



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	Screw	Tooth Lockwasher
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.	