



METRIC - ISO 7045 PAN PHIL EXTERNAL TOOTH SEMS											ISO 7045
Machine Screw Dimensions							External Tooth Lockwasher Dimensions				Phillips Driver Size
Nominal Size	Thread Pitch	A		H		M	D		T1		
		Head Diameter		Height of Head		Recess Diameter	Outside Diameter		Material Thickness		
		Max	Min	Max	Min	Ref	Max	Min	Max	Min	
M2	0.4	4.0	3.7	1.60	1.46	1.9	4.5	4.2	0.5	0.27	0
M2.5	0.45	5.00	4.70	2.10	1.96	2.70	5.84	5.59	0.51	0.36	1
M3	0.5	5.6	5.3	2.40	2.26	3	6.0	5.82	0.44	0.36	1
M4	0.7	8.00	7.64	3.10	2.92	4.4	8.25	7.75	0.60	0.45	2
M5	0.8	9.50	9.14	3.70	3.52	4.9	10.0	9.6	0.5	0.3	2
M6	1	12	11.57	4.6	4.3	5.9	12.1	11.6	0.75	0.60	3
Tolerance on Length				over 3mm to 6mm				± 0.24			
				over 6mm to 10mm				± 0.29			
				over 10mm to 18 mm				±0.35			
				over 20mm to 30mm				±0.42			

Description	A cross-recessed, pan head machine screw with a free-spinning, external tooth captive lockwasher.			
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 external tooth variety offers greater torsional resistance than an internal tooth SEMs.		Offers same advantages of the steel variety but with superior resistance to corrosion.	
Component	Screw	External Tooth Lockwasher	Screw	External Tooth Lockwasher
Material	Steel		Stainless	
	C1008 or equivalent carbon steel	C1050 Carbon Steel	A2 Stainless	410 Stainless
Hardness	Rockwell B 67 minimum	410 - 490 HV 5	-	-
Tensile Strength	400 N/mm ² (applies to screws with a minimum nominal length of 2.5d where d is the nominal diameter of the screw)	-	72,500 psi min.	-
Plating	Sems are available in a clear zinc finish and baked after plating.		Parts are usually supplied without a supplemental finish.	