



The Advantages of SPIROL Standard Slotted Pins vs ISO 8752

WHITE PAPER

by Jeff Greenwood, Product Sales Engineer
SPIROL

SPIROL manufactures two types of Slotted Spring Pins: SPIROL Standard Slotted Pins and ISO 8752 Slotted Pins. SPIROL Standard Slotted Pins offer significant advantages as compared to ISO 8752 Slotted Pins, which were originally designed to function as Dowel Bushings. Dowel Bushings are used in conjunction with bolts and isolate bolt threads from shear planes. Conversely, SPIROL Standard Slotted Spring Pins were designed to perform one of the following pinning functions without the addition of any other fastener: hinge, alignment, retention, stop, or hub/shaft connection. While both SPIROL Standard Slotted Spring Pins and ISO 8752 Slotted Pins can be effective in an assembly, SPIROL Standard Slotted Spring Pins are easier to install and superior in form, fit, and function.



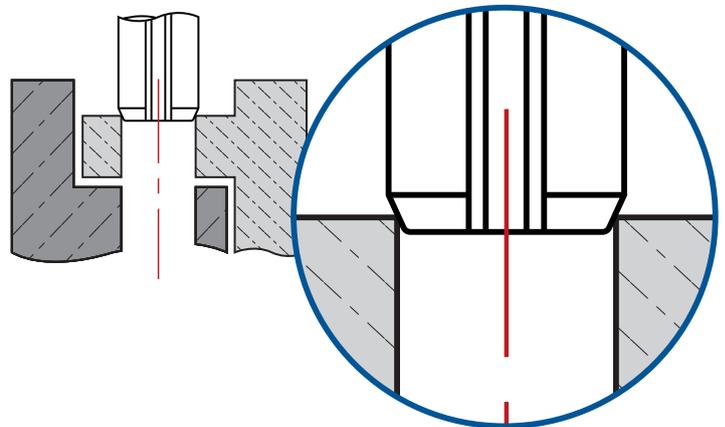
Chamfer

SPIROL Standard Slotted Spring Pins specify a maximum chamfer diameter to facilitate the installation process and address the common issues experienced with installing ISO 8752 Slotted Pins. For example, a $\text{\O}6\text{mm}$ SPIROL Standard Slotted Spring Pin has a maximum chamfer diameter of $\text{\O}5.8\text{mm}$, providing 1mm clearance on either side to facilitate installation into the hole.

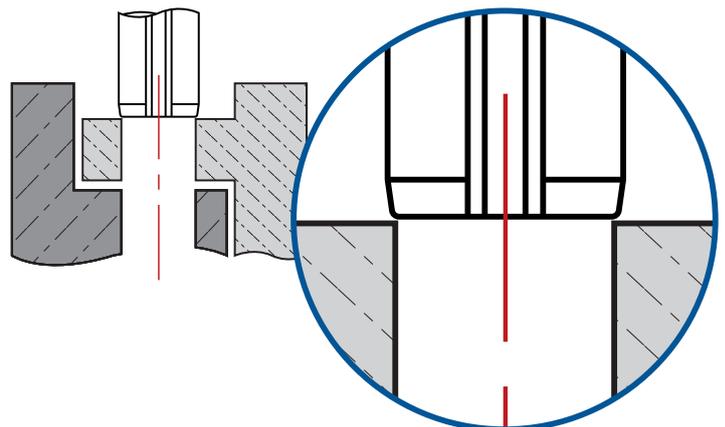
Conversely, since ISO 8752 only requires that the maximum chamfer diameter be “less than” the nominal pin diameter, this often causes installation issues. In other words, a $\text{\O}6\text{mm}$ ISO 8752 Slotted Pin chamfer need only measure smaller than $\text{\O}6\text{mm}$. So, for example, a value of $\text{\O}5.99\text{mm}$ would be acceptable, leaving only 0.0005mm on either side to help get it started into the hole.

Lower Insertion Force

SPIROL Standard Slotted Pins generally require less force to install as compared to ISO 8752 pins. To understand the difference, it is necessary to consider the pin's starting diameter. ISO 8752 pins possess a larger $\text{\O}OD$, and as a result, more force is required to compress the pin during installation. On average, SPIROL Standard Slotted Spring Pins are installed with 40% less force than the equivalent ISO 8752 Slotted Pin.



SPIROL Standard Slotted Pins sits deeper in the hole to facilitate installation



ISO 8752 Slotted Pins are often difficult to install because the chamfer diameter is not much smaller than the hole

Interlocking

ISO 8752 Slotted Spring Pins are prone to interlocking. The reason for this is that ISO 8752 Slotted Pins have a slot width wider than the thickness of the raw material. Interlocking often causes feeding problems and can result in production downtime. ISO 8752 Slotted Pins will also interlock during the plating process and these nested pins may end up permanently bonding together. In the event that they become loose again during or after plating, there will be sections of the pin that have little to no plating coverage.

Conversely, SPIROL Standard Slotted Spring Pins have a maximum slot width specification less than the material thickness and thus can not interlock. Therefore, SPIROL Standard Slotted Pins can be automatically fed and installed without risk of downtime due to interlocking, and they can be plated without risk of incomplete plating coverage.



Example of interlocked Slotted Pins

Shear Strength

Another advantage is that SPIROL Standard Slotted Pins provide greater shear strength than ISO 8752 Pins.

NOM. DIA.	ISO	SPIROL STANDARD	% STRONGER THAN ISO 8752
	DOUBLE SHEAR STRENGTH IN kN		
1.5	1.58	1.8	14
2	2.82	3.5	24
2.5	4.38	5.5	26
3	6.32	7.8	23
4	11.24	12.3	9
5	17.54	19.6	12
6	26.04	28.5	9
8	42.76	48.8	14
10	70.16	79.1	13
12	104.1	104.1	0

Double Shear Strength Comparison Between ISO 8752 and SPIROL Standard Slotted Spring Pins

Conclusion

While SPIROL manufactures both SPIROL Standard and ISO 8752 Slotted Pins, the SPIROL Standard Slotted Pins are superior in **every category** as it relates to performance and the assembly process. There are no technical benefits with using ISO 8752 Slotted Pins. Optimize your assembly by designing in **SPIROL Standard Slotted Spring Pins!**

Technical Centres

Europe SPIROL United Kingdom

17 Princeswood Road
Corby, Northants
NN17 4ET United Kingdom
Tel. +44 1536 444800
Fax. +44 1536 203415

SPIROL France

Cité de l'Automobile ZAC Croix Blandin
18 Rue Léna Bernstein
51100 Reims, France
Tel. +33 3 26 36 31 42
Fax. +33 3 26 09 19 76

SPIROL Germany

Ottostr. 4
80333 Munich, Germany
Tel. +49 89 4 111 905 71
Fax. +49 89 4 111 905 72

SPIROL Spain

08940 Cornellà de Llobregat
Barcelona, Spain
Tel. +34 93 669 31 78
Fax. +34 93 193 25 43

SPIROL Czech Republic

Sokola Tůmy 743/16
Ostrava-Mariánské Hory 70900
Czech Republic
Tel. +420 417 537 979

SPIROL Poland

Aleja 3 Maja 12
00-391 Warszawa, Poland
Tel. +48 510 039 345

Americas SPIROL International Corporation

30 Rock Avenue
Danielson, Connecticut 06239 U.S.A.
Tel. +1 860 774 8571
Fax. +1 860 774 2048

SPIROL Shim Division

321 Remington Road
Stow, Ohio 44224 U.S.A.
Tel. +1 330 920 3655
Fax. +1 330 920 3659

SPIROL Canada

3103 St. Etienne Boulevard
Windsor, Ontario N8W 5B1 Canada
Tel. +1 519 974 3334
Fax. +1 519 974 6550

SPIROL Mexico

Avenida Avante #250
Parque Industrial Avante Apodaca
Apodaca, N.L. 66607 Mexico
Tel. +52 81 8385 4390
Fax. +52 81 8385 4391

SPIROL Brazil

Rua Mafalda Barnabé Soliane, 134
Comercial Vitória Martini, Distrito Industrial
CEP 13347-610, Indaiatuba, SP, Brazil
Tel. +55 19 3936 2701
Fax. +55 19 3936 7121

Asia Pacific SPIROL Asia Headquarters

1st Floor, Building 22, Plot D9, District D
No. 122 HeDan Road
Wai Gao Qiao Free Trade Zone
Shanghai, China 200131
Tel. +86 21 5046 1451
Fax. +86 21 5046 1540

SPIROL Korea

160-5 Seokchon-Dong
Songpa-gu, Seoul, 138-844, Korea
Tel. +86 21 5046-1451
Fax. +86 21 5046-1540

email: info-uk@spirol.com