

UNDERSIZED TAPPING ELECTRODES



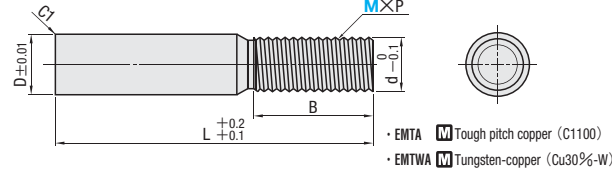
Printed in Red

The volume discount rate is also applicable to alteration cost. All price & lead time are to be quoted.

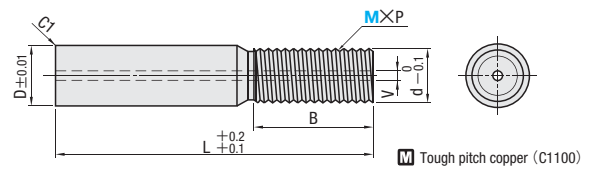
— UNDERSIZED TAPPING ELECTRODES —

RoHS

EMTA EMTWA



EMTB (Through hole type)



[EMTWA] Even a work made of carbide can be processed since it contains tungsten. (An electric discharging machine capable of using a copper tungsten electrode is required).
[EMTB] Has a through hole for water circulation that enables higher processing speed and helps reduce secondary electric discharge.

D	d	P	L	B	V (EMTB only)	Catalog No.		U/Price for 1~4		
						Type	M	EMTA	EMTB	EMTWA
5	2.2	0.5	50	15	0.5	EMTA	3			
	3.0	0.7					4			
	3.9	0.8					5			
8	4.7	1.0	60	20	1.2	EMTB (Through hole type)	6			
	6.4	1.25					8			
12	8.2	1.5	70	30	2.5	EMTWA (M3~12)	10			
	10.0	1.75					12			
16	13.6	2.0	80	40	3					
20	17.1	2.5								



Order

Catalog No.

EMTA4

• Printed in Red • Printed in Blue



Delivery

SGP Stock

3 Days

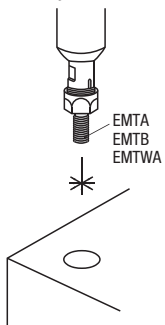
☎ For area out of Singapore please refer to P.i.



Example

Undersized Tapping Electrodes

This electrode is used when forming a female thread in hardened steel by electrical discharge machining.



☎ Tip diameter (d) is smaller than the screw size (M). Insert an undersized tapping electrode in the low screw hole and perform electrical discharge machining while rocking the electrode in the X and Y directions.
• Swing amount = $M - d - 0.1$ (Target)
• Clearance for electro discharge = on one side 0.1~0.5

Quantity discount rate

Quantity	1~4	5~9	10~19	20~50
Rate	—	5%	10%	15%

What is copper tungsten?

Characteristics

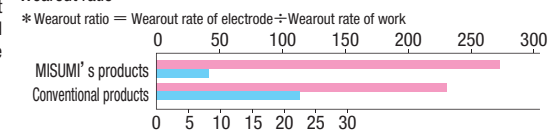
- The composition and alloy structure are optimally adjusted to extend life of an electrode and to raise efficiency of electrical discharge machining at the same time.
- It is possible to increase the machining speed, and reduce the wear of the electrode itself. Tungsten is very hard, permitting accurate electrical discharge machining.

Characteristic values

Material characteristics	Copper tungsten
Gravity	14.0
Hardness (HRB)	93.5
Conductivity (IACS%)	50
Tensile strength (kgf/mm ²)	60
Transverse rupture strength (kgf/mm ²)	125

Comparison of machining data

Work : Carbide V3
Machining condition : 14~16 μm settings
Machining speed (g/min.)



ELECTRODES FOR ENGRAVING

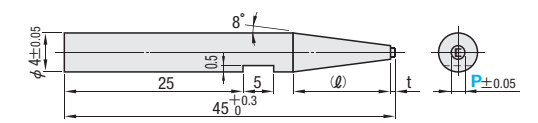
— ROUND TYPE —

The volume discount rate is also applicable to alteration cost. All price & lead time are to be quoted.

— ROUND TYPE —

RoHS

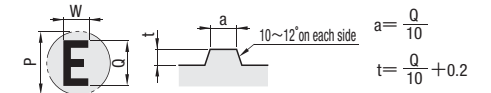
EMLM



Tough pitch copper (C1100)



Character size



ℓ	Q			W			Part Number		Characters for engraving (Round Gothic type)	U/Price 1~9
	Numerals alphabetical characters	≦	+	Numerals alphabetical characters	≦	+	Type	P		
11.4	0.4	0.36	0.23	0.23	0.185	0.23	EMLM	*0.8A	1234567890 ABCDEFGHI JKLMNOPQR STUVWXYZ Note > < + -	Quotation
11.4	0.6	0.53	0.35	0.3	0.27	0.35		0.8		
10.7	0.7	0.62	0.41	0.4	0.31	0.41		1.0		
10	1.0	0.88	0.58	0.6	0.44	0.58		1.2		
8.9	1.2	1.06	0.7	0.7	0.53	0.70		1.5		
7.1	1.6	1.42	0.93	1.1	0.71	0.93		2.0		
5.3	2.0	1.77	1.16	1.4	0.89	1.16		2.5		
3.6	2.5	2.22	1.46	1.7	1.11	1.46		3.0		
—	3.5	3.11	2.04	2.4	1.57	2.04		4.0		

☎ Concentricity between the engraving character and the shank is about 0.1.
☎ Note : Use # for — (minus).

*When 0.8A (P=0.8), only character size becomes small.



Order

Part Number — Characters for engraving

EMLM0.8A — A

Quantity discount rate

Quantity	1~9	10~49	50~99	100~200
Rate	—	5%	10%	15%



Delivery

• EMLM — Number

3 Day

☎ For area out of Singapore please refer to P.i.

• EMLM — Alphabet · mark

7 Days

☎ For area out of Singapore please refer to P.i.