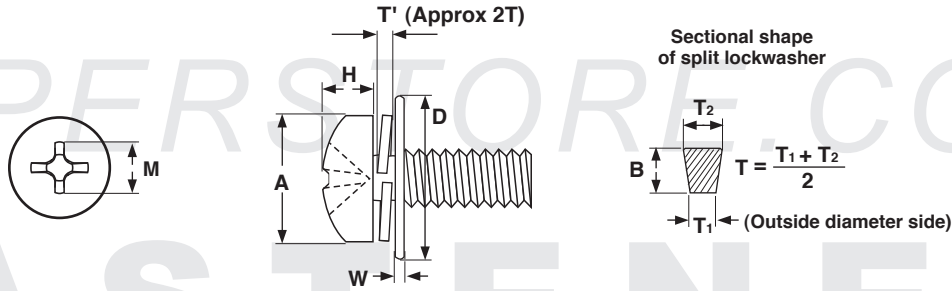


JIS B1188 Small Pan Phillips:
STEEL Split Lockwasher/Flat Washer



METRIC - JIS B1188 PHILLIPS SMALL PAN SPLIT WASHER / FLAT WASHER SEMS														JIS B1188
Screw Dimensions							Flat Washer				Split Washer		Phillips Drive Size	
Nominal Size	Thread Pitch	A		H		M	D		W		D1	B(min) x T (min)		
		Head Diameter		Head Height		Recess Diam	Outside Diameter		Thickness		Outside Diameter			
		Max	Min	Max	Min	Ref	Max	Min	Max	Min	Max			
M2	0.4	3.5	3.1	1.4	1.2	2.2	5	4.7	0.34	0.26	4	0.9 x 0.5	1	
M2.5	0.45	4.5	4.1	1.8	1.6	2.6	6.5	6.15	0.55	0.45	4.8	1 x 0.6	1	
M3	0.5	5.5	5	2.15	1.85	3.6	7	6.65	0.55	0.45	5.5	1.1 x 0.7	2	
							6	5.7	0.55	0.45				
M4	0.7	7	6.5	2.75	2.45	4.2	10	9.65	1.1	0.9	7	1.4 x 1	2	
							9	8.65	0.9	0.7				
							8	7.65	0.9	0.7				
M5	0.8	9	8.4	3.45	3.15	4.9	10	9.65	1.1	0.9	8.5	1.7 x 1.3	2	
M6	1.0	10.5	9.8	4.1	3.7	6.3	12.5	12.1	1.75	1.45	11.5	2.7 x 1.5	3	

Tolerance on Length	Nominal Screw Size	Nominal Screw Lengths				
		Up to 4mm	Over 4 mm to 10 mm	Over 10 mm to 20 mm, incl.	Over 20 mm to 40 mm, incl.	Over 40 mm
	M2 & M2.5	-0.3	-0.4	-0.6	-0.8	-
	M3 to M4.5	-	-0.6	-0.6	-0.8	-1
	M5 to M8	-	-0.8	-1	-1	-1

Description	A cross-recessed, pan head machine screw with two free-spinning, captive washers. Directly below the pan head is a helical split lockwasher; beneath the split lockwasher is a round flat washer. The diameter and height of the pan head are between 5% and 20% smaller than a standard pan head.		
Applications/Advantages	This double washer sems screw is typically a more economical alternative to a patented conical washer sems screw. They are commonly used in the electronics industry.		
Component	<i>Screw</i>	<i>Split Lockwasher</i>	<i>Flat Washer</i>
Material	Class 4.8 carbon steel	Split lockwashers shall be made from a carbon steel that conforms to the following chemical composition requirements: Carbon: 0.54 - 0.81%; Silicon: 0.15 - 0.35%; Manganese: 0.30 - 0.90%; Phosphorus: 0.030% max.; Sulfur: 0.030% max.	Plain washers shall be made from a carbon steel that conforms to the following chemical composition requirements: Carbon: 0.12% max.; Manganese: 0.50% max.; Phosphorus: 0.040% max.; Sulfur: 0.045% max.
Hardness	Rockwell B 71 minimum	Rockwell C 42 - 50	Rockwell B 60 maximum
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.		