



## Westfield Fasteners Product Specification:

# ISO 8752 / DIN 1481 - Slotted Spring Pins (Roll Pins), Heavy Duty Type

This product guide contains the specification for metric sized slotted spring pins, heavy duty type, as available from Westfield Fasteners. The basis of this specification is the ISO standard ISO 8752 and the older DIN 1481.

## Product Description

Slotted roll pins are self retaining pins, as the steel grades that they are made from allow the pin to sit effectively in tension within the hole(s) that they are fitted to.

Slotted roll pins are also known as slotted spring pins, tension pins, split dowel pins and hollow spring pins. Slotted roll pins are generally used for locating two parts accurately. This particular type and are designed for more heavy duty use than other types of tension pin.

## Scope of the ISO & DIN Standard

ISO 8752 specifies the characteristics of these heavy duty slotted spring-type straight pins, with nominal diameters from 1mm to 50mm inclusively. This standard covers slotted roll pins in steel, and austenitic and martensitic stainless steels.

Table 1 below defines the overall dimensions and tolerances of this pin type. Minimum shear strength values given in this table are applicable to steel and martensitic stainless steels only; figures for austenitic stainless steels are not given, which unfortunately includes 301 grade stainless steel, a material choice available from Westfield Fasteners for these items.

ISO 8752 supercedes the DIN standard 1481. Parts are interchangeable between the two standards except that the option for a chamfer at one end begins at 8mm diameter for the DIN standard, whilst the ISO standard specifies this option from 10mm.

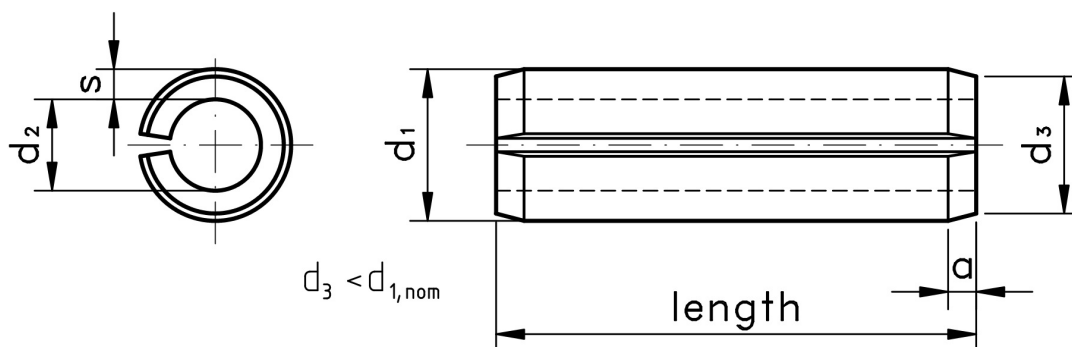


Figure 1: Slotted Roll Pin, Heavy Duty Type

### Notes to figure 1:

- A chamfer (a) may be present at only one end on pin diameters from 8mm and above. This feature is at the manufacturers discretion.

## Application Notes

The diameter of the hole should be equal to the nominal diameter d1 of the mating pin, and prepared to tolerance class H12. When the pin is fitted into the smallest permitted hole, the slot should not be fully closed.

**Table 1: Dimensions & Tolerances according to ISO 8752**

| nom | d <sub>1</sub>  |      | d <sub>2</sub><br>before mounting | a    |      | s    | Minimum shear strength (double shear) |
|-----|-----------------|------|-----------------------------------|------|------|------|---------------------------------------|
|     | before mounting |      |                                   | max  | min  |      |                                       |
|     | max             | min  |                                   |      |      |      |                                       |
| 1   | 1.3             | 1.2  | 0.8                               | 0.35 | 0.15 | 0.2  | 0.7                                   |
| 1.5 | 1.8             | 1.7  | 1.1                               | 0.45 | 0.25 | 0.3  | 1.58                                  |
| 2   | 2.4             | 2.3  | 1.5                               | 0.55 | 0.35 | 0.4  | 2.82                                  |
| 2.5 | 2.9             | 2.8  | 1.8                               | 0.6  | 0.4  | 0.5  | 4.38                                  |
| 3   | 3.5             | 3.3  | 2.1                               | 0.7  | 0.5  | 0.6  | 6.32                                  |
| 3.5 | 4.0             | 3.8  | 2.3                               | 0.8  | 0.6  | 0.75 | 9.06                                  |
| 4   | 4.6             | 4.4  | 2.8                               | 0.85 | 0.65 | 0.8  | 11.24                                 |
| 4.5 | 5.1             | 4.9  | 2.9                               | 1.0  | 0.8  | 1.0  | 15.36                                 |
| 5   | 5.6             | 5.4  | 3.4                               | 1.1  | 0.9  | 1.0  | 17.54                                 |
| 6   | 6.7             | 6.4  | 4.0                               | 1.4  | 1.2  | 1.2  | 26.04                                 |
| 8   | 8.8             | 8.5  | 5.5                               | 2.0  | 1.6  | 1.5  | 42.76                                 |
| 10  | 10.8            | 10.5 | 6.5                               | 2.4  | 2.0  | 2.0  | 70.16                                 |
| 12  | 12.8            | 12.5 | 7.5                               | 2.4  | 2.0  | 2.5  | 104.1                                 |
| 13  | 13.8            | 13.5 | 8.5                               | 2.4  | 2.0  | 2.5  | 115.1                                 |
| 14  | 14.8            | 14.5 | 8.5                               | 2.4  | 2.0  | 3.0  | 144.7                                 |
| 16  | 16.8            | 16.5 | 10.5                              | 2.4  | 2.0  | 3.0  | 171.0                                 |
| 18  | 18.9            | 18.5 | 11.5                              | 2.4  | 2.0  | 3.5  | 22.5                                  |
| 20  | 20.9            | 20.5 | 12.5                              | 3.4  | 3.0  | 4.0  | 280.6                                 |
| 21  | 21.9            | 21.5 | 13.5                              | 3.4  | 3.0  | 4.0  | 298.2                                 |
| 25  | 25.9            | 25.5 | 15.5                              | 3.4  | 3.0  | 5.0  | 438.5                                 |
| 28  | 28.9            | 28.5 | 17.5                              | 3.4  | 3.0  | 5.5  | 542.6                                 |
| 30  | 30.9            | 30.5 | 18.5                              | 3.4  | 3.0  | 6.0  | 631.4                                 |
| 32  | 32.9            | 32.5 | 20.5                              | 3.6  | 3.0  | 6.0  | 684                                   |
| 35  | 35.9            | 35.5 | 21.5                              | 3.6  | 3.0  | 7.0  | 859                                   |
| 38  | 38.9            | 38.5 | 23.5                              | 4.6  | 4.0  | 7.5  | 1003                                  |
| 40  | 40.9            | 40.5 | 25.5                              | 4.6  | 4.0  | 7.5  | 1068                                  |
| 45  | 45.9            | 45.5 | 28.5                              | 4.6  | 4.0  | 8.5  | 1360                                  |
| 50  | 50.9            | 50.5 | 31.5                              | 4.6  | 4.0  | 9.5  | 1685                                  |

Please note that minimum shear strength values given in the table above are applicable to steel and martensitic stainless steels only; figures for austenitic stainless steels are not given, which unfortunately includes 301 grade stainless steel, a material choice available from Westfield Fasteners for these items.

For further details, please refer to the ISO/DIN standard document for this item.