

Locating Pins

APE Standard / A Configurable Large Head

Type	Coating	Material	Hardness
APE Standard NAAMS	None - Plain T - TiN	8620 Alloy Steel (JIS SNCM220)	Carburized 58 - 62HRC (Depth 0.5-0.7 after Grinding)
APEL A Configurable	P - Plain T - TiN R - Rainbow DLC		
M2APE Standard NAAMS	None - Plain D - Rainbow DLC	M2 Tool Steel (JIS SKH51)	Thru hardened 58-65 HRC (with drawn shank >35 HRC)
M2APEL A Configurable	P - Plain R - Rainbow DLC		

Tolerance			
Dim.	Tol.	Finish (Ra)	Geometric
0.0	±0.3	6.0 μm	0.015 T.I.R to Datum A & B
0.00	±0.03	3.0 μm	
0.000	±0.015	1.6 μm	0.03 T.I.R

Tip Shape Selection		
A Shape	Bullet	
B Shape	Half Bullet	
C Shape	Sphere	

L ref. = $28 + A + B + \sqrt{(C - B)^2 - \left(C - \frac{D}{2}\right)^2}$

Standard NAAMS																
Type	E Flat Callout (Actual)	A Lead Length										Coating	For Slot	D Diameter	B Rad	C Rad
		15 mm	20 mm	30 mm	40 mm	50 mm	60 mm	70 mm	80 mm	90 mm	100 mm					
APE M2APE (Slot - 0.15)	25 (24.85)	1M	2M	3M	4M	5M	6M	7M	8M	9M	0M	None - Plain T - TiN (not available on M2 Pins) D - Rainbow DLC (only for M2 Pins)	25 x 31	25.17	2.0	50.0

Standard NAAMS specifications are controlled by the NAAMS organization and the latest version of these products will be produced in compliance to: www.naamsstandards.org.

Configurable NAAMS (A Configurable)										
Type	Coating	Tip Shape	E Flat Callout (Actual)	A Lead Length (1 mm Inc.)	For Slot	D Diameter	B Rad	C Rad		
								Tip A	Tip B	Tip C
APEL M2APEL (Slot - 0.15)	P - Plain T - TiN (not available on M2 Pins) R - Rainbow DLC	A B C	25 (24.85)	15-100	25 x 31	25.17	2.0	50.0	25.0	D/2

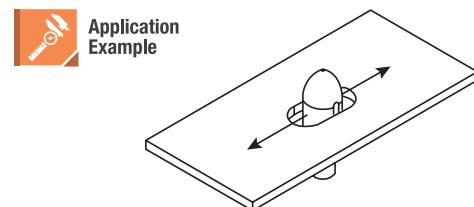
Part Number Example

Standard

Type	E	A	Coating
APE	25	1M	
APE	25	4M	T
M2APE	25	6M	
M2APE	25	8M	D

Configurable

Type	Coating	Tip Shape	E	A
APEL	P	A	25	A42
APEL	T	B	25	A25
M2APEL	P	C	25	A85
M2APEL	R	B	25	A56



There's more on the web: misumiusa.com

Respot Pins

ARE Standard / A Configurable Small Head

Type	Coating	Material	Hardness
ARE Standard NAAMS	None - Plain T - TiN	8620 Alloy Steel (JIS SNCM220)	Carburized 58 - 62HRC (Depth 0.5-0.7 after Grinding)
ARES A Configurable	P - Plain T - TiN R - Rainbow DLC		
M2ARE Standard NAAMS	None - Plain D - Rainbow DLC	M2 Tool Steel (JIS SKH51)	Thru hardened 58-65 HRC (with drawn shank >35 HRC)
M2ARES A Configurable	P - Plain R - Rainbow DLC		

Tolerance			
Dim.	Tol.	Finish (Ra)	Geometric
0.0	±0.3	6.0 μm	0.015 T.I.R to Datum A & B
0.00	±0.03	3.0 μm	
0.000	±0.015	1.6 μm	0.03 T.I.R

Tip Shape Selection		
A Shape	Bullet	
B Shape	Half Bullet	
C Shape	Sphere	

L ref. = $28 + A + B + \sqrt{(C - B)^2 - \left(C - \frac{D}{2}\right)^2}$

Standard NAAMS																
Type	E Flat Callout (Actual)	A Lead Length										Coating	For Slot	D Diameter	B Rad	C Rad
		15 mm	20 mm	30 mm	40 mm	50 mm	60 mm	70 mm	80 mm	90 mm	100 mm					
ARE M2ARE (Slot - 0.28)	06 (5.72)	1M	2M	3M	4M	5M	6M	7M	8M	9M	0M	P - Plain T - TiN (not available on M2 Pins) D - Rainbow DLC (only for M2 Pins)	6 x 12	7.09	1.0	18.0
	08 (7.72)	1M	2M	3M	4M	5M	6M	7M	8M	9M	0M		8 x 14	8.81	1.0	24.0
	10 (9.72)	1M	2M	3M	4M	5M	6M	7M	8M	9M	0M		10 x 16	10.63	2.0	30.0
	12 (11.72)	1M	2M	3M	4M	5M	6M	7M	8M	9M	0M		12 x 18	12.50	2.0	36.0
	13 (12.72)	1M	2M	3M	4M	5M	6M	7M	8M	9M	0M		13 x 19	13.46	2.0	39.0
	16 (15.72)	1M	2M	3M	4M	5M	6M	7M	8M	9M	0M		16 x 22	16.35	2.0	48.0
19 (18.72)	1M	2M	3M	4M	5M	6M	7M	8M	9M	0M	19 x 25	19.27	2.0	38.0		

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Configurable NAAMS (A Configurable)												
Type	Coating	Tip Shape	E Flat Callout (Actual)	A Lead Length (1 mm Inc.)	For Slot	D Diameter	B Rad	C Rad				
								Tip A	Tip B	Tip C		
ARES M2ARES (Slot - 0.28)	P - Plain T - TiN (not available on M2 Pins) R - Rainbow DLC	A	06 (5.72)	15-60	6 x 12	7.09	1.0	18.0	9.0	D/2		
			08 (7.72)	15-80	8 x 14	8.81		24.0	12.0			
			10 (9.72)	15-100	10 x 16	10.63		30.0	15.0			
		12 (11.72)	12 x 18		12.50	36.0	18.0					
		13 (12.72)	13 x 19		13.46	39.0	19.5					
		16 (15.72)	2.0	16 x 22	16.35	48.0	24.0					
19 (18.72)	19 x 25	19.27		38.0	19.0							

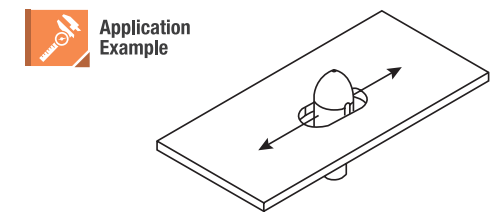
Part Number Example

Standard

Type	E	A	Coating
ARE	19	2M	
ARE	10	9M	T
M2ARE	25	4M	
M2ARE	25	4M	D

Configurable

Type	Coating	Tip Shape	E	A
ARES	P	B	16	A89
ARES	T	C	6	A55
M2ARES	P	C	16	A85
M2ARES	R	A	8	A30



Check out misumiusa.com for the most current pricing and lead time.