,5        | 10.0           | 13             | 50             | 13.0                    | 4.0            | 42             | 17               | 3                |
| 35530.W0218 | M10X1,5        | 10.0           | 13             | 50             | 13.0                    | 6.0            | 42             | 17               | 3                |
| 35530.W0219 | M12X1,75       | 12.0           | 15             | 20             | 15.0                    | 4.0            | 45             | 19               | 5                |
| 35530.W0220 | M12X1,75       | 12.0           | 15             | 20             | 15.0                    | 6.0            | 45             | 19               | 5                |
| 35530.W0221 | M12X1,75       | 12.0           | 15             | 40             | 15.0                    | 4.0            | 45             | 19               | 5                |
| 35530.W0222 | M12X1,75       | 12.0           | 15             | 40             | 15.0                    | 6.0            | 45             | 19               | 5                |
| 35530.W0223 | M12X1,75       | 12.0           | 15             | 60             | 15.0                    | 4.0            | 45             | 19               | 5                |
| 35530.W0224 | M12X1,75       | 12.0           | 15             | 60             | 15.0                    | 6.0            | 45             | 19               | 5                |
| 35530.W0225 | M16X2,0        | 16.0           | 20             | 25             | 19.0                    | 4.0            | 40             | 24               | 6                |
| 35530.W0227 | M16X2,0        | 16.0           | 20             | 50             | 19.0                    | 4.0            | 40             | 24               | 6                |
| 35530.W0229 | M16X2,0        | 16.0           | 20             | 80             | 19.0                    | 4.0            | 40             | 24               | 6                |



# Grippers - Self Aligning - HTS

serrated - female threaded housing

## Grippers & Rest Pads



35540.1

GRIPPERS & REST PADS

### Material

Body: steel, hardened to HRC 43/46, black oxide finish.

Ball: M2 high speed steel, hardened to HRC 60/62.

Viton o-ring holds ball in place and prevents ingress of other material.

### Technical Notes

These adjustable self-aligning pads serve

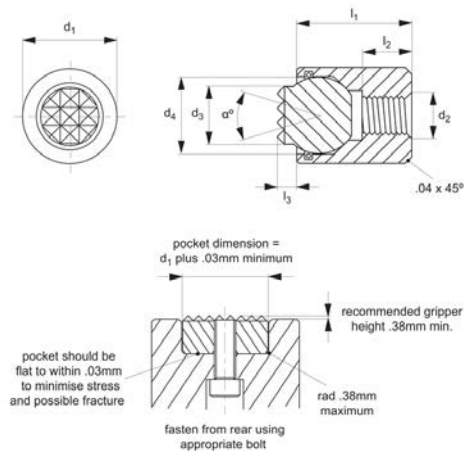
as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.

Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

| Order No.   | Tooth pattern | Type     | $d_1$<br>+0.00 -0.13 | $d_2$    | $d_3$ | $d_4$ | $l_1$<br>±0.05 | $l_2$<br>±0.25 | $l_3$ | Swivel angle $\alpha$ | Load rating<br>kg |
|-------------|---------------|----------|----------------------|----------|-------|-------|----------------|----------------|-------|-----------------------|-------------------|
| 35540.W0001 | Super Fine    | Serrated | 10                   | M 4x0,7  | 6.0   | 7     | 10.5           | 3.5            | 1.5   | 28                    | 1173              |
| 35540.W0002 | Super Fine    | Serrated | 10                   | M 4x0,7  | 6.0   | 7     | 10.5           | 3.5            | 3.0   | 28                    | 1173              |
| 35540.W0003 | Super Fine    | Serrated | 10                   | M 4x0,7  | 6.0   | 7     | 23.5           | 9.0            | 1.5   | 28                    | 1173              |
| 35540.W0004 | Super Fine    | Serrated | 10                   | M 4x0,7  | 6.0   | 7     | 23.5           | 9.0            | 3.0   | 28                    | 1173              |
| 35540.W0005 | Extra Fine    | Serrated | 13                   | M 5x0,8  | 8.5   | 10    | 14.5           | 6.5            | 1.5   | 24                    | 2019              |
| 35540.W0006 | Extra Fine    | Serrated | 13                   | M 5x0,8  | 8.5   | 10    | 14.5           | 6.5            | 3.0   | 24                    | 2019              |
| 35540.W0007 | Extra Fine    | Serrated | 13                   | M 5x0,8  | 8.5   | 10    | 23.5           | 9.0            | 1.5   | 24                    | 2019              |
| 35540.W0008 | Extra Fine    | Serrated | 13                   | M 5x0,8  | 8.5   | 10    | 23.5           | 9.0            | 3.0   | 24                    | 2019              |
| 35540.W0009 | Extra Fine    | Serrated | 17                   | M 6x1,0  | 10.0  | 13    | 18.0           | 7.5            | 4.0   | 42                    | 2799              |
| 35540.W0010 | Extra Fine    | Serrated | 17                   | M 6x1,0  | 10.0  | 13    | 18.0           | 7.5            | 6.0   | 42                    | 2799              |
| 35540.W0011 | Fine          | Serrated | 19                   | M 8x1,25 | 12.0  | 15    | 20.0           | 8.5            | 4.0   | 45                    | 3941              |
| 35540.W0012 | Fine          | Serrated | 19                   | M 8x1,25 | 12.0  | 15    | 20.0           | 8.5            | 6.0   | 45                    | 3941              |
| 35540.W0013 | Fine          | Serrated | 24                   | M10x1,5  | 16.0  | 20    | 24.0           | 9.0            | 4.0   | 40                    | 5950              |
| 35540.W0014 | Fine          | Serrated | 24                   | M10x1,5  | 16.0  | 20    | 24.0           | 9.0            | 6.0   | 40                    | 5950              |



### 35540.2



#### Material

Body: steel, hardened to HRc 43/46, black oxide finish.

Ball: M2 high speed steel, hardened to HRc 60/62.

Viton o-ring holds ball in place and prevents ingress of other material.

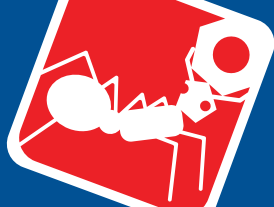
#### Technical Notes

These adjustable self-aligning pads serve

as stops, supports and thrust elements in jigs and fixtures. They can also be fitted to existing workholding elements.

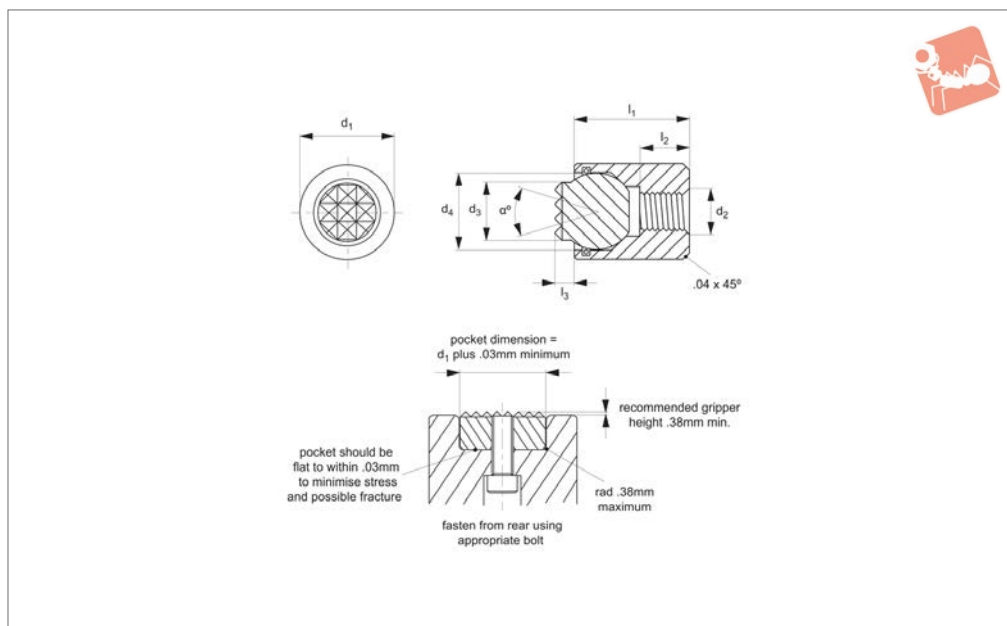
Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

| Order No.   | Type        | $d_1$ | $d_2$      | $d_3$ | $d_4$ | $l_1$<br>$\pm 0.05$ | $l_2$<br>$\pm 0.25$ | $l_3$ | Swivel angle $\alpha$ | Load rating<br>kg |
|-------------|-------------|-------|------------|-------|-------|---------------------|---------------------|-------|-----------------------|-------------------|
| 35540.W0101 | Flat, Steel | 10    | M 4 x 0,7  | 6.0   | 7     | 10.5                | 3.5                 | 1.5   | 28                    | 1173              |
| 35540.W0102 | Flat, Steel | 10    | M 4 x 0,7  | 6.0   | 7     | 10.5                | 3.5                 | 3.0   | 28                    | 1173              |
| 35540.W0103 | Flat, Steel | 10    | M 4 x 0,7  | 6.0   | 7     | 23.5                | 9.0                 | 1.5   | 28                    | 1173              |
| 35540.W0104 | Flat, Steel | 10    | M 4 x 0,7  | 6.0   | 7     | 23.5                | 9.0                 | 3.0   | 28                    | 1173              |
| 35540.W0105 | Flat, Steel | 13    | M 5 x 0,8  | 8.5   | 10    | 14.5                | 6.5                 | 1.5   | 24                    | 2019              |
| 35540.W0106 | Flat, Steel | 13    | M 5 x 0,8  | 8.5   | 10    | 14.5                | 6.5                 | 3.0   | 24                    | 2019              |
| 35540.W0107 | Flat, Steel | 13    | M 5 x 0,8  | 8.5   | 10    | 23.5                | 9.0                 | 1.5   | 24                    | 2019              |
| 35540.W0108 | Flat, Steel | 13    | M 5 x 0,8  | 8.5   | 10    | 23.5                | 9.0                 | 3.0   | 24                    | 2019              |
| 35540.W0109 | Flat, Steel | 17    | M 6 x 1,0  | 10.0  | 13    | 18.0                | 7.5                 | 4.0   | 42                    | 2799              |
| 35540.W0110 | Flat, Steel | 17    | M 6 x 1,0  | 10.0  | 13    | 18.0                | 7.5                 | 6.0   | 42                    | 2799              |
| 35540.W0111 | Flat, Steel | 19    | M 8 x 1,25 | 12.0  | 15    | 20.0                | 8.5                 | 4.0   | 45                    | 3941              |
| 35540.W0112 | Flat, Steel | 19    | M 8 x 1,25 | 12.0  | 15    | 20.0                | 8.5                 | 6.0   | 45                    | 3941              |
| 35540.W0113 | Flat, Steel | 24    | M10 x 1,5  | 16.0  | 20    | 24.0                | 9.0                 | 4.0   | 40                    | 5950              |
| 35540.W0114 | Flat, Steel | 24    | M10 x 1,5  | 16.0  | 20    | 24.0                | 9.0                 | 6.0   | 40                    | 5950              |



# Grippers - Self Aligning - Plastic flat - female threaded housing

## Grippers & Rest Pads



35540.3

GRIPPERS & REST PADS

### Material

Body: steel, hardened to HRC 43/46, black oxide finish.

Ball: thermoplastic, white.

Viton o-ring holds ball in place and

prevents ingress of other material.

### Technical Notes

These adjustable self-aligning pads serve as stops, supports and thrust elements in

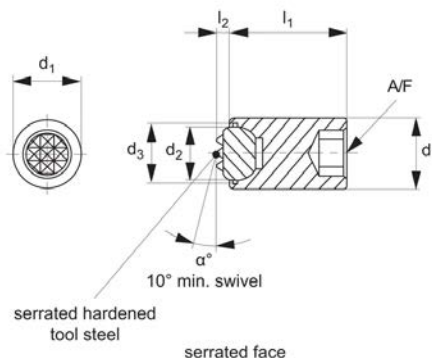
jigs and fixtures. They can also be fitted to existing workholding elements.

Use low-profile hexagon nut (DIN 439B) for adjustment and securing if required.

| Order No.   | Type          | $d_1$ | $d_2$      | $d_3$ | $d_4$ | $l_1$<br>$\pm 0.05$ | $l_2$<br>$\pm 0.25$ | $l_3$ | Swivel angle $\alpha$ |
|-------------|---------------|-------|------------|-------|-------|---------------------|---------------------|-------|-----------------------|
| 35540.W0201 | Flat, Plastic | 10    | M 4 x 0,7  | 6.0   | 7.0   | 10.5                | 3.5                 | 1.5   | 28                    |
| 35540.W0202 | Flat, Plastic | 10    | M 4 x 0,7  | 6.0   | 7.0   | 10.5                | 3.5                 | 3.0   | 28                    |
| 35540.W0203 | Flat, Plastic | 10    | M 4 x 0,7  | 6.0   | 7.0   | 23.5                | 9.0                 | 1.5   | 28                    |
| 35540.W0204 | Flat, Plastic | 10    | M 4 x 0,7  | 6.0   | 7.0   | 23.5                | 9.0                 | 3.0   | 28                    |
| 35540.W0205 | Flat, Plastic | 13    | M 5 x 0,8  | 8.5   | 10.0  | 14.5                | 6.5                 | 1.5   | 24                    |
| 35540.W0206 | Flat, Plastic | 13    | M 5 x 0,8  | 8.5   | 10.0  | 14.5                | 6.5                 | 3.0   | 24                    |
| 35540.W0207 | Flat, Plastic | 13    | M 5 x 0,8  | 8.5   | 10.0  | 23.5                | 9.0                 | 1.5   | 24                    |
| 35540.W0208 | Flat, Plastic | 13    | M 5 x 0,8  | 8.5   | 10.0  | 23.5                | 9.0                 | 3.0   | 24                    |
| 35540.W0209 | Flat, Plastic | 17    | M 6 x 1,0  | 10.0  | 13.0  | 18.0                | 7.5                 | 4.0   | 42                    |
| 35540.W0210 | Flat, Plastic | 17    | M 6 x 1,0  | 10.0  | 13.0  | 18.0                | 7.5                 | 6.0   | 42                    |
| 35540.W0211 | Flat, Plastic | 19    | M 8 x 1,25 | 12.0  | 15.0  | 20.0                | 8.5                 | 4.0   | 45                    |
| 35540.W0212 | Flat, Plastic | 19    | M 8 x 1,25 | 12.0  | 15.0  | 20.0                | 8.5                 | 6.0   | 45                    |
| 35540.W0213 | Flat, Plastic | 24    | M10 x 1,5  | 16.0  | 20.0  | 24.0                | 9.0                 | 4.0   | 40                    |
| 35540.W0214 | Flat, Plastic | 24    | M10 x 1,5  | 16.0  | 20.0  | 24.0                | 9.0                 | 6.0   | 40                    |



## 35550.1



### Material

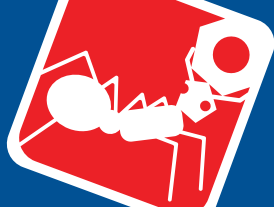
Body: steel set screw with hardened tool steel or thermoplastic inserts.

### Technical Notes

These adjustable ball end gripping screws also serve as stops, supports elements.

They can be inserted into jigs, fixtures and other workholding elements.

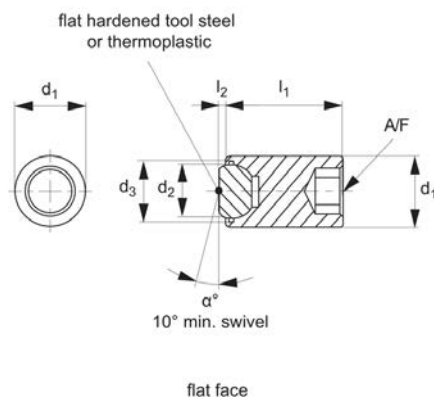
| Order No.   | Tooth pattern | $d_1$<br>+0.00 -0.13 | $d_2$    | $d_3$ | $l_1$ | $l_2$ | Swivel angle $\alpha$ | Load rating<br>kg | A/F |
|-------------|---------------|----------------------|----------|-------|-------|-------|-----------------------|-------------------|-----|
| 35550.W0001 | Super Fine    | 4                    | M10x1,5  | 5     | 25    | 1.5   | 30                    | -                 | 5   |
| 35550.W0002 | Super Fine    | 4                    | M10x1,5  | 5     | 35    | 1.5   | 30                    | -                 | 5   |
| 35550.W0003 | Super Fine    | 4                    | M10x1,5  | 5     | 50    | 1.5   | 30                    | -                 | 5   |
| 35550.W0004 | Super Fine    | 6                    | M12x1,75 | 7     | 25    | 1.5   | 28                    | 1560              | 6   |
| 35550.W0005 | Super Fine    | 6                    | M12x1,75 | 7     | 25    | 3.0   | 28                    | 1560              | 6   |
| 35550.W0006 | Super Fine    | 6                    | M12x1,75 | 7     | 35    | 1.5   | 28                    | 1560              | 6   |
| 35550.W0007 | Super Fine    | 6                    | M12x1,75 | 7     | 35    | 3.0   | 28                    | 1560              | 6   |
| 35550.W0008 | Super Fine    | 6                    | M12x1,75 | 7     | 50    | 1.5   | 28                    | 1560              | 6   |
| 35550.W0009 | Super Fine    | 6                    | M12x1,75 | 7     | 50    | 3.0   | 28                    | 1560              | 6   |
| 35550.W0010 | Extra Fine    | 8.5                  | M16x2,0  | 10    | 25    | 1.5   | 24                    | 2354              | 8   |
| 35550.W0011 | Extra Fine    | 8.5                  | M16x2,0  | 10    | 25    | 3.0   | 24                    | 2354              | 8   |
| 35550.W0012 | Extra Fine    | 8.5                  | M16x2,0  | 10    | 35    | 1.5   | 24                    | 2354              | 8   |
| 35550.W0013 | Extra Fine    | 8.5                  | M16x2,0  | 10    | 35    | 3.0   | 24                    | 2354              | 8   |
| 35550.W0014 | Extra Fine    | 8.5                  | M16x2,0  | 10    | 50    | 1.5   | 24                    | 2354              | 8   |
| 35550.W0015 | Extra Fine    | 8.5                  | M16x2,0  | 10    | 50    | 3.0   | 24                    | 2354              | 8   |
| 35550.W0016 | Extra Fine    | 10                   | M20x2,5  | 13    | 30    | 4.0   | 42                    | 3800              | 10  |
| 35550.W0017 | Extra Fine    | 10                   | M20x2,5  | 13    | 30    | 6.0   | 42                    | 3800              | 10  |
| 35550.W0018 | Extra Fine    | 10                   | M20x2,5  | 13    | 50    | 4.0   | 42                    | 3800              | 10  |
| 35550.W0019 | Extra Fine    | 10                   | M20x2,5  | 13    | 50    | 6.0   | 42                    | 3800              | 10  |
| 35550.W0020 | Extra Fine    | 10                   | M20x2,5  | 13    | 70    | 4.0   | 42                    | 3800              | 10  |
| 35550.W0021 | Extra Fine    | 10                   | M20x2,5  | 13    | 70    | 6.0   | 42                    | 3800              | 10  |
| 35550.W0022 | Fine          | 12                   | M24x3,0  | 15    | 40    | 4.0   | 45                    | 5549              | 10  |
| 35550.W0023 | Fine          | 12                   | M24x3,0  | 15    | 40    | 6.0   | 45                    | 5549              | 10  |
| 35550.W0024 | Fine          | 12                   | M24x3,0  | 15    | 80    | 4.0   | 45                    | 5549              | 10  |
| 35550.W0025 | Fine          | 12                   | M24x3,0  | 15    | 80    | 6.0   | 45                    | 5549              | 10  |



# Grippers - Self Aligning - HTS

flat - set screw

## Grippers & Rest Pads



**35550.2**

GRIPPERS & REST PADS

### Material

Body: steel set screw with hardened tool steel or thermoplastic inserts.

### Technical Notes

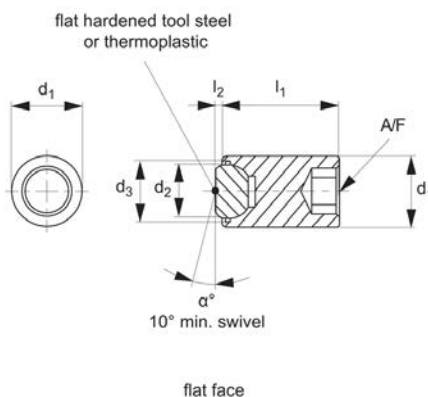
These adjustable ball end gripping screws also serve as stops, supports elements.

They can be inserted into jigs, fixtures and other workholding elements.

| Order No.   | $d_1$<br>+0.00 -0.13 | $d_2$    | $d_3$ | $l_1$ | $l_2$ | Swivel angle $\alpha$ | Load rating<br>kg | A/F |
|-------------|----------------------|----------|-------|-------|-------|-----------------------|-------------------|-----|
| 35550.W0101 | 6.0                  | M12x1,75 | 7     | 25    | 1.5   | 28                    | 1560              | 6   |
| 35550.W0102 | 6.0                  | M12x1,75 | 7     | 25    | 3.0   | 28                    | 1560              | 6   |
| 35550.W0103 | 6.0                  | M12x1,75 | 7     | 35    | 1.5   | 28                    | 1560              | 6   |
| 35550.W0104 | 6.0                  | M12x1,75 | 7     | 35    | 3.0   | 28                    | 1560              | 6   |
| 35550.W0105 | 6.0                  | M12x1,75 | 7     | 50    | 1.5   | 28                    | 1560              | 6   |
| 35550.W0106 | 6.0                  | M12x1,75 | 7     | 50    | 3.0   | 28                    | 1560              | 6   |
| 35550.W0107 | 8.5                  | M16x2,0  | 10    | 25    | 1.5   | 24                    | 2354              | 8   |
| 35550.W0108 | 8.5                  | M16x2,0  | 10    | 25    | 3.0   | 24                    | 2354              | 8   |
| 35550.W0109 | 8.5                  | M16x2,0  | 10    | 35    | 1.5   | 24                    | 2354              | 8   |
| 35550.W0110 | 8.5                  | M16x2,0  | 10    | 35    | 3.0   | 24                    | 2354              | 8   |
| 35550.W0111 | 8.5                  | M16x2,0  | 10    | 50    | 1.5   | 24                    | 2354              | 8   |
| 35550.W0112 | 8.5                  | M16x2,0  | 10    | 50    | 3.0   | 24                    | 2354              | 8   |
| 35550.W0113 | 10.0                 | M20x2,5  | 13    | 30    | 4.0   | 42                    | 3800              | 10  |
| 35550.W0114 | 10.0                 | M20x2,5  | 13    | 30    | 6.0   | 42                    | 3800              | 10  |
| 35550.W0115 | 10.0                 | M20x2,5  | 13    | 50    | 4.0   | 42                    | 3800              | 10  |
| 35550.W0116 | 10.0                 | M20x2,5  | 13    | 50    | 6.0   | 42                    | 3800              | 10  |
| 35550.W0117 | 10.0                 | M20x2,5  | 13    | 70    | 4.0   | 42                    | 3800              | 10  |
| 35550.W0118 | 10.0                 | M20x2,5  | 13    | 70    | 6.0   | 42                    | 3800              | 10  |
| 35550.W0119 | 12.0                 | M24x3,0  | 15    | 40    | 4.0   | 45                    | 5549              | 10  |
| 35550.W0120 | 12.0                 | M24x3,0  | 15    | 40    | 6.0   | 45                    | 5549              | 10  |
| 35550.W0121 | 12.0                 | M24x3,0  | 15    | 80    | 4.0   | 45                    | 5549              | 10  |
| 35550.W0122 | 12.0                 | M24x3,0  | 15    | 80    | 6.0   | 45                    | 5549              | 10  |



### 35550.3



#### Material

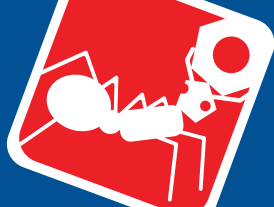
Body: steel set screw with hardened tool steel or thermoplastic inserts.

#### Technical Notes

These adjustable ball end gripping screws also serve as stops, supports elements.

They can be inserted into jigs, fixtures and other workholding elements.

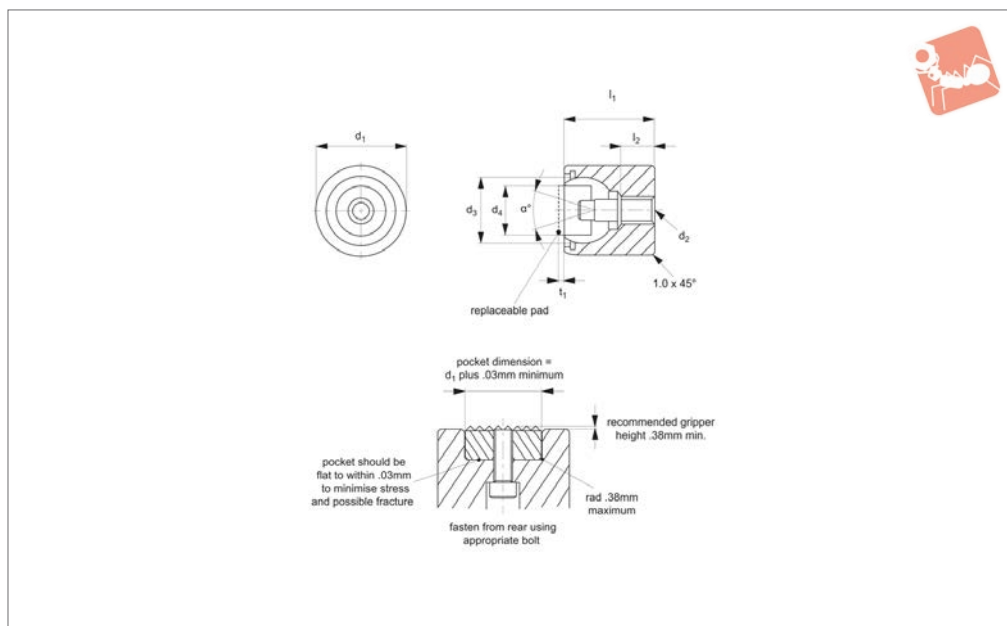
| Order No.   | $d_1$<br>+0.00 -0.13 | $d_2$    | $d_3$ | $l_1$ | $l_2$ | Swivel angle $\alpha$ | Load rating<br>kg | A/F |
|-------------|----------------------|----------|-------|-------|-------|-----------------------|-------------------|-----|
| 35550.W0201 | 6.0                  | M12x1,75 | 7     | 25    | 1.5   | 28                    | 1560              | 6   |
| 35550.W0202 | 6.0                  | M12x1,75 | 7     | 25    | 3.0   | 28                    | 1560              | 6   |
| 35550.W0203 | 6.0                  | M12x1,75 | 7     | 35    | 1.5   | 28                    | 1560              | 6   |
| 35550.W0204 | 6.0                  | M12x1,75 | 7     | 35    | 3.0   | 28                    | 1560              | 6   |
| 35550.W0205 | 6.0                  | M12x1,75 | 7     | 50    | 1.5   | 28                    | 1560              | 6   |
| 35550.W0206 | 6.0                  | M12x1,75 | 7     | 50    | 3.0   | 28                    | 1560              | 6   |
| 35550.W0207 | 8.5                  | M16x2,0  | 10    | 25    | 1.5   | 24                    | 2354              | 8   |
| 35550.W0208 | 8.5                  | M16x2,0  | 10    | 25    | 3.0   | 24                    | 2354              | 8   |
| 35550.W0209 | 8.5                  | M16x2,0  | 10    | 35    | 1.5   | 24                    | 2354              | 8   |
| 35550.W0210 | 8.5                  | M16x2,0  | 10    | 35    | 3.0   | 24                    | 2354              | 8   |
| 35550.W0211 | 8.5                  | M16x2,0  | 10    | 50    | 1.5   | 24                    | 2354              | 8   |
| 35550.W0212 | 8.5                  | M16x2,0  | 10    | 50    | 3.0   | 24                    | 2354              | 8   |
| 35550.W0213 | 10.0                 | M20x2,5  | 13    | 30    | 4.0   | 42                    | 3800              | 10  |
| 35550.W0214 | 10.0                 | M20x2,5  | 13    | 30    | 6.0   | 42                    | 3800              | 10  |
| 35550.W0215 | 10.0                 | M20x2,5  | 13    | 50    | 4.0   | 42                    | 3800              | 10  |
| 35550.W0216 | 10.0                 | M20x2,5  | 13    | 50    | 6.0   | 42                    | 3800              | 10  |
| 35550.W0217 | 10.0                 | M20x2,5  | 13    | 70    | 4.0   | 42                    | 3800              | 10  |
| 35550.W0218 | 10.0                 | M20x2,5  | 13    | 70    | 6.0   | 42                    | 3800              | 10  |
| 35550.W0219 | 12.0                 | M24x3,0  | 15    | 40    | 4.0   | 45                    | 5549              | 10  |
| 35550.W0220 | 12.0                 | M24x3,0  | 15    | 40    | 6.0   | 45                    | 5549              | 10  |
| 35550.W0221 | 12.0                 | M24x3,0  | 15    | 80    | 4.0   | 45                    | 5549              | 10  |
| 35550.W0222 | 12.0                 | M24x3,0  | 15    | 80    | 6.0   | 45                    | 5549              | 10  |



# Grippers - Self Aligning - Housing

female threaded housing only

## Grippers & Rest Pads



**35580**

GRIPPERS & REST PADS

### Material

Body: steel, heat treated to HRC 43/46, back oxide finish.

Ball: stainless steel (440C), hardened to HRC58/60.

### Technical Notes

These adjustable self-aligning ball units

accept inserts:

- no. 35330 carbide tipped grippers.
- no. 35450 hardened tool steel grippers.
- no. 35980 steel/thermoplastic rest pads.

**These must be ordered separately.**

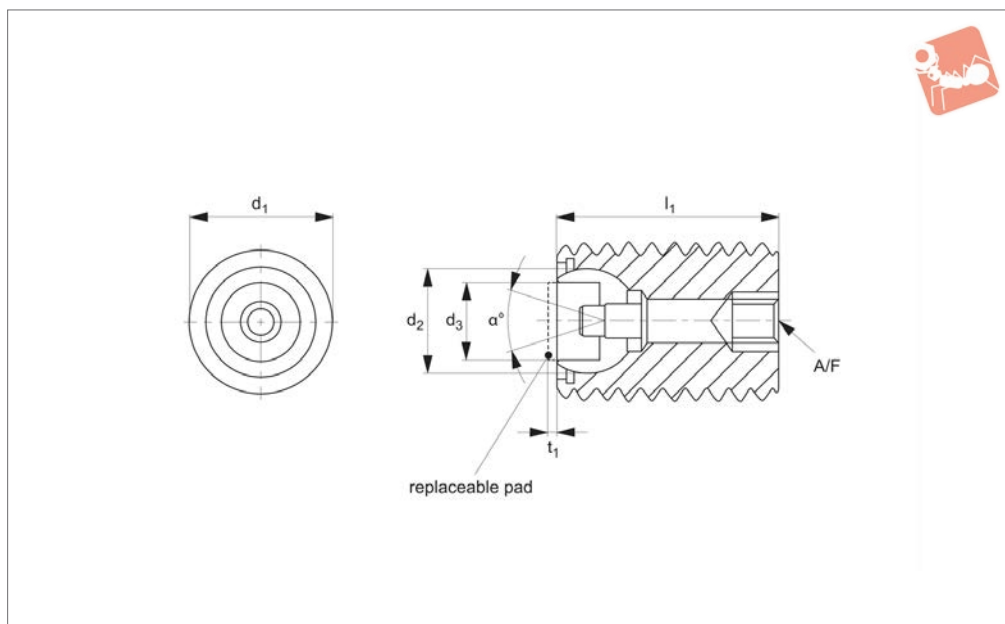
These parts can serve as stops, supports and thrust elements in jigs and fixtures.

They can also be fitted to existing workholding elements.

| Order No.          | Ball dia. $d_3$ | $d_1$<br>+0.00/-0.13 | $d_2$    | Replaceable pad dia. $d_4$ | $l_1$<br>$\pm 0.05$ | $l_2$<br>$\pm 0.25$ | $t_1$ | $\alpha$<br>$^\circ$ | Load<br>kg<br>max. |
|--------------------|-----------------|----------------------|----------|----------------------------|---------------------|---------------------|-------|----------------------|--------------------|
| <b>35580.W0001</b> | 13              | 17                   | M 6x1,0  | 10                         | 18                  | 7.5                 | 4     | 20                   | 2799               |
| <b>35580.W0004</b> | 15              | 19                   | M 8x1,25 | 12                         | 20                  | 8.5                 | 4     | 20                   | 3941               |
| <b>35580.W0007</b> | 20              | 24                   | M10x1,5  | 16                         | 24                  | 9.0                 | 4     | 20                   | 5952               |
| <b>35580.W0010</b> | 23              | 30                   | M12x1,75 | 20                         | 26                  | 8.5                 | 4     | 20                   | 9683               |
| <b>35580.W0013</b> | 28              | 36                   | M12x1,75 | 25                         | 32                  | 12.0                | 4     | 20                   | 13861              |



## 35590



### Material

Body: steel, heat treated to HRC 43/46, back oxide finish.

Ball: stainless steel (440C), hardened to HRC 58/60.

### Technical Notes

These adjustable self-aligning ball units

accept inserts:

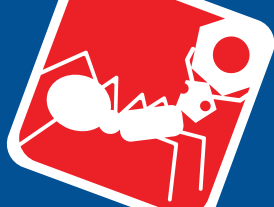
- no. 35330 carbide tipped grippers.
- no. 35450 hardened tool steel grippers.
- no. 35980 steel/thermoplastic rest pads.

**These must be ordered separately.**

These parts can serve as stops, supports and thrust elements in jigs and fixtures.

They can also be fitted to existing workholding elements.

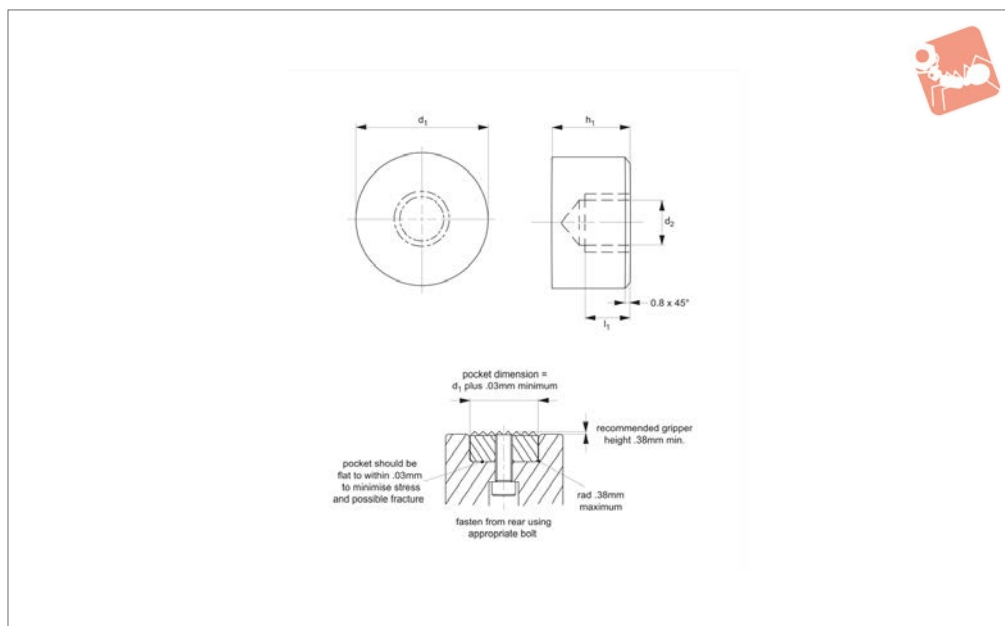
| Order No.   | Ball dia. $d_2$ | $d_1$   | Replaceable pad dia. $d_3$ | $l_1$ | $t_1$ | Swivel angle $\alpha$ | Load kg max. | A/F |
|-------------|-----------------|---------|----------------------------|-------|-------|-----------------------|--------------|-----|
| 35590.W0001 | 13              | M20x2,5 | 10                         | 30    | 6     | 20                    | 3801         | 10  |
| 35590.W0004 | 13              | M20x2,5 | 10                         | 50    | 6     | 20                    | 3801         | 10  |
| 35590.W0007 | 13              | M20x2,5 | 10                         | 70    | 6     | 20                    | 3801         | 10  |
| 35590.W0010 | 15              | M24x3,0 | 12                         | 40    | 6     | 20                    | 5549         | 10  |
| 35590.W0013 | 15              | M24x3,0 | 12                         | 80    | 6     | 20                    | 5549         | 10  |



# Rest Pads - Steel and Thermoplastic

round - rear fixing

## Grippers & Rest Pads



35980

GRIPPERS & REST PADS

### Material

Steel (AISI 8620), hardened to HRC 58-60, black oxide finish.  
Thermoplastic, white.

etc in jigs and fixtures.

$h_1$  = tol. of steel  $\pm 0,03$ , tol., for thermoplastic  $+0,00 -0,13$ .

differential screw. Note installation recommendations in technical diagram.

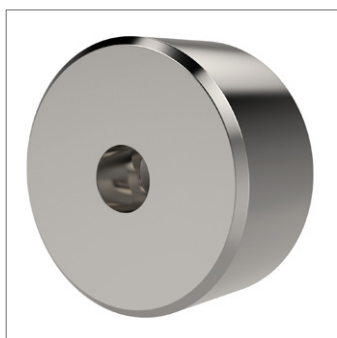
### Technical Notes

Can be used as rest pads, stops, supports

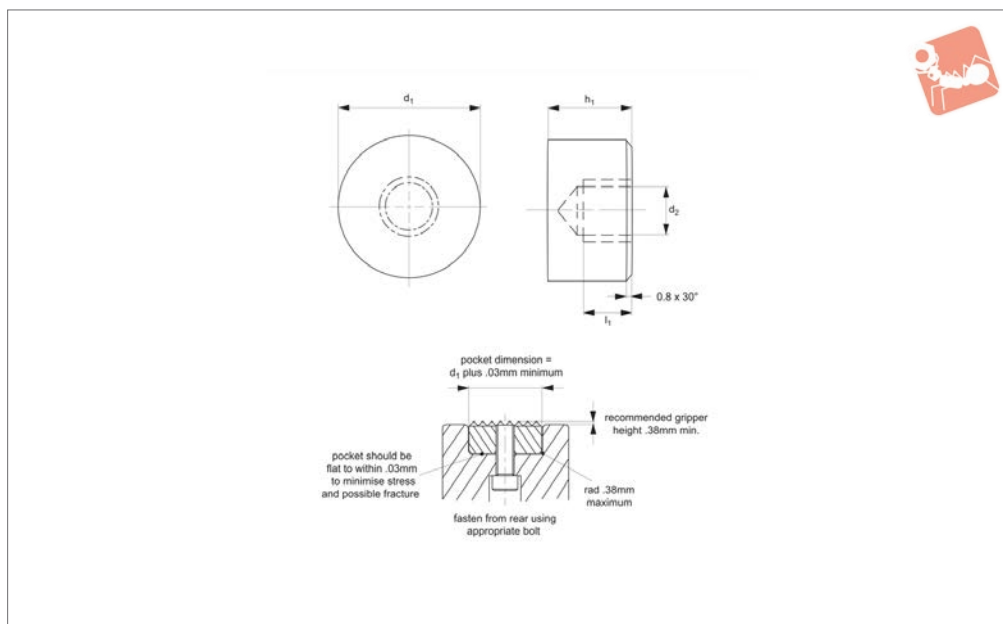
### Tips

Can be fastened from rear using appropriate bolt or alternatively via use of a

| Order No.   | Material | $d_1$<br>+0.00 -0.13 | $d_2$   | $h_1$ | $l_1$ |
|-------------|----------|----------------------|---------|-------|-------|
| 35980.W0011 | Steel    | 8                    | M 4x0,7 | 10    | 5.0   |
| 35980.W0012 | Steel    | 8                    | M 4x0,7 | 12    | 6.4   |
| 35980.W0001 | Steel    | 10                   | M 5x0,8 | 10    | 5.0   |
| 35980.W0002 | Steel    | 10                   | M 5x0,8 | 12    | 6.4   |
| 35980.W0003 | Steel    | 12                   | M 5x0,8 | 10    | 5.0   |
| 35980.W0004 | Steel    | 12                   | M 5x0,8 | 12    | 6.4   |
| 35980.W0005 | Steel    | 16                   | M 6x1,0 | 10    | 5.0   |
| 35980.W0006 | Steel    | 16                   | M 6x1,0 | 12    | 6.4   |
| 35980.W0007 | Steel    | 20                   | M 6x1,0 | 10    | 5.0   |
| 35980.W0008 | Steel    | 20                   | M 6x1,0 | 12    | 6.4   |
| 35980.W0009 | Steel    | 25                   | M 6x1,0 | 10    | 5.0   |
| 35980.W0010 | Steel    | 25                   | M 6x1,0 | 12    | 6.4   |
| 35980.W0211 | Plastic  | 8                    | M 4x0,7 | 10    | 5.0   |
| 35980.W0212 | Plastic  | 8                    | M 4x0,7 | 12    | 6.4   |
| 35980.W0201 | Plastic  | 10                   | M 5x0,8 | 10    | 5.0   |
| 35980.W0202 | Plastic  | 10                   | M 5x0,8 | 12    | 6.4   |
| 35980.W0203 | Plastic  | 12                   | M 5x0,8 | 10    | 5.0   |
| 35980.W0204 | Plastic  | 12                   | M 5x0,8 | 12    | 6.4   |
| 35980.W0205 | Plastic  | 16                   | M 6x1,0 | 10    | 5.0   |
| 35980.W0206 | Plastic  | 16                   | M 6x1,0 | 12    | 6.4   |
| 35980.W0207 | Plastic  | 20                   | M 6x1,0 | 10    | 5.0   |
| 35980.W0208 | Plastic  | 20                   | M 6x1,0 | 12    | 6.4   |
| 35980.W0209 | Plastic  | 25                   | M 6x1,0 | 10    | 5.0   |
| 35980.W0210 | Plastic  | 25                   | M 6x1,0 | 12    | 6.4   |



### 35982



#### Material

Stainless steel (AISI 630), hardened to HRC 43-46.

#### Technical Notes

Can be used as rest pads, stops, supports

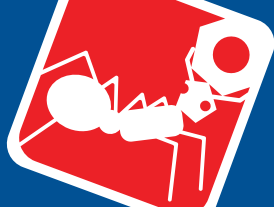
etc in jigs and fixtures.

#### Tips

Can be fastened from rear using appropriate bolt, or alternatively via use of a differential screw. Note installation recom-

mendations in technical diagram.

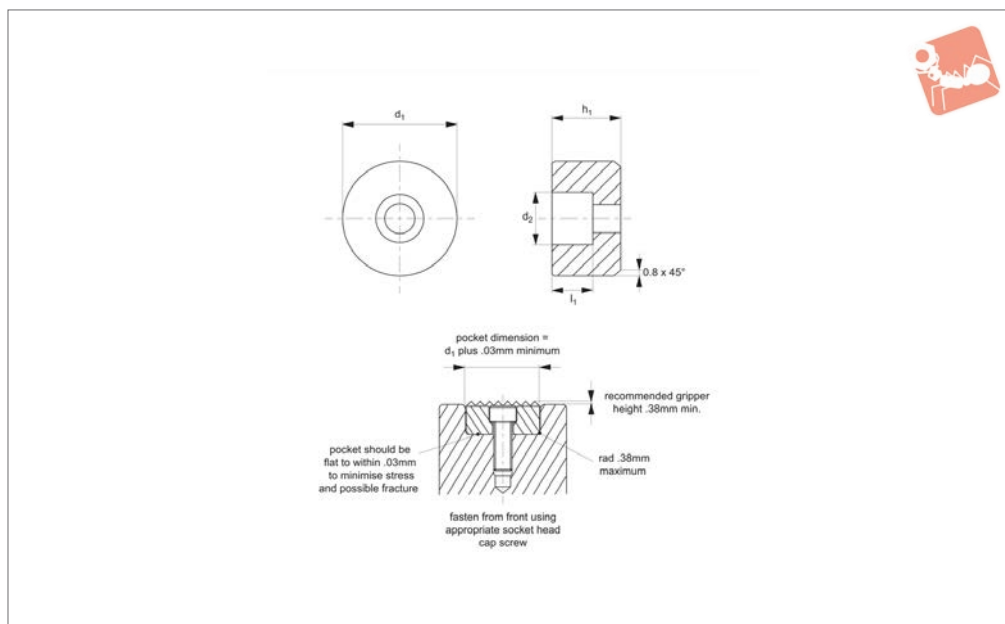
| Order No.   | $d_1$<br>+0.00 -0.13 | $d_2$   | $h_1$<br>$\pm 0.03$ | $l_1$ |
|-------------|----------------------|---------|---------------------|-------|
| 35982.W0080 | 8                    | M 4x0,7 | 10                  | 5.0   |
| 35982.W0082 | 8                    | M 4x0,7 | 12                  | 6.4   |
| 35982.W0100 | 10                   | M 5x0,8 | 10                  | 5.0   |
| 35982.W0102 | 10                   | M 5x0,8 | 12                  | 6.4   |
| 35982.W0120 | 12                   | M 5x0,8 | 10                  | 5.0   |
| 35982.W0122 | 12                   | M 5x0,8 | 12                  | 6.4   |
| 35982.W0160 | 16                   | M 6x1,0 | 10                  | 5.0   |
| 35982.W0162 | 16                   | M 6x1,0 | 12                  | 6.4   |
| 35982.W0200 | 20                   | M 6x1,0 | 10                  | 5.0   |
| 35982.W0202 | 20                   | M 6x1,0 | 12                  | 6.4   |
| 35982.W0250 | 25                   | M 6x1,0 | 10                  | 5.0   |
| 35982.W0252 | 25                   | M 6x1,0 | 12                  | 6.4   |



# Rest Pads - Steel and Thermoplastic

round - front fixing

## Grippers & Rest Pads



**35984**

GRIPPERS & REST PADS

### Material

Steel (AISI 8620), hardened to HRc 58-60.  
Black oxide finish.  
Thermoplastic, white.

etc in jigs and fixtures.

$h_1 = \text{tol. of steel } \pm 0,03, \text{ tol. of thermoplastic } +0,00 -0,13.$

mendations in technical diagram.

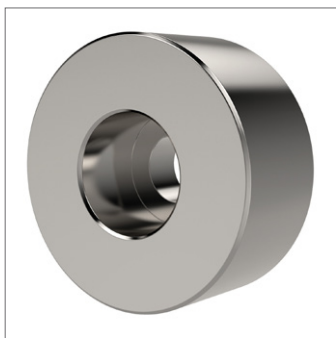
### Technical Notes

Can be used as rest pads, stops, supports

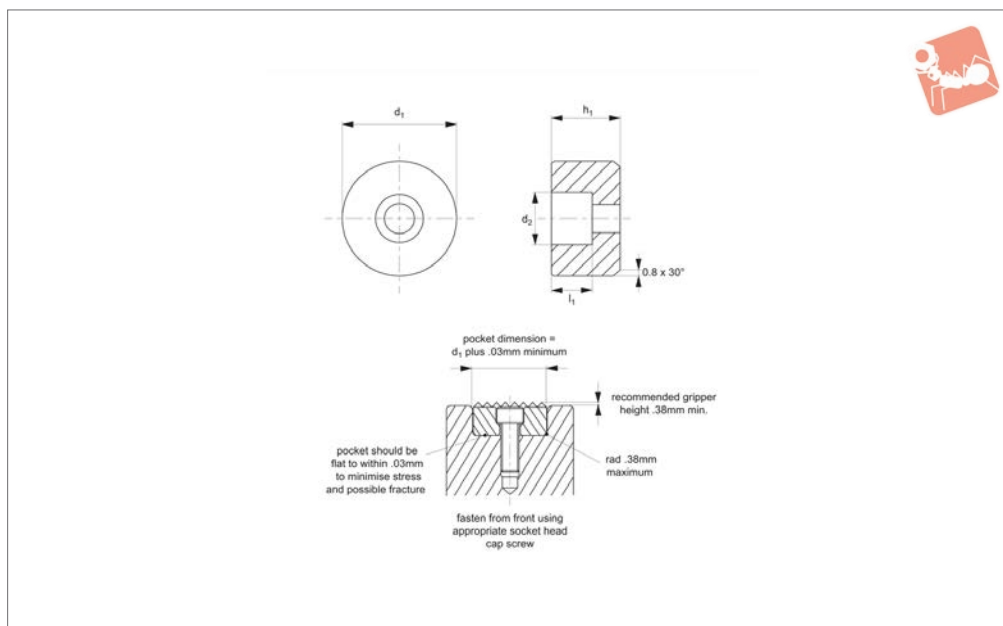
### Tips

Fasten from front using appropriate socket head cap screw. Note installation recom-

| Order No.   | Material | $d_1$<br>+0.00 -0.13 | $d_2$ to fit DIN 912 | $h_1$ | $l_1$ |
|-------------|----------|----------------------|----------------------|-------|-------|
| 35984.W0100 | Steel    | 10                   | M 3                  | 10    | 5.0   |
| 35984.W0102 | Steel    | 10                   | M 3                  | 12    | 5.0   |
| 35984.W0120 | Steel    | 12                   | M 4                  | 10    | 5.6   |
| 35984.W0122 | Steel    | 12                   | M 4                  | 12    | 5.6   |
| 35984.W0160 | Steel    | 16                   | M 5                  | 10    | 6.6   |
| 35984.W0162 | Steel    | 16                   | M 5                  | 12    | 6.6   |
| 35984.W0200 | Steel    | 20                   | M 6                  | 10    | 7.6   |
| 35984.W0202 | Steel    | 20                   | M 6                  | 12    | 7.6   |
| 35984.W0250 | Steel    | 25                   | M 6                  | 10    | 7.6   |
| 35984.W0252 | Steel    | 25                   | M 6                  | 12    | 7.6   |
| 35984.W1100 | Plastic  | 10                   | M 3                  | 10    | 5.0   |
| 35984.W1102 | Plastic  | 10                   | M 3                  | 12    | 5.0   |
| 35984.W1120 | Plastic  | 12                   | M 4                  | 10    | 5.6   |
| 35984.W1122 | Plastic  | 12                   | M 4                  | 12    | 5.6   |
| 35984.W1160 | Plastic  | 16                   | M 5                  | 10    | 6.6   |
| 35984.W1162 | Plastic  | 16                   | M 5                  | 12    | 6.6   |
| 35984.W1200 | Plastic  | 20                   | M 6                  | 10    | 7.6   |
| 35984.W1202 | Plastic  | 20                   | M 6                  | 12    | 7.6   |
| 35984.W1250 | Plastic  | 25                   | M 6                  | 10    | 7.6   |
| 35984.W1252 | Plastic  | 25                   | M 6                  | 12    | 7.6   |



### 35986



#### Material

Stainless steel (AISI 630), hardened to RHc 43-46.

well as protection against chemical and environmental corrosion.

recommendations in technical diagram.

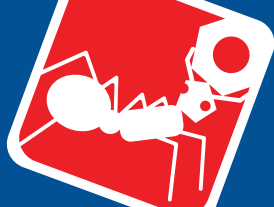
#### Technical Notes

Stainless steel provides high strength as

#### Tips

Counterbored hole for front mounting with a socket head cap screw. Note installation

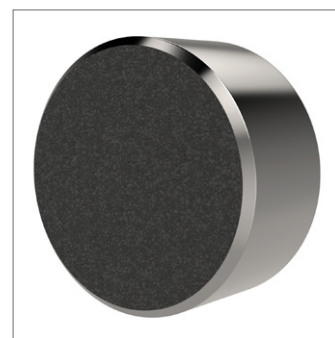
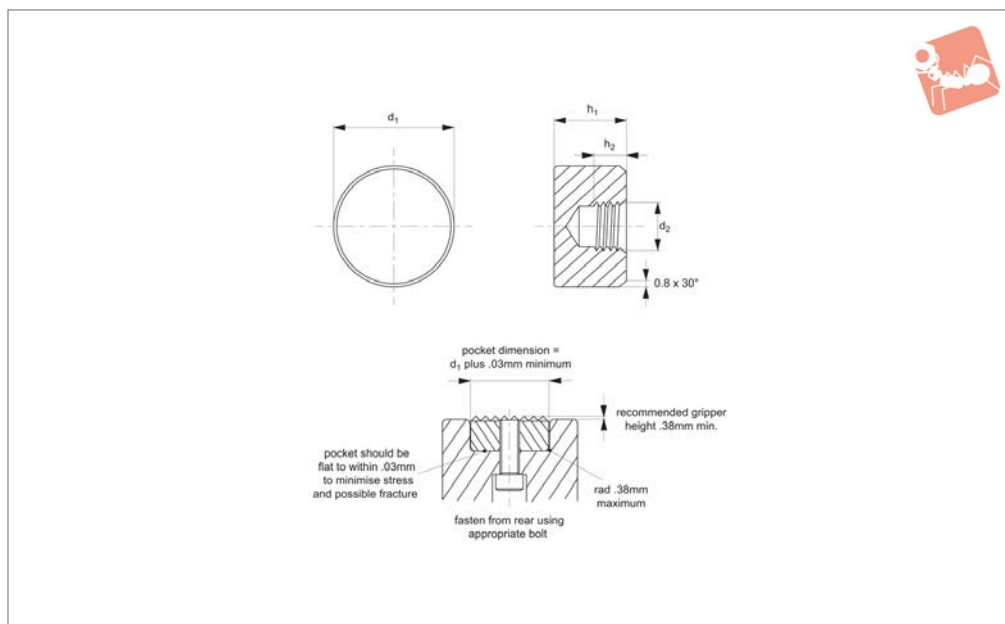
| Order No.   | $d_1$<br>+0.00 -0.13 | $d_2$ to fit DIN 912 | $h_1$<br>$\pm 0.03$ | $l_1$ |
|-------------|----------------------|----------------------|---------------------|-------|
| 35986.W0100 | 10                   | M 3                  | 10                  | 5.0   |
| 35986.W0102 | 10                   | M 3                  | 12                  | 5.0   |
| 35986.W0120 | 12                   | M 4                  | 10                  | 5.6   |
| 35986.W0122 | 12                   | M 4                  | 12                  | 5.6   |
| 35986.W0160 | 16                   | M 5                  | 10                  | 6.6   |
| 35986.W0162 | 16                   | M 5                  | 12                  | 6.6   |
| 35986.W0200 | 20                   | M 6                  | 10                  | 7.6   |
| 35986.W0202 | 20                   | M 6                  | 12                  | 7.6   |
| 35986.W0250 | 25                   | M 6                  | 10                  | 7.6   |
| 35986.W0252 | 25                   | M 6                  | 12                  | 7.6   |



# Gripping Pads - Diamond Coated

stainless - round - rear fixing

## Grippers & Rest Pads



**35630**

GRIPPERS & REST PADS

### Material

Stainless steel (AISI 630, precipitation-hardened), heat treated to HRC 43-46.

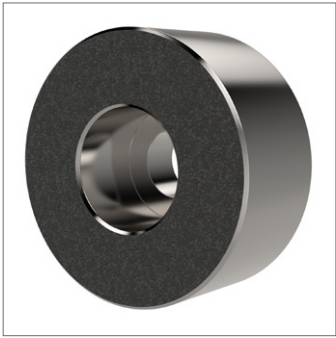
### Technical Notes

Permanently fused diamond powder

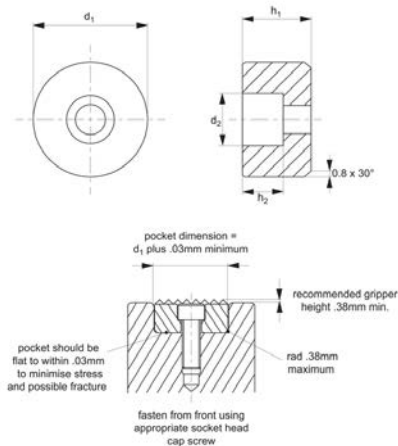
creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear

resistance.

| Order No.   | $d_1$<br>+0.00 -0.13 | $d_2$   | $h_1$<br>+0.00 -0.13 | $h_2$ |
|-------------|----------------------|---------|----------------------|-------|
| 35630.W0841 | 8                    | M 4x0,7 | 10                   | 5.0   |
| 35630.W0842 | 8                    | M 4x0,7 | 12                   | 6.4   |
| 35630.W1051 | 10                   | M 5x0,8 | 10                   | 5.0   |
| 35630.W1052 | 10                   | M 5x0,8 | 12                   | 6.4   |
| 35630.W1251 | 12                   | M 5x0,8 | 10                   | 5.0   |
| 35630.W1252 | 12                   | M 5x0,8 | 12                   | 6.4   |
| 35630.W1661 | 16                   | M 6x1,0 | 10                   | 5.0   |
| 35630.W1662 | 16                   | M 6x1,0 | 12                   | 6.4   |
| 35630.W2061 | 20                   | M 6x1,0 | 10                   | 5.0   |
| 35630.W2062 | 20                   | M 6x1,0 | 12                   | 6.4   |
| 35630.W2561 | 25                   | M 6x1,0 | 10                   | 5.0   |
| 35630.W2562 | 25                   | M 6x1,0 | 12                   | 6.4   |



## 35632



### Material

Stainless steel (AISI 630, precipitation-hardened), heat treated to HRc 43-46.

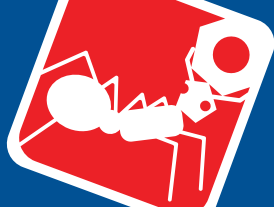
### Technical Notes

Permanently fused diamond powder

creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear

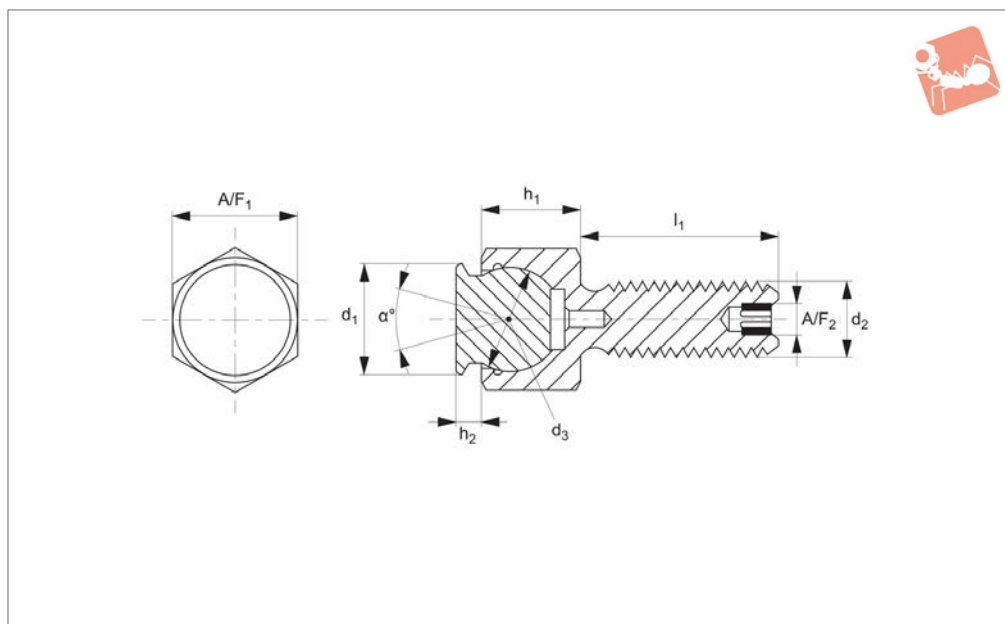
resistance.

| Order No.   | $d_1$<br>+0.00 -0.13 | $d_2$ to fit DIN 912 | $h_1$<br>+0.00 -0.13 | $h_2$ |
|-------------|----------------------|----------------------|----------------------|-------|
| 35632.W1051 | 10                   | M 3                  | 10                   | 5.0   |
| 35632.W1052 | 10                   | M 3                  | 12                   | 5.0   |
| 35632.W1251 | 12                   | M 4                  | 10                   | 5.6   |
| 35632.W1252 | 12                   | M 4                  | 12                   | 5.6   |
| 35632.W1661 | 16                   | M 5                  | 10                   | 6.6   |
| 35632.W1662 | 16                   | M 5                  | 12                   | 6.6   |
| 35632.W2061 | 20                   | M 6                  | 10                   | 7.6   |
| 35632.W2062 | 20                   | M 6                  | 12                   | 7.6   |
| 35632.W2561 | 25                   | M 6                  | 10                   | 7.6   |
| 35632.W2562 | 25                   | M 6                  | 12                   | 7.6   |



## Grippers - Self Aligning diamond coated - threaded bolt

## Grippers & Rest Pads



**35640**

GRIPPERS & REST PADS

### Material

Housing body: alloy steel, heat treated to HRC 43-46, black oxide finish.

Pad: diamond powder bonded to AISI 300 series stainless steel ball.

creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear resistance.

### Tips

Re-seating: expel air by using 0.3 monofilament line between ball and housing, remove line when seated correctly.

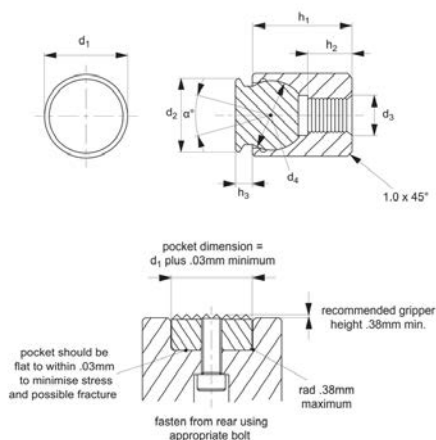
### Technical Notes

Permanently fused diamond powder

| Order No.   | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | h <sub>1</sub><br>±0.05 | h <sub>2</sub> | l <sub>1</sub> | A/F <sub>1</sub> | A/F <sub>2</sub> | Swivel angle α | Load<br>kg<br>max. |
|-------------|----------------|----------------|----------------|-------------------------|----------------|----------------|------------------|------------------|----------------|--------------------|
| 35640.W0861 | 8              | M 6x1,0        | 7              | 8.0                     | 2              | 12             | 10               | -                | 28             | 935                |
| 35640.W0862 | 8              | M 6x1,0        | 7              | 8.0                     | 2              | 25             | 10               | -                | 28             | 935                |
| 35640.W0863 | 8              | M 6x1,0        | 7              | 8.0                     | 2              | 40             | 10               | -                | 28             | 935                |
| 35640.W1181 | 11             | M 8x1,25       | 10             | 11.5                    | 3              | 12             | 13               | -                | 28             | 1565               |
| 35640.W1182 | 11             | M 8x1,25       | 10             | 11.5                    | 3              | 25             | 13               | -                | 28             | 1565               |
| 35640.W1183 | 11             | M 8x1,25       | 10             | 11.5                    | 3              | 40             | 13               | -                | 28             | 1565               |
| 35640.W1410 | 14             | M10x1,5        | 13             | 13.0                    | 3              | 15             | 17               | 3                | 28             | 1902               |
| 35640.W1412 | 14             | M10x1,5        | 13             | 13.0                    | 3              | 30             | 17               | 3                | 28             | 1902               |
| 35640.W1413 | 14             | M10x1,5        | 13             | 13.0                    | 3              | 50             | 17               | 3                | 28             | 1902               |
| 35640.W1912 | 19             | M12x1,75       | 15             | 15.0                    | 4              | 20             | 19               | 5                | 24             | 3006               |
| 35640.W1913 | 19             | M12x1,75       | 15             | 15.0                    | 4              | 40             | 19               | 5                | 24             | 3006               |
| 35640.W1914 | 19             | M12x1,75       | 15             | 15.0                    | 4              | 60             | 19               | 5                | 24             | 3006               |
| 35640.W2116 | 21             | M16x2,0        | 20             | 19.0                    | 4              | 25             | 24               | 6                | 24             | 5073               |
| 35640.W2117 | 21             | M16x2,0        | 20             | 19.0                    | 4              | 50             | 24               | 6                | 24             | 5073               |
| 35640.W2118 | 21             | M16x2,0        | 20             | 19.0                    | 4              | 80             | 24               | 6                | 24             | 5073               |



### 35642



#### Material

Housing: alloy steel, heat treated to HRC 43-46 with black oxide finish.  
Pad: diamond powder bonded to AISI 300 series stainless steel ball.

creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear resistance.

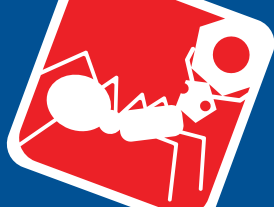
#### Tips

Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

#### Technical Notes

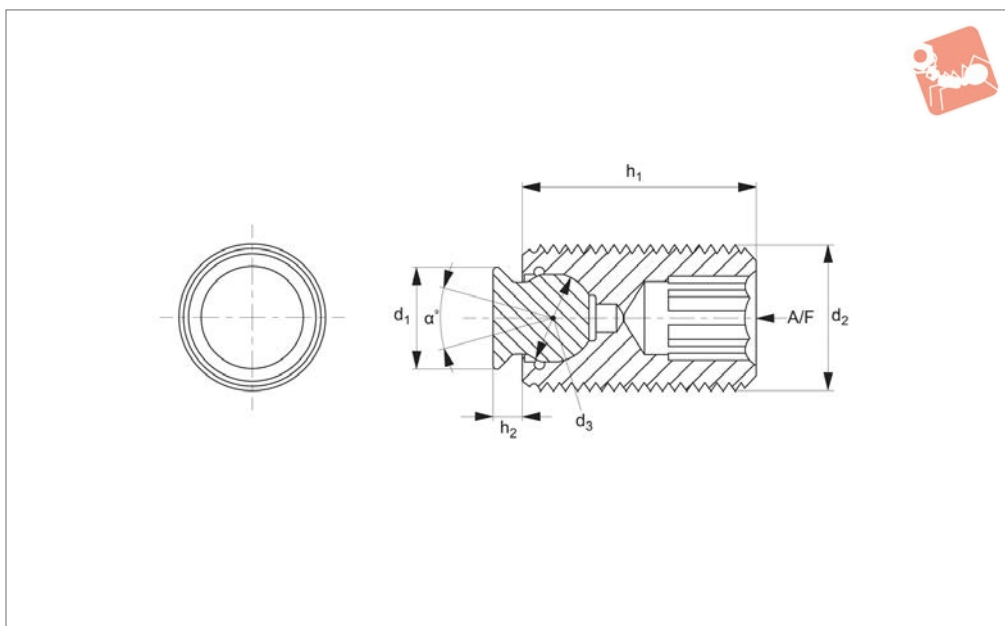
Permanently fused diamond powder

| Order No.   | $d_1$<br>+0.00 -0.13 | $d_2$<br>+0.00 -0.13 | $d_3$    | $d_4$ | $h_1$<br>$\pm 0.05$ | $h_2$<br>$\pm 0.25$ | $h_3$ | Swivel angle $\alpha$<br>° | Load<br>kg<br>max. |
|-------------|----------------------|----------------------|----------|-------|---------------------|---------------------|-------|----------------------------|--------------------|
| 35642.W0841 | 10                   | 8                    | M 4x0,7  | 7     | 10.5                | 3.5                 | 2     | 28                         | 1.2                |
| 35642.W0842 | 10                   | 8                    | M 4x0,7  | 7     | 23.5                | 9.0                 | 2     | 28                         | 1.2                |
| 35642.W1151 | 13                   | 11                   | M 5x0,8  | 10    | 14.5                | 6.5                 | 3     | 28                         | 2.0                |
| 35642.W1152 | 13                   | 11                   | M 5x0,8  | 10    | 23.5                | 9.0                 | 3     | 28                         | 2.0                |
| 35642.W1461 | 17                   | 14                   | M 6x1,0  | 13    | 18.0                | 7.5                 | 3     | 28                         | 2.8                |
| 35642.W1981 | 19                   | 19                   | M 8x1,25 | 15    | 20.0                | 8.5                 | 4     | 24                         | 3.9                |
| 35642.W2110 | 24                   | 21                   | M10x1,5  | 20    | 24.0                | 9.0                 | 4     | 24                         | 6.0                |



## Grippers - Self Aligning set screw - diamond coated

## Grippers & Rest Pads



**35644**

GRIPPERS & REST PADS

### Material

Housing: alloy steel, heat treated to HRC 43-46 with black oxide finish.

Pad: diamond powder bonded to AISI 300 series stainless steel ball.

creates an abrasive surface comparable to 100 grit abrasive value. Ideal for holding smooth or slippery components with a minimum of clamping pressure, and minimal surface marking. Excellent wear resistance.

### Tips

Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

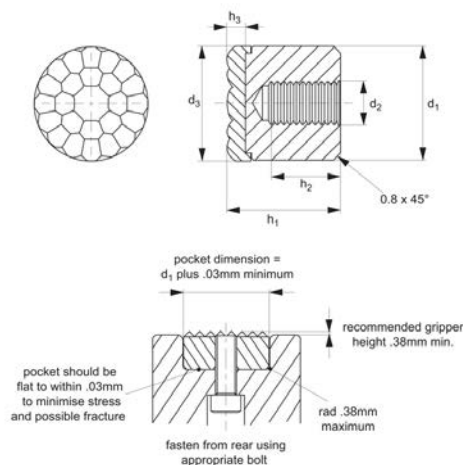
### Technical Notes

Permanently fused diamond powder

| Order No.   | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | h <sub>1</sub> | h <sub>2</sub> | A/F | Swivel angle α | Load kg max. |
|-------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|--------------|
| 35644.W0610 | 6              | M10x1,5        | 5              | 25             | 1.5            | 5   | 28             | -            |
| 35644.W0611 | 6              | M10x1,5        | 5              | 35             | 1.5            | 5   | 28             | -            |
| 35644.W0612 | 6              | M10x1,5        | 5              | 50             | 1.5            | 5   | 28             | -            |
| 35644.W0812 | 8              | M12x1,75       | 7              | 25             | 2.0            | 6   | 28             | 1.6          |
| 35644.W0813 | 8              | M12x1,75       | 7              | 35             | 2.0            | 6   | 28             | 1.6          |
| 35644.W0814 | 8              | M12x1,75       | 7              | 50             | 2.0            | 6   | 28             | 1.6          |
| 35644.W1116 | 11             | M16x2,0        | 10             | 25             | 3.0            | 8   | 28             | 2.4          |
| 35644.W1117 | 11             | M16x2,0        | 10             | 35             | 3.0            | 8   | 28             | 2.4          |
| 35644.W1118 | 11             | M16x2,0        | 10             | 50             | 3.0            | 8   | 28             | 2.4          |
| 35644.W1420 | 14             | M20x2,5        | 13             | 30             | 3.0            | 10  | 28             | 3.8          |
| 35644.W1421 | 14             | M20x2,5        | 13             | 50             | 3.0            | 10  | 28             | 3.8          |
| 35644.W1422 | 14             | M20x2,5        | 13             | 70             | 3.0            | 10  | 28             | 3.8          |
| 35644.W1924 | 19             | M24x3,0        | 15             | 40             | 4.0            | 10  | 24             | 5.6          |
| 35644.W1925 | 19             | M24x3,0        | 15             | 80             | 4.0            | 10  | 24             | 5.6          |



## 35610



### Material

Body: AISI 300 series stainless steel.

Pad: urethane; non-marking, non-staining

### Technical Notes

Non-marking, non-staining urethane pad is permanently bonded to the stainless

steel body. Available in three different

durometers: 35, 60 & 80 (see table).

Bubbled texture of urethane pad allows air to escape so avoiding any suction action.

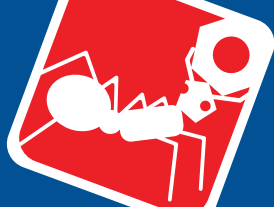
### Important Notes

Load compression ratings based on load

required to compress urethane surface

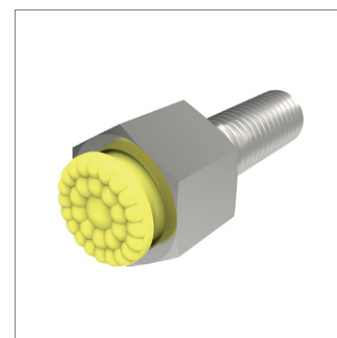
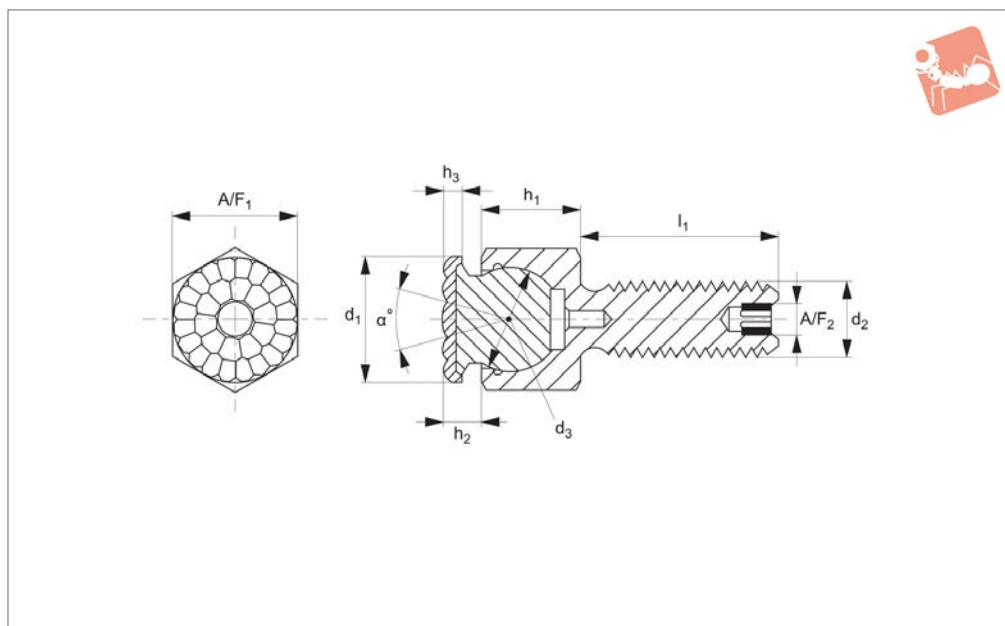
0,812mm for 2mm thick pad. Compression ratings vary greatly depending upon temperature and other application-specific factors.

| Order No.   | $d_1$<br>+0.00 -0.13 | $d_2$   | $d_3$ | $h_1$ | $h_2$ | Urethane thickness $h_3$ | Durometer | Load compression<br>kg |
|-------------|----------------------|---------|-------|-------|-------|--------------------------|-----------|------------------------|
| 35610.W0083 | 8                    | M 4x0,7 | 8     | 12    | 6     | 2                        | 35        | 4                      |
| 35610.W0086 | 8                    | M 4x0,7 | 8     | 12    | 6     | 2                        | 60        | 13                     |
| 35610.W0088 | 8                    | M 4x0,7 | 8     | 12    | 6     | 2                        | 80        | 20                     |
| 35610.W0103 | 10                   | M 5x0,8 | 10    | 12    | 6     | 2                        | 35        | 5                      |
| 35610.W0106 | 10                   | M 5x0,8 | 10    | 12    | 6     | 2                        | 60        | 15                     |
| 35610.W0108 | 10                   | M 5x0,8 | 10    | 12    | 6     | 2                        | 80        | 40                     |
| 35610.W0123 | 12                   | M 5x0,8 | 13    | 12    | 6     | 2                        | 35        | 18                     |
| 35610.W0126 | 12                   | M 5x0,8 | 13    | 12    | 6     | 2                        | 60        | 34                     |
| 35610.W0128 | 12                   | M 5x0,8 | 13    | 12    | 6     | 2                        | 80        | 86                     |
| 35610.W0163 | 16                   | M 6x1,0 | 16    | 12    | 6     | 2                        | 35        | 36                     |
| 35610.W0166 | 16                   | M 6x1,0 | 16    | 12    | 6     | 2                        | 60        | 72                     |
| 35610.W0168 | 16                   | M 6x1,0 | 16    | 12    | 6     | 2                        | 80        | 117                    |
| 35610.W0203 | 20                   | M 6x1,0 | 21    | 12    | 6     | 3                        | 35        | 38                     |
| 35610.W0206 | 20                   | M 6x1,0 | 21    | 12    | 6     | 3                        | 60        | 104                    |
| 35610.W0208 | 20                   | M 6x1,0 | 21    | 12    | 6     | 3                        | 80        | 165                    |
| 35610.W0253 | 25                   | M 6x1,0 | 27    | 12    | 6     | 3                        | 35        | 65                     |
| 35610.W0256 | 25                   | M 6x1,0 | 27    | 12    | 6     | 3                        | 60        | 136                    |
| 35610.W0258 | 25                   | M 6x1,0 | 27    | 12    | 6     | 3                        | 80        | 272                    |



# Grippers - Self Aligning urethane coated - threaded bolt

## Grippers & Rest Pads



**35620**

GRIPPERS & REST PADS

### Material

Housing body: alloy steel, heat treated to HRC 43-46, black oxide finish.

Pad: urethane, bonded to AISI 300 series stainless steel ball.

### Technical Notes

Non-marking, non-staining urethane pad is permanently bonded to the stainless

steel body. Available in three different durometers: 35, 60 & 80 (see table).  
Bubbled texture of urethane pad allows air to escape so avoiding any suction action.

### Tips

Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

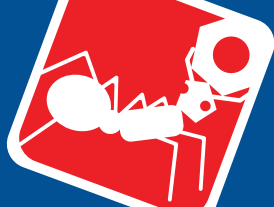
### Important Notes

Load compression ratings based on load required to compress urethane surface 0,812mm for 2mm thick pad. Compression ratings vary greatly depending upon temperature and other application-specific factors.

| Order No.   | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | d <sub>3</sub> | h <sub>1</sub><br>±0.05 | h <sub>2</sub> | A/F <sub>1</sub> | A/F <sub>2</sub> | Urethane thickness h <sub>3</sub> | Durometer | Swivel angle α | Load compression<br>kg |
|-------------|----------------|----------------|----------------|----------------|-------------------------|----------------|------------------|------------------|-----------------------------------|-----------|----------------|------------------------|
| 35620.W3062 | 10             | M 6x1,0        | 25             | 7              | 8.0                     | 4              | 10               | -                | 2                                 | 35        | 28             | 3                      |
| 35620.W3063 | 10             | M 6x1,0        | 40             | 7              | 8.0                     | 4              | 10               | -                | 2                                 | 35        | 28             | 3                      |
| 35620.W3121 | 21             | M12x1,75       | 20             | 15             | 15.0                    | 6              | 19               | 5                | 2                                 | 35        | 24             | 68                     |
| 35620.W6061 | 10             | M 6x1,0        | 12             | 7              | 8.0                     | 4              | 10               | -                | 2                                 | 60        | 28             | 11                     |
| 35620.W6062 | 10             | M 6x1,0        | 25             | 7              | 8.0                     | 4              | 10               | -                | 2                                 | 60        | 28             | 11                     |
| 35620.W6063 | 10             | M 6x1,0        | 40             | 7              | 8.0                     | 4              | 10               | -                | 2                                 | 60        | 28             | 11                     |
| 35620.W6081 | 13             | M 8x1,25       | 12             | 10             | 11.5                    | 5              | 13               | -                | 2                                 | 60        | 28             | 34                     |
| 35620.W6082 | 13             | M 8x1,25       | 25             | 10             | 11.5                    | 5              | 13               | -                | 2                                 | 60        | 28             | 34                     |
| 35620.W6083 | 13             | M 8x1,25       | 40             | 10             | 11.5                    | 5              | 13               | -                | 2                                 | 60        | 28             | 34                     |
| 35620.W6101 | 16             | M10x1,5        | 15             | 13             | 13.0                    | 5              | 17               | 3                | 2                                 | 60        | 28             | 65                     |
| 35620.W6102 | 16             | M10x1,5        | 30             | 13             | 13.0                    | 5              | 17               | 3                | 2                                 | 60        | 28             | 65                     |
| 35620.W6103 | 16             | M10x1,5        | 50             | 13             | 13.0                    | 5              | 17               | 3                | 2                                 | 60        | 28             | 65                     |
| 35620.W6121 | 21             | M12x1,75       | 20             | 15             | 15.0                    | 6              | 19               | 5                | 2                                 | 60        | 24             | 154                    |
| 35620.W6122 | 21             | M12x1,75       | 40             | 15             | 15.0                    | 6              | 19               | 5                | 2                                 | 60        | 24             | 154                    |
| 35620.W6123 | 21             | M12x1,75       | 60             | 15             | 15.0                    | 6              | 19               | 5                | 2                                 | 60        | 24             | 154                    |
| 35620.W6161 | 23             | M16x2,0        | 25             | 20             | 19.0                    | 6              | 24               | 6                | 2                                 | 60        | 24             | 181                    |
| 35620.W6162 | 23             | M16x2,0        | 50             | 20             | 19.0                    | 6              | 24               | 6                | 2                                 | 60        | 24             | 181                    |
| 35620.W6163 | 23             | M16x2,0        | 80             | 20             | 19.0                    | 6              | 24               | 6                | 2                                 | 60        | 24             | 181                    |
| 35620.W8061 | 10             | M 6x1,0        | 12             | 7              | 8.0                     | 4              | 10               | -                | 2                                 | 80        | 28             | 29                     |
| 35620.W8062 | 10             | M 6x1,0        | 25             | 7              | 8.0                     | 4              | 10               | -                | 2                                 | 80        | 28             | 29                     |
| 35620.W8063 | 10             | M 6x1,0        | 40             | 7              | 8.0                     | 4              | 10               | -                | 2                                 | 80        | 28             | 29                     |
| 35620.W8081 | 13             | M 8x1,25       | 12             | 10             | 11.5                    | 5              | 13               | -                | 2                                 | 80        | 28             | 68                     |
| 35620.W8082 | 13             | M 8x1,25       | 25             | 10             | 11.5                    | 5              | 13               | -                | 2                                 | 80        | 28             | 68                     |
| 35620.W8083 | 13             | M 8x1,25       | 40             | 10             | 11.5                    | 5              | 13               | -                | 2                                 | 80        | 28             | 68                     |
| 35620.W8101 | 16             | M10x1,5        | 15             | 13             | 13.0                    | 5              | 17               | 3                | 2                                 | 80        | 28             | 97                     |
| 35620.W8102 | 16             | M10x1,5        | 30             | 13             | 13.0                    | 5              | 17               | 3                | 2                                 | 80        | 28             | 97                     |
| 35620.W8103 | 16             | M10x1,5        | 50             | 13             | 13.0                    | 5              | 17               | 3                | 2                                 | 80        | 28             | 97                     |
| 35620.W8121 | 21             | M12x1,75       | 20             | 15             | 15.0                    | 6              | 19               | 5                | 2                                 | 80        | 24             | 238                    |
| 35620.W8122 | 21             | M12x1,75       | 40             | 15             | 15.0                    | 6              | 19               | 5                | 2                                 | 80        | 24             | 238                    |

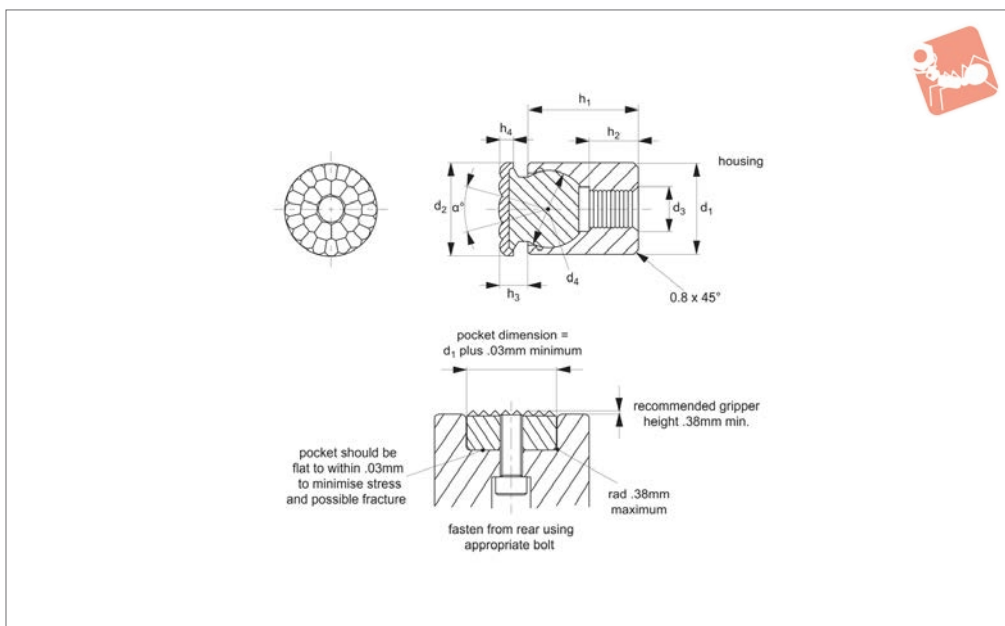


| Order No.          | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | d <sub>3</sub> | h <sub>1</sub><br>±0.05 | h <sub>2</sub> | A/F <sub>1</sub> | A/F <sub>2</sub> | Urethane thickness h <sub>3</sub> | Durometer | Swivel angle α | Load compression<br>kg |
|--------------------|----------------|----------------|----------------|----------------|-------------------------|----------------|------------------|------------------|-----------------------------------|-----------|----------------|------------------------|
| <b>35620.W8123</b> | 21             | M12x1,75       | 60             | 15             | 15.0                    | 6              | 19               | 5                | 2                                 | 80        | 24             | 238                    |
| <b>35620.W8161</b> | 23             | M16x2,0        | 25             | 20             | 19.0                    | 6              | 24               | 6                | 2                                 | 80        | 24             | 272                    |
| <b>35620.W8162</b> | 23             | M16x2,0        | 0              | 20             | 19.0                    | 6              | 24               | 6                | 2                                 | 80        | 24             | 272                    |
| <b>35620.W8163</b> | 23             | M16x2,0        | 80             | 20             | 19.0                    | 6              | 24               | 6                | 2                                 | 80        | 24             | 272                    |



# Grippers - Self Aligning urethane coated - female threaded housing

## Grippers & Rest Pads



35622

GRIPPERS & REST PADS

### Material

Housing body: alloy steel, heat treated to HRC 43-46, black oxide finish.

Pad: urethane, bonded to AISI 300 series stainless steel ball.

### Technical Notes

Non-marking, non-staining urethane pad is permanently bonded to the stainless

steel body. Available in three different durometers: 35, 60 & 80 (see table).  
Bubbled texture of urethane pad allows air to escape so avoiding any suction action.

### Tips

Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

### Important Notes

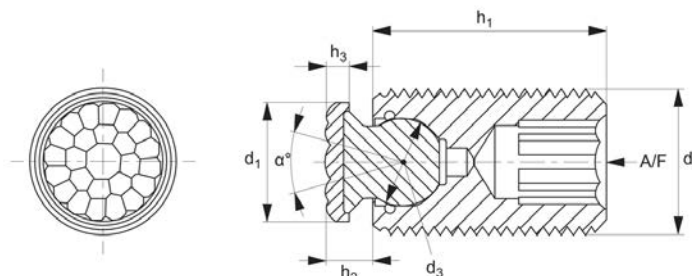
Load compression ratings based on load required to compress urethane surface 0,812mm for 2mm thick pad. Compression ratings vary greatly depending upon temperature and other application-specific factors.

| Order No.   | $d_1$<br>+0.00 -0.13 | $d_2$ | $d_3$    | $d_4$ | $h_1$<br>±0.05 | $h_2$<br>±0.25 | $h_3$ | Urethane thickness $h_4$ | Durometer | Swivel angle $a$ | Load compression<br>kg |
|-------------|----------------------|-------|----------|-------|----------------|----------------|-------|--------------------------|-----------|------------------|------------------------|
| 35622.W3041 | 10                   | 10    | M 4x0,7  | 7     | 10.5           | 3.5            | 4     | 2                        | 35        | 28               | 3                      |
| 35622.W3042 | 10                   | 10    | M 4x0,7  | 7     | 23.5           | 9.0            | 4     | 2                        | 35        | 28               | 3                      |
| 35622.W3051 | 13                   | 13    | M 5x0,8  | 10    | 14.5           | 6.5            | 5     | 2                        | 35        | 28               | 18                     |
| 35622.W3052 | 13                   | 13    | M 5x0,8  | 10    | 23.5           | 9.0            | 5     | 2                        | 35        | 28               | 18                     |
| 35622.W3061 | 17                   | 16    | M 6x1,0  | 13    | 18.0           | 7.5            | 5     | 2                        | 35        | 28               | 24                     |
| 35622.W3081 | 19                   | 21    | M 8x1,25 | 15    | 20.0           | 8.5            | 6     | 2                        | 35        | 24               | 68                     |
| 35622.W3101 | 24                   | 23    | M10x1,5  | 20    | 24.0           | 9.0            | 6     | 2                        | 35        | 24               | 102                    |
| 35622.W6041 | 10                   | 10    | M 4x0,7  | 7     | 10.5           | 3.5            | 4     | 2                        | 60        | 28               | 11                     |
| 35622.W6042 | 10                   | 10    | M 4x0,7  | 7     | 23.5           | 9.0            | 4     | 2                        | 60        | 28               | 11                     |
| 35622.W6051 | 13                   | 13    | M 5x0,8  | 10    | 14.5           | 6.5            | 5     | 2                        | 60        | 28               | 34                     |
| 35622.W6052 | 13                   | 13    | M 5x0,8  | 10    | 23.5           | 9.0            | 5     | 2                        | 60        | 28               | 34                     |
| 35622.W6061 | 17                   | 16    | M 6x1,0  | 13    | 18.0           | 7.5            | 5     | 2                        | 60        | 28               | 63                     |
| 35622.W6081 | 19                   | 21    | M 8x1,25 | 15    | 20.0           | 8.5            | 6     | 2                        | 60        | 24               | 154                    |
| 35622.W6101 | 24                   | 23    | M10x1,5  | 20    | 24.0           | 9.0            | 6     | 2                        | 60        | 24               | 181                    |
| 35622.W8041 | 10                   | 10    | M 4x0,7  | 7     | 10.5           | 3.5            | 4     | 2                        | 80        | 28               | 29                     |
| 35622.W8042 | 10                   | 10    | M 4x0,7  | 7     | 23.5           | 9.0            | 4     | 2                        | 80        | 28               | 29                     |
| 35622.W8051 | 13                   | 13    | M 5x0,8  | 10    | 14.5           | 6.5            | 5     | 2                        | 80        | 28               | 68                     |
| 35622.W8052 | 13                   | 13    | M 5x0,8  | 10    | 23.5           | 9.0            | 5     | 2                        | 80        | 28               | 68                     |
| 35622.W8061 | 17                   | 16    | M 6x1,0  | 13    | 18.0           | 7.5            | 5     | 2                        | 80        | 28               | 97                     |
| 35622.W8081 | 19                   | 21    | M 8x1,25 | 15    | 20.0           | 8.5            | 6     | 2                        | 80        | 24               | 238                    |
| 35622.W8101 | 24                   | 23    | M10x1,5  | 20    | 24.0           | 9.0            | 6     | 2                        | 80        | 24               | 272                    |



## 35624

GRIPPERS & REST PADS



### Material

Housing body: alloy steel, heat treated to HRc 43-46, black oxide finish.

Pad: urethane, bonded to AISI 300 series stainless steel ball.

### Technical Notes

Available in three different durometers:

35, 60 & 80 (see table).

Bubbled texture of urethane pad allows air to escape so avoiding any suction action.

### Tips

Re-seating: expel air by using 0,3 monofilament line between ball and housing, remove line when seated correctly.

### Important Notes

Load compression ratings based on load required to compress urethane surface 0,812mm for 2mm thick pad. Compression ratings vary greatly depending upon temperature and other application-specific factors.

| Order No.   | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | h <sub>1</sub> | h <sub>2</sub> | h <sub>3</sub> | A/F | Durometer | Swivel angle α | Load compression kg |
|-------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|-----------|----------------|---------------------|
| 35624.W6101 | 8              | M10x1,5        | 5              | 25             | 3.5            | 2              | 5   | 60        | 28             | 9                   |
| 35624.W6102 | 8              | M10x1,5        | 5              | 35             | 3.5            | 2              | 5   | 60        | 28             | 9                   |
| 35624.W6103 | 8              | M10x1,5        | 5              | 50             | 3.5            | 2              | 5   | 60        | 28             | 9                   |
| 35624.W6121 | 10             | M12x1,75       | 7              | 25             | 4.0            | 2              | 6   | 60        | 28             | 11                  |
| 35624.W6122 | 10             | M12x1,75       | 7              | 35             | 4.0            | 2              | 6   | 60        | 28             | 11                  |
| 35624.W6123 | 10             | M12x1,75       | 7              | 50             | 4.0            | 2              | 6   | 60        | 28             | 11                  |
| 35624.W6161 | 13             | M16x2,0        | 10             | 25             | 5.0            | 2              | 8   | 60        | 28             | 34                  |
| 35624.W6162 | 13             | M16x2,0        | 10             | 35             | 5.0            | 2              | 8   | 60        | 28             | 34                  |
| 35624.W6163 | 13             | M16x2,0        | 10             | 50             | 5.0            | 2              | 8   | 60        | 28             | 34                  |
| 35624.W6201 | 16             | M20x2,5        | 13             | 30             | 5.0            | 2              | 10  | 60        | 28             | 63                  |
| 35624.W6202 | 16             | M20x2,5        | 13             | 50             | 5.0            | 2              | 10  | 60        | 28             | 63                  |
| 35624.W6203 | 16             | M20x2,5        | 13             | 70             | 5.0            | 2              | 10  | 60        | 28             | 63                  |
| 35624.W6241 | 21             | M24x3,0        | 15             | 40             | 6.0            | 2              | 10  | 60        | 24             | 154                 |
| 35624.W6242 | 21             | M24x3,0        | 15             | 80             | 6.0            | 2              | 10  | 60        | 24             | 154                 |
| 35624.W8101 | 8              | M10x1,5        | 5              | 25             | 3.5            | 2              | 5   | 80        | 28             | 18                  |
| 35624.W8102 | 8              | M10x1,5        | 5              | 35             | 3.5            | 2              | 5   | 80        | 28             | 18                  |
| 35624.W8103 | 8              | M10x1,5        | 5              | 50             | 3.5            | 2              | 5   | 80        | 28             | 18                  |
| 35624.W8121 | 10             | M12x1,75       | 7              | 25             | 4.0            | 2              | 6   | 80        | 28             | 29                  |
| 35624.W8122 | 10             | M12x1,75       | 7              | 35             | 4.0            | 2              | 6   | 80        | 28             | 29                  |
| 35624.W8123 | 10             | M12x1,75       | 7              | 50             | 4.0            | 2              | 6   | 80        | 28             | 29                  |
| 35624.W8161 | 13             | M16x2,0        | 10             | 25             | 5.0            | 2              | 8   | 80        | 28             | 68                  |
| 35624.W8162 | 13             | M16x2,0        | 10             | 35             | 5.0            | 2              | 8   | 80        | 28             | 68                  |
| 35624.W8163 | 13             | M16x2,0        | 10             | 50             | 5.0            | 2              | 8   | 80        | 28             | 68                  |
| 35624.W8201 | 16             | M20x2,5        | 13             | 30             | 5.0            | 2              | 10  | 80        | 28             | 97                  |
| 35624.W8202 | 16             | M20x2,5        | 13             | 50             | 5.0            | 2              | 10  | 80        | 28             | 97                  |
| 35624.W8203 | 16             | M20x2,5        | 13             | 70             | 5.0            | 2              | 10  | 80        | 28             | 97                  |
| 35624.W8241 | 21             | M24x3,0        | 15             | 40             | 6.0            | 2              | 10  | 80        | 24             | 238                 |
| 35624.W8242 | 21             | M24x3,0        | 15             | 80             | 6.0            | 2              | 10  | 80        | 24             | 238                 |