### Locating Pins for Fixtures

**Precision Grade, Shouldered**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>D</th>
<th>B</th>
<th>L</th>
<th>P</th>
<th>P1</th>
<th>H</th>
<th>W</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>B Dimension</td>
<td>Selection</td>
<td>Standard</td>
<td>Type</td>
<td>Material</td>
<td>Hardness</td>
<td>Surface Treatment</td>
<td>Treated / TiCN Treated</td>
</tr>
<tr>
<td>LATAN</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
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<td>1.0</td>
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</tr>
<tr>
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<td>1.0</td>
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<td>1.0</td>
<td>1.0</td>
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<tr>
<td>TLANDN</td>
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<td>1.0</td>
<td>1.0</td>
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<td>1.0</td>
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<tr>
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<td>1.0</td>
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<tr>
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<td>1.0</td>
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<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Features:** For Precision Grade, P, Dicoat, Treated / TiCN Treated items are selected for Dicoat.

**Code**

- **B Dimension:** 5 mm ~ will be selected for Dicoat.
- **Type:** DicoatR Treated / TiCN Treated

**Features:**

- **e = P/2 tan(A/2) + R - {R/sin(A/2)}**
- **Tip Shape Selectable, Precision Grade, Shouldered**

### Locating Pins for Fixtures

**Tip Shape Selectable, Precision Grade, Shouldered**

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<tr>
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**Code**

- **B Dimension:** 5 mm ~ will be selected for Dicoat.
- **Type:** DicoatR Treated / TiCN Treated

**Features:**

- **e = P/2 tan(A/2) + R - {R/sin(A/2)}**
- **Tip Shape Selectable, Precision Grade, Shouldered**
### Locating Pins for Fixtures

#### Standard Grade, No Shoulder

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Tip Shape</th>
<th>N°</th>
<th>Length</th>
<th>Screw</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELNTA</td>
<td>Stainless Steel</td>
<td>V</td>
<td>10</td>
<td>1.6</td>
<td>M6</td>
<td>-</td>
</tr>
<tr>
<td>ELNTD</td>
<td>Stainless Steel</td>
<td>V</td>
<td>10</td>
<td>1.6</td>
<td>M6</td>
<td>-</td>
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<tr>
<td>SELNTA</td>
<td>Stainless Steel</td>
<td>V</td>
<td>10</td>
<td>1.6</td>
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<td>10</td>
<td>1.6</td>
<td>M6</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Tip Shape Selectable, Standard Grade, No Shoulder

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<tr>
<th>Part Number</th>
<th>Material</th>
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<th>N°</th>
<th>Length</th>
<th>Screw</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-LNND</td>
<td>Stainless Steel</td>
<td>Ø0.05</td>
<td>10</td>
<td>1.6</td>
<td>M6</td>
<td>-</td>
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<tr>
<td>D-LNNA</td>
<td>Stainless Steel</td>
<td>Ø0.05</td>
<td>10</td>
<td>1.6</td>
<td>M6</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note:**
- **Dicoat® Treated / TiCN Treated** items do not come with a center hole.
- **Dicoat® Treated / TiCN Treated items** will have the (   ) precision.
- **Reference:** sin15°≈0.259 sin30°=0.5 sin45°≈0.707 sin60°≈0.866
- **Reference:** tan15°≈0.267 tan30°=0.577 tan45°=1 tan60°≈1.732
- **Machine Finish:** 35~40HRC
- **Surface Treatment:** (Surface 3000HV) Dicoat®
- **Surface Treatment:** (5) (8) 10 12 15
- **Surface Treatment:** (Ø0.05)
- **Surface Treatment:** Reference: h7

### Alterations

Locating Pins for Fixtures

**Hardened / Hard Chrome / Carburized / Treated / TiCN Treated**

**Not applicable to Dicoat® Treated / Diamond Shape.**

**Dimension ( ) is not applicable to Diamond Shape, Dicoat® and TiCN treatment.**

**Dimension is selectable from 5 mm ~ for Dicoat® Treated / Diamond Shape.**

**Shape A is not applicable to Tip Shape D, Screw from Standard Grade, No Shoulder (P1691).**

**Dimension is selectable from 5 mm ~ for Dicoat® Treated / Diamond Shape.**

**Changes the thread length.**

**Changes the thread length.**

**Changes the flat position to 90°**

**Changes the flat position to 90°**

**Applicable to Diamond Shape Type only.**

**Applicable to Diamond Shape Type only.**

**Ordering Code**

**Ordering Code**

**Selection**

**Selection**

**Thread Length**

**Thread Length**

**P .1691**

**P .1691**

**En 1.7220 Equiv.**

**En 1.2379 Equiv.**

**3.2**

**3.2**

**1.6**

**1.6**

**Reference:** sin15°≈0.259 sin30°=0.5 sin45°≈0.707 sin60°≈0.866

**Reference:** tan15°≈0.267 tan30°=0.577 tan45°=1 tan60°≈1.732

**35~40HRC**

**35~40HRC**

**h7**

**h7**

**MC8®**

**MC8®**

**A**

**A**

**EN 1.2379 Equiv.**

**EN 1.2379 Equiv.**

**1mm Increment**

**1mm Increment**

**Not applicable to Dicoat® Treated / Diamond Shape.**

**Not applicable to Dicoat® Treated / Diamond Shape.**

**Dicoat® Treated / TiCN Treated items** do not come with a center hole.

**Dicoat® Treated / TiCN Treated items** will have the (   ) precision.

**Machine Finish:** 35~40HRC

**Surface Treatment:** (Surface 3000HV) Dicoat®

**Surface Treatment:** (5) (8) 10 12 15

**Surface Treatment:** (Ø0.05)

**Surface Treatment:** Reference: h7
### Locating Pins for Fixtures - Standard Grade, Short Set Screw

#### Circumference Groove

**Features:**
- Dimension is selectable from 5 mm ~ for Dicoat
- Locating Pins for Fixtures - Standard Grade, Short Set Screw
- Tolerance is 0.05 mm
- Applicable to Hardening, Carburized and Round Shape Products only
- Enlarged position at fixed pin hole
- Material: EN 1.2379, EN 1.7220
- Treatment: Hardened
- Hard Chrome

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Hardness</th>
<th>Material</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELASA</td>
<td>Type D</td>
<td>Hardened</td>
<td>EN 1.2379</td>
<td>Enlarged position at fixed pin hole</td>
</tr>
</tbody>
</table>

**Material Equivalents:**
- 30°: EN 1.2379, EN 1.7220
- 60°: EN 1.2379, EN 1.7220

**Surface Finish:**
- 3mm or more for tips

**Tip Shape Selectable, Circumference Groove / Notched**

**Surface Finish Relief:**
- 3mm or more for tips

**Unit Price:**
- 12

---

**Notch Shape**

- No Shoulder
- Shouldered

**Circumference Groove Shape**

- V Groove (90°)

**Tangent Depth:**
- 0.2mm (±0.05mm)

**Dimension:**
- 0.73 or more

**Tolerance:**
- 1.0 ~ 1.0

**Material:**
- EN 1.2379, EN 1.7220

**Treatment:**
- Hardened

**Surface Finish:**
- 3mm or more for tips

**Unit Price:**
- 12

---

**Flat Position**

- Wrench Plate
- Upper Relief Radius Change
- Tip Angle Change

**Material:**
- 30°: EN 1.2379, EN 1.7220

**Treatment:**
- Hardened

**Surface Finish:**
- 3mm or more for tips

**Unit Price:**
- 12

---

**Notch Shape**

- No Shoulder
- Shouldered

**Circumference Groove Shape**

- V Groove (90°)

**Tangent Depth:**
- 0.2mm (±0.05mm)

**Dimension:**
- 0.73 or more

**Tolerance:**
- 1.0 ~ 1.0

**Material:**
- EN 1.2379, EN 1.7220

**Treatment:**
- Hardened

**Surface Finish:**
- 3mm or more for tips

**Unit Price:**
- 12
### Locating Pins for Fixtures - Standard Grade, Round Edge

**Tip Shape Selectable**

- **Shouldered**
  - Threaded
  - Set Screw

- **No Shoulder**
  - Threaded
  - Set Screw

**Parts Number**

- **Type**
  - P
  - W
  - L
  - E
  - P

**Part Number**

- **Shape**
  - DH7
  - Threaded
  - Selection
  - Screw Mounted

**Hardness**

- **3.2**
- **HRC**

**Surface Treatment**

- **M**
  - Carburized
- **D**
  - Dicoat

**Taper R**

- **R0.5 or less**

**Reference**

- **sin15°≈0.259**
- **sin30°=0.5**
- **sin45°≈0.707**
- **sin60°≈0.866**

**Additional Information**

- **L** dimension in ( ) is not applicable to Diamond Shape.
- **Shape**
  - RHNTD
  - DicoatR treatment is not applicable.

### Locating Pins for Fixtures - Standard Grade, Bullet Nose

**Part Number**

- **Shape**
  - DicoatR

**Surface Treatment**

- **Equiv.**

**Reference**

- **sin15°≈0.259**
- **sin30°=0.5**
- **sin45°≈0.707**
- **sin60°≈0.866**

**Additional Information**

- **L** dimension in ( ) is not applicable to Diamond Shape.

**Workpiece insertion and extraction is smooth as the insertion guide has an \( \Diamond \) shape.
Alumina Coated Pins

Features: Suitable for spot welding where Alumina Coating exerts its abrasive resistance and insulation. Polishing Set Screws is smaller than the conventional products to avoid a workplace grilling effect.

<table>
<thead>
<tr>
<th>Material</th>
<th>Hardness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alumina Coating</td>
<td>Approx. 3.5/4H</td>
</tr>
</tbody>
</table>

**Threaded**

Z-LANA Z-LATD

**Set Screw**

Z-LANA Z-LMTD

Features:
- Insulating layer with depth of 5~10µm
- Stainless Steel)
- Cross Section View

**Set Screw**

- Insulation compared to metal coating.
- Alumina coating excels in abrasion resistance and insulation compared to metal coating.
- Insulating layer with depth of 5~10µm

**Part Number**

- Z-LANA
- Z-LMTD

**Ordering Code**

- LATD - P-B-L -
- P7.8 - B10 - L12 -
- (SC, RC)

**Part Number**

- Z-LANA
- Z-LATA
- Z-LATD

**Unit Price**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-LANA</td>
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</tr>
<tr>
<td>Z-LMTD</td>
<td></td>
</tr>
</tbody>
</table>

**Features:**
- Locating of workpiece in both vertical and horizontal directions is possible.

**Locating Pins for Fixtures Height Adjusting Pins**

<table>
<thead>
<tr>
<th>Material</th>
<th>Hardness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carburized</td>
<td></td>
</tr>
<tr>
<td>H12</td>
<td></td>
</tr>
</tbody>
</table>

**Set Screw**

- Adds wrench flats.
- Changes the flat position
- Machinability on one side.

**Threaded**

- Machinability on Round Shape only.
- Shape D
- 1mm Increment

**Flat Position**

- Standard/ NC/ No Screw
- Standard/ NC/ No Screw

**Machinability**

- Applicable to Round Shape Type only.
- Applicable to Round Shape Type only.

**Tip Shape**

- 45°
- 60°
- 90°

**Taper R**

* No relief at P dimension.

**P6.0 - B10**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-LANA</td>
<td></td>
</tr>
<tr>
<td>Z-LMTD</td>
<td></td>
</tr>
</tbody>
</table>

**Characteristic Comparison (Reference)**

- Natural Resistance (Ω)
- Tensile Strength (MPa)
- Hardness (HV)
- Traditional Properties
- Heat Resistance
- Machinability
- Cost

<table>
<thead>
<tr>
<th>Material</th>
<th>Natural Resistance (Ω)</th>
<th>Tensile Strength (MPa)</th>
<th>Hardness (HV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Stainless Steel (Alumina Coated)</td>
<td>72x10^2</td>
<td>10^10</td>
<td>10^10</td>
</tr>
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<td>Special Stainless Steel</td>
<td>72x10^2</td>
<td>10^10</td>
<td>10^10</td>
</tr>
<tr>
<td>Ceramic A1203</td>
<td>10</td>
<td>10^10</td>
<td>10^10</td>
</tr>
<tr>
<td>Nylon</td>
<td>10</td>
<td>10^10</td>
<td>10^10</td>
</tr>
<tr>
<td>Bakelite (Paper Base)</td>
<td>5x10^10</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
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**Alumina Coated Pins**

- Insulating layer with depth of 5~10µm
- Stainless Steel)
- Cross Section View

**Part Number**

- Z-LANA
- Z-LMTD

**Ordering Code**

- LATD - P-B-L -
- P7.8 - B10 - L12 -
- (SC, RC)

**Part Number**

- Z-LANA
- Z-LATA
- Z-LATD

**Unit Price**

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**Set Screw**

- Adds wrench flats.
- Changes the flat position
- Machinability on one side.

**Threaded**

- Machinability on Round Shape only.
- Shape D
- 1mm Increment

**Flat Position**

- Standard/ NC/ No Screw
- Standard/ NC/ No Screw

**Machinability**

- Applicable to Round Shape Type only.
- Applicable to Round Shape Type only.

**Tip Shape**

- 45°
- 60°
- 90°

**Taper R**

* No relief at P dimension.

**P6.0 - B10**

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**Alumina Coated Pins**

- Insulating layer with depth of 5~10µm
- Stainless Steel)
- Cross Section View

**Part Number**

- Z-LANA
- Z-LMTD

**Ordering Code**

- LATD - P-B-L -
- P7.8 - B10 - L12 -
- (SC, RC)

**Part Number**

- Z-LANA
- Z-LATA
- Z-LATD

**Unit Price**

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**Set Screw**

- Adds wrench flats.
- Changes the flat position
- Machinability on one side.

**Threaded**

- Machinability on Round Shape only.
- Shape D
- 1mm Increment

**Flat Position**

- Standard/ NC/ No Screw
- Standard/ NC/ No Screw

**Machinability**

- Applicable to Round Shape Type only.
- Applicable to Round Shape Type only.

**Tip Shape**

- 45°
- 60°
- 90°

**Taper R**

* No relief at P dimension.

**P6.0 - B10**

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<td></td>
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<td>Special Stainless Steel (Alumina Coated)</td>
<td>72x10^2</td>
<td>10^10</td>
<td>10^10</td>
</tr>
<tr>
<td>Special Stainless Steel</td>
<td>72x10^2</td>
<td>10^10</td>
<td>10^10</td>
</tr>
<tr>
<td>Ceramic A1203</td>
<td>10</td>
<td>10^10</td>
<td>10^10</td>
</tr>
<tr>
<td>Nylon</td>
<td>10</td>
<td>10^10</td>
<td>10^10</td>
</tr>
<tr>
<td>Bakelite (Paper Base)</td>
<td>5x10^10</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>Bakelite (Cloth Base)</td>
<td>5x10^10</td>
<td>80</td>
<td>100</td>
</tr>
</tbody>
</table>