



# THZ

## Tapered Hole Zerts

### FEATURES

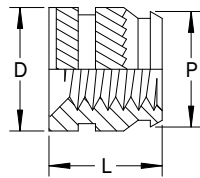
- Designed to be used in an 8° tapered hole.
- Rapid self-aligning installation using heat or ultrasonic.
- Combination of knurls and vanes provide high pull-out and torque-out resistance.
- Circular flange creates an attractive installation by preventing escape of plastic.
- Available in a wide variety of thread sizes and lengths.



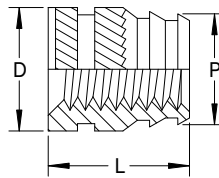
### PART DESCRIPTION EXAMPLE

THZ — 632 — 150 — SS  
 T — T — T — T  
 Series Code Insert Thread Code Insert Length Code Material Code<sup>1</sup>

(1) SS material code designates stainless steel. Standard insert material is brass. Omit SS material code for brass inserts. Custom materials and finishes available by request.



Insert Series Code THZ (Single Barb)



Insert Series Code THZ (Double Barb)

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## GENERAL

	Insert Thread	Insert Thread Code	L Insert Length	L Insert Length Code	Barb Style	Boss			D Insert Diameter	P Pilot Diameter
						B Hole Dia. ±.001	T Hole Dia. ±.001	W Wall Thickness Min.		
INCH	0-80	080	.115	115	Single	.118	.123	.080	.136	.122
			.188	188	Double	.107				.115
	2-56	256	.115	115	Single	.118	.123	.080	.136	.122
			.188	188	Double	.107				.115
	4-40	440	.135	135	Single	.153	.159	.093	.172	.157
			.219	219	Double	.141				.144
	6-32	632	.150	150	Single	.199	.206	.116	.220	.203
			.250	250	Double	.185				.190
	8-32	832	.185	185	Single	.226	.234	.133	.250	.230
			.312	312	Double	.208				.212
	10-24	1024	.225	225	Single	.267	.277	.159	.296	.272
			.375	375	Double	.246				.251
	10-32	1032	.225	225	Single	.267	.277	.159	.296	.272
			.375	375	Double	.246				.251
	1/4-20	2520	.300	300	Single	.349	.363	.194	.375	.354
			.500	500	Double	.321				.332
	1/4-28	2528	.300	300	Single	.349	.363	.194	.375	.354
			.500	500	Double	.321				.332
	5/16-18	3118	.335	335	Single	.431	.448	.245	.469	.439
			.562	562	Double	.401				.406
5/16-24	3124	.335	335	Single	.431	.448	.245	.469	.439	
		.562	562	Double	.401				.406	
3/8-16	3716	.375	375	Single	.523	.540	.293	.563	.530	
		.625	625	Double	.488				.493	
3/8-24	3724	.375	375	Single	.523	.540	.293	.563	.530	
		.625	625	Double	.488				.493	

(1) All dimensions are in inches and reference unless toleranced.

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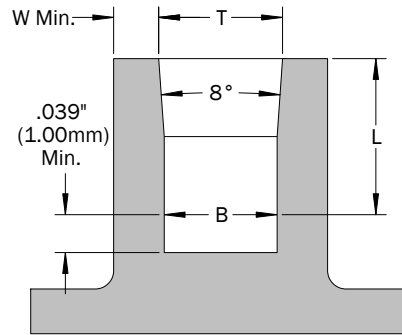
**GENERAL (CONTINUED)**

	Insert Thread	Insert Thread Code	L Insert Length	L Insert Length Code	Barb Style	Boss			D Insert Diameter	P Pilot Diameter
						B Hole Dia. ±0.025	T Hole Dia. ±0.025	W Wall Thickness Min.		
<b>METRIC</b>	M1 x 0.25	M1	2.90	2.90	Single	3.00	3.12	2.00	3.45	3.10
			4.80	4.80	Double	2.72				2.92
	M2 x 0.4	M2	2.90	2.90	Single	3.00	3.12	2.00	3.45	3.10
			4.80	4.80	Double	2.72				2.92
	M2.5 x 0.45	M2.5	3.40	3.40	Single	3.88	4.04	2.40	4.37	3.98
			5.60	5.60	Double	3.58				3.66
	M3 x 0.5	M3	3.80	3.80	Single	5.05	5.23	3.00	5.59	5.15
			6.40	6.40	Double	4.70				4.82
	M3.5 x 0.6	M3.5	3.80	3.80	Single	5.05	5.23	3.00	5.59	5.15
			6.40	6.40	Double	4.70				4.82
	M4 x 0.7	M4	4.70	4.70	Single	5.74	5.94	3.40	6.35	5.84
			7.90	7.90	Double	5.28				5.38
	M5 x 0.8	M5	6.70	6.70	Single	7.69	8.00	4.40	8.33	7.82
			11.10	11.10	Double	7.06				7.19
	M6 x 1.0	M6	7.60	7.60	Single	8.86	9.22	4.90	9.53	8.99
			12.70	12.70	Double	8.15				8.43
M8 x 1.25	M8	8.50	8.50	Single	10.95	11.38	6.20	11.90	11.15	
		14.30	14.30	Double	10.18				10.31	
M10 x 1.5	M10	9.50	9.50	Single	13.28	13.71	7.50	14.30	13.46	
		15.90	15.90	Double	12.39				12.52	

(1) All dimensions are in millimeters and reference unless toleranced.

## BOSS DESIGN RECOMMENDATION

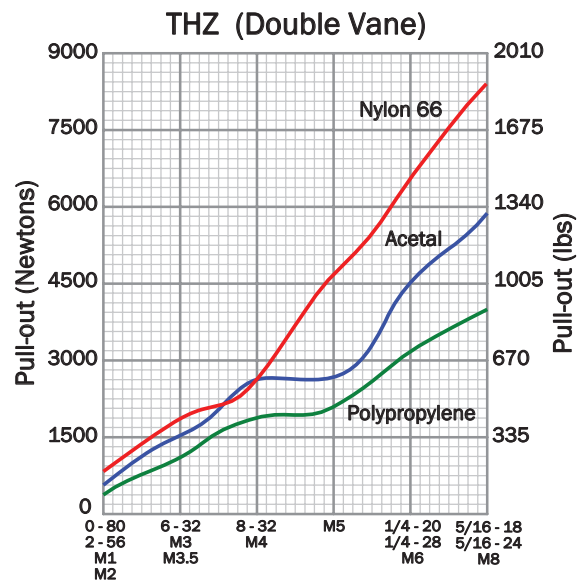
The THZ Tapered Hole Zert is designed to be installed into a molded hole with a 8° inclusive taper for approximately 1/3 to 2/3 of its length and straight for the remainder. The top of the hole should not be countersunk or counterbored as this will decrease the insert's performance. The recommended hole size applies at the point reached by the bottom of the insert. Molded holes should be used wherever possible as drilled holes may result in diminished performance. Minimum boss wall thicknesses shown are for reference and may vary depending on the type of plastic.



## INSTALLATION

The inserts may be installed by pre-heating or ultrasonic vibration methods. When using heat, the insert should be hot enough to soften the plastic without melting it to avoid flash around the top. Ultrasonic vibration should be applied using low amplitude and the minimum amount of power necessary to satisfactorily soften the plastic. In both methods, avoid excessive pressure that would force an insert into a hole without allowing the plastic to properly soften and flow around the insert features.

## PERFORMANCE



- (1) Performance data shown is for reference only. Variations in application, boss material type and size, and installation method will affect the loads. PENCOM strongly encourages testing in the application.