



FASTENERS & COMPONENTS

METRIC - JIS-B1188 PHILLIPS SMALL PAN INTERNAL TOOTH WASHER SEMS

JIS-B1188

Screw Dimensions		Internal Tooth Washer									Phillips Drive Size
Nominal Size	Thread Pitch	A		H		M	D		W		
		Head Diameter		Head Height		Recess Diam	Outside Diameter		Thickness		
		Max	Min	Max	Min	Ref	Max	Min	Max	Min	
M3	0.5	5.5	5	2.15	1.85	3.6	6.5	6.1	0.485	0.415	2
M4	0.7	7	6.5	2.75	2.45	4.2	8.5	8.1	0.485	0.415	2
M5	0.8	9	8.4	3.45	3.15	4.9	10.0	9.6	0.640	0.560	2
M6	1.0	10.5	9.8	4.1	3.7	6.3	11.0	10.5	0.640	0.560	3

Tolerance on Length	Nominal Screw Size	Nominal Screw Lengths		
		Up to 10 mm	Over 10 mm to 20 mm, incl.	Over 20 mm to 40 mm, incl.
	M2.5	-0.4	-0.6	-0.8
	M3 to M4	-0.6	-0.6	-0.8
	M5 to M8	-0.8	-1	-1

Description	A cross-recessed, pan head machine screw with a free-spinning, captive washer. Directly below the pan head is an internal tooth lockwasher. The diameter and height of the pan head are between 5% and 20% smaller than a standard pan head.	
Applications/ Advantages	The washer/screw assembly makes this a locking screw with the washer providing the locking action. Machine pre-assembly provides cost savings to the end user. The internal tooth sems is recommended when it is desirable to hide the teeth for appearance or to prevent snagging.	
Component	<i>Screw</i>	<i>Tooth Lockwasher</i>
Material	Class 4.8 carbon steel	C1050 Carbon Steel
Hardness	Rockwell B 71 minimum	410 - 490 HV 5
Tensile Strength	420 N/mm ² (applies to screws with a minimum nominal length of 2.5d (where d is the nominal diameter of the screw))	
Plating	Sems are available in zinc yellow and clear zinc finishes, and baked after plating.	