

BCI USA

BROOKE CUTTING TOOLS USA



BROOKE COLOR BAND APPLICATION TAPS

Color Band Application taps are specially designed to optimize your tapping performance

Manufactured from HSS-EV steel (High Vanadium) for greater wear resistance.

PRODUCT TYPES

The CBA tap family consists of Four "Color Band Application" taps, each designed with a different geometry for a specific material category. Each tap is available in both Spiral Point and Spiral Flute form.

- **Red** For tapping high tensile materials, such as tool steels.
- **Blue** For tapping tough materials, such as stainless steels.
- **Yellow** For tapping more ductile materials, such as aluminum.
- **White** For tapping abrasive materials such as cast iron and reinforced plastics.



Spiral Point - Plug Style - For tapping through-holes



Spiral Flute - Bottoming Style - For tapping blind holes

CBA TAP BENEFITS

- Lower Cost per Hole
- Extended Tap Life
- Higher Quality Finish

The primary benefit of the CBA range is enhanced threading performance due to geometry designed for specific material application groups. The result is an improved quality of finish and an increased number of holes per tap, giving extended tap life and reduced cost per hole.

Surface Treatment (Coating)

TiN, TiCN, TiAlN coatings are available on request

Red Band Tap Characteristics

- **Material Types** Designed for high tensile materials such as Tool Steels, Heat Treatable Steels, Spring Steel, Case Hardening Steel, Unalloyed Titanium, Nitriding Steel, Cold Drawn Constructional Steel and High Tensile Steel.
- **Material Parameters** Used to tap materials with hardness up to 470HB, tensile strength up to 100 Tons per Sq. inch.
- **Helix Angle** Spiral flute taps have 15° right hand helix which efficiently forces high tensile material swarf up out of the hole, while still maintaining correct cutting geometry.
- **Surface Finish** The red band tap is supplied as standard in bright condition. Coating available on request.

Blue Band Tap Characteristics

- **Material Types** Designed for tough materials, such as Stainless Steel, Titanium Alloys, Cast Steel, Heat Resisting Steel and Work Hardening Steel.
- **Material Parameter** Used to tap materials with hardness up to 350HB, tensile strength up to 80 Tons per Sq. inch.
- **Truncated Thread** Truncated thread after lead reduces frictional contact with the threaded hole and allows easier penetration of coolant.
- **Helix Angle** Spiral flute taps have 40° right hand helix allowing tough material swarf to be efficiently removed from the hole.
- **Surface Finish** Supplied as standard with steam oxide finish which prevents cold welding, reduces friction and improves surface finish. Coating available on request.

Yellow Band Tap Characteristics

- **Material Types** Designed for more ductile materials such as Aluminum, Magnesium Alloys, Soft Brass (MS58), Plastics, Zinc Alloys and Copper.
- **Material Parameters** Used to tap materials with hardness up to 250HB, tensile strength up to 55 Tons per Sq. inch.
- **Flutes** Wide flutes allow more efficient swarf removal which prevents clogging and torque build-up.
- **Rake Angle** High rake angle improves shear characteristic and reduces build-up on the cutting edge, allowing tap to cut more freely for longer periods.
- **Helix Angle** Spiral flute taps have 40° right hand helix, allowing ductile material swarf to be efficiently forced out of the hole.
- **Surface Finish** The yellow band tap is supplied as standard in bright condition. Coating available on request.

White Band Tap Characteristics

- **Material Types** Designed for highly abrasive materials such as Cast Iron and reinforced plastics.
- **Material Parameters** Used to tap materials with hardness up to 300HB tensile strength up to 65 Tons per Sq. inch.
- **Flutes** Increased number of flutes reduces torque and increases tap life.
- **Helix Angle** Taps have 15° right hand helix.
- **Surface Finish** The white band tap is nitrided and steam tempered. Coating available on request as an alternative to Nitriding.

BROOKE CBA TAP SELECTION GUIDE

MATERIAL TYPES		HARDNESS HB	TENSILE STRENGTH (TONS / SQ.INCH)	NORMAL CHIP FORM	SPEED FEET / MIN		RECOMMENDED TAP TYPE			
					STANDARD	COATED	RED BAND	BLUE BAND	YELLOW BAND	WHITE BAND
Steel	Free Cutting steels	≤120	≤25	extra long	40	60 - 90	X		●	
	Structural steel. Case carburizing steel	≤200	≤45	middle/long	40	60 - 90	X		●	
	Plain Carbon steel	≤250	≤55	long	32	60 - 80	X		●	
	Alloy steel	>250	≤55	long	32	60 - 80	●			
	Alloy steel. Hardened and tempered steel	>250 ≤350	>55 ≤80	long	25	30 - 50	●			
	Alloy steel. Hardened and tempered steel	>350	>80	long	16	30 - 50	●			
Stainless Steel	Free machining Stainless steel	≤250	≤55	middle	30	60 - 80		●		
	Austenitic	≤250	≤55	long	20	30 - 50		●		
	Ferritic + Austenitic, Ferritic, Martensitic	≤300	≤65	long	18	25 - 50		●		
Cast Iron	Lamellar graphite	≤150	≤30	extra short	35	60 - 90				●
	Lamellar graphite	>150 ≤300	>30 ≤65	extra short	25	30 - 60				●
	Nodular graphite, Malleable Cast Iron	≤200	≤45	middle/short	35	60 - 90	X			●
	Nodular graphite Malleable Cast Iron	>200 ≤300	>45 ≤65	middle/short	25	30 - 60				●
Titanium	Titanium, unalloyed	≤200	≤45	extra long	25	30 - 50	●			
	Titanium, alloyed	≤270	≤60	middle/short	30	40 - 60	X	●		
	Titanium, alloyed	>270 ≤350	>60 ≤80	middle/short	15	20 - 40	X	●		
Nickel	Nickel, unalloyed	≤150	≤30	extra long	30	40 - 60		●		
	Nickel, alloyed	≤270	≤60	long	15	20 - 40	●		X	
	Nickel, alloyed	>270 ≤350	>60 ≤80	long	12	15 - 35	●		X	
Copper	Copper	≤100	≤20	extra long	35	50 - 80			●	
	Beta Brass, Bronze	≤200	≤45	middle/short	100	140 - 180			●	X
	Alpha Brass	≤200	≤45	long	60	130 - 160			●	
	High strength Bronze	≤470	≤100	short	15	20 - 40	●			
Aluminum Magnesium	Al, Mg, unalloyed	≤100	≤20	extra long	50	80 - 100			●	
	Al alloyed Si < 0.5%	≤150	≤30	middle	100	140 - 170			●	
	Al alloyed, Si >0.5% <10%	≤120	≤25	middle/short	60	100 - 120	X		●	
	Al alloyed, Si > 10% Al-alloys, Mg-alloys	≤120	≤25	short	50	80 - 100	X		●	
Synthetic Materials	Thermoplastics	-	-	extra long	90	-			●	
	Thermosetting plastics	-	-	short	35	50 - 70			●	
	Reinforced plastic materials	-	-	extra short	25	30 - 50	X			●

PRODUCT RANGE

**FRACTIONAL SPIRAL FLUTE &
SPIRAL POINT TAPS**

**METRIC SPIRAL FLUTE &
SPIRAL POINT TAPS**

UNC

N0.6 x 32
No.8 x 32
No.10 x 24
1/4" x 20
5/16" x 18
3/8" x 16
7/16" x 14
1/2" x 13
9/16" x 12
5/8" x 11
3/4" x 10
7/8" x 9
1" x 8

UNF

N0.6 x 40
No.8 x 36
No.10 x 32
1/4" x 28
5/16" x 24
3/8" x 24
7/16" x 20
1/2" x 20
9/16" x 18
5/8" x 18
3/4" x 16
7/8" x 14
1" x 12

METRIC COARSE

M3 x 0.5
M4 x 0.7
M5 x 0.8
M6 x 1.0
M8 x 1.25
M10 x 1.5
M12 x 1.75
M14 x 2.0
M16 x 2.0
M18 x 2.5
M20 x 2.5
M22 x 2.5
M24 x 3.0

METRIC FINE

M3 x 0.35
M4 x 0.5
M5 x 0.5
M6 x 0.75
M8 x 1.0
M10 x 1.0
M12 x 1.5
M14 x 1.5
M16 x 1.5
M18 x 1.5
M20 x 1.5
M22 x 1.5
M24 x 1.5



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