



Westfield Fasteners Product Specification:

Thread Forming Screws for Plastics - Pozi Countersunk with 60° Thread Angle

This product guide contains the specification for thread forming screws for plastics, a series of standard parts available from Westfield Fasteners. The information presented here is specific to products with a pozi countersunk head and a 60° thread angle.

Product Description

Pozi countersunk thread forming screws for thermo plastics, made from case hardened steel, with a silver zinc plated Cr3 finish.

These thread forming screws have a 60 degree thread angle (flank angle) with a trilobular tip. Designed for standard performance in Nylon, Acetal, ABS, and for some harder plastic, such as glass-filled nylons, DMC and some phenolics.

The 60 degree angle helps to reduce the boss bursting force. Correctly used these screws will minimise the stress to the plastic and give optimal thread engagement and clamping loads.

Please see table 2 for the recommended pilot pre-drilled or moulded holes required for different plastics.

Useful principles to follow when specifying plastic fasteners:

- Pilot holes should ideally be chamfered (or have a counterbore) to the thread major diameter to prevent cracking.
- Boss heights should be constructed so that there is no gap between the top of the boss and the component being clamped.
- Boss diameters should be approximately 2.5 to 3 times the diameter of the pilot hole.
- The stripping torque to tapping torque ratio should be at least 3-1 or around 5-1 for automated high volume manufacturing.
- Pilot holes should have a threaded engagement of at least twice the screw diameter.
- Specific application testing is advisable where there is uncertainty of type and size.

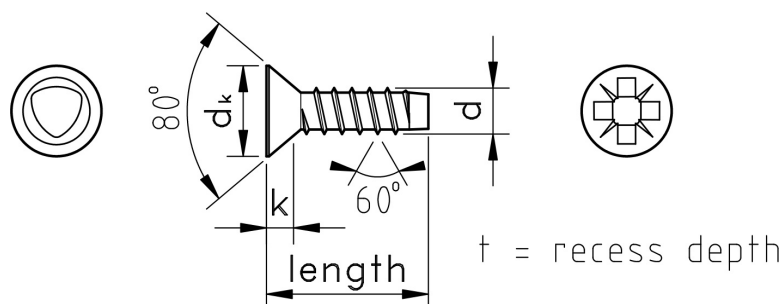


Figure 1: 60° Pozi Countersunk Thread Forming Screw

Table 1: Dimensions & Tolerances (mm)

d	d	d _k	k	t		Z
				Min	Max	
3	No. 4-20	5.7	1.7	1.75	2.01	1
3.5	No. 6-19	7	2.1	1.85	2.31	2

Table 2: Recommended Pilot Hole Diameter For Threadforming Screws for Plastics with 60° Thread (mm)

Thread Diameter		Hole Diameter			
		Plastic (soft)		Plastic (hard)	
Inch	mm	Inch	mm	Inch	mm
2	2.2	.076	1.93	.080	2.03
4	3.0	.099	2.51	.106	2.69
6	3.5	.121	3.07	.128	3.25
8	4.5	.147	3.73	.157	3.99
10	5.2	.173	4.39	.184	4.67