

UD ULTRA PARABOLIC TWIST DRILL SELECTION GUIDE

MATERIAL TYPES		HARDNESS HB	TENSILE STRENGTH N/mm ²	NORMAL CHIP FORM	DRILL TYPE & SURFACE TREATMENT	SURFACE SPEED METRES PER MIN	FEED CURVE
Steel	Free cutting steels	≤ 120	≤ 400	extra long	UDL TiN	35-45 50-70	H J
	Structural steel. Case carburizing steel	≤ 200	≤ 700	middle/long	UDL TiN	25-35 40-50	H J
	Plain Carbon steel	≤ 250	≤ 850	long	UDL TiN TiAIN	25-30 35-40	G I
	Alloy steel	> 250	≤ 850	long	UDL TiN TiAIN	25-30 35-40	G I
	Alloy steel. Hardened and tempered steel	> 250 ≤ 350	> 850 ≤ 1200	long	UDL TiN TiAIN	15-20 25-30	E G
	Alloy steel. Hardened and tempered steel	> 350	> 1200	long	UDL TiN TiAIN	15-20 20-25	E G
Stainless Steel	Free machining stainless steel	≤ 250	≤ 850	middle	UDL TiN TiAIN	18-21 27-32	E G
	Austenitic	≤ 250	≤ 850	long	UDL TiN TiAIN	8-10 12-15	K M
	Ferritic + Austenitic, Ferritic, Martensitic	≤ 300	≤ 1000	long	UDL TiN TiAIN	10-15 16-22	E G
Titanium	Titanium, unalloyed	≤ 200	≤ 700	extra long	UDL TiAIN	20-25 30-35	E G
	Titanium, alloyed	≤ 270	≤ 900	middle/short	UDS TiAIN	13-17 20-25	E G
	Titanium, alloyed	> 270 ≤ 350	> 900 ≤ 1200	middle/short	UDS TiAIN	5-6 7-11	C E
Nickel	Nickel, unalloyed	≤ 150	≤ 500	extra long	UDL TiAIN	12-16 20-25	G I
	Nickel, alloyed	≤ 270	≤ 900	long	UDL TiAIN	6-8 10-12	G I
	Nickel, alloyed	> 270 ≤ 350	> 900 ≤ 1200	long	UDL TiAIN	5-6 10-12	C E
Copper	Copper	≤ 100	≤ 350	extra long	UDL TiN	55-65 80-95	L N
	Beta Brass, Bronze	≤ 200	≤ 700	middle/short	UDS TiN	60-70 90-105	L N
	Alpha Brass	≤ 200	≤ 700	long	UDL TiN	30-40 45-50	L N
	High strength Bronze	≤ 470	≤ 1500	short	UDS TiN	27-33 40-50	K M
Aluminium Magnesium	Al, Mg, unalloyed	≤ 100	≤ 350	extra long	UDL TiN	75-85 110-125	N N
	Al alloyed, Si < 0.5%	≤ 150	≤ 500	middle	UDL TiN	65-75 100-115	N N
	Al alloyed, Si > 0.5% < 10%	≤ 120	≤ 400	middle/short	UDS TiN	55-65 80-100	L N
	Al alloyed, Si > 10% Al-alloys, Mg-alloys	≤ 120	≤ 400	short	UDS TiN	27-33 40-50	K M
Synthetic Materials	Thermoplastics	-	-	extra long	UDL TiN	75-85 110-125	L N
	Thermosetting plastics	-	-	short	UDS TiN	55-65 80-100	J L

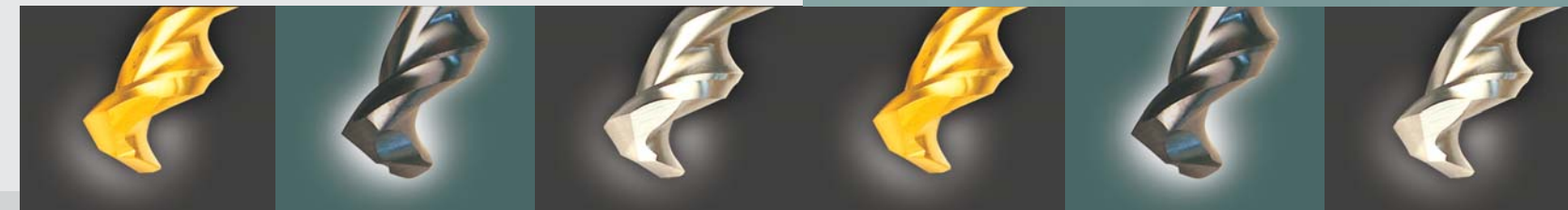


UD ULTRA PARABOLIC TWIST DRILLS

Manufacturers & Suppliers of Drills,
Reamers, End Mills, Bore Cutters,
Taps & Dies, Toolbits, Custom Tools &
Surface Coating Technology



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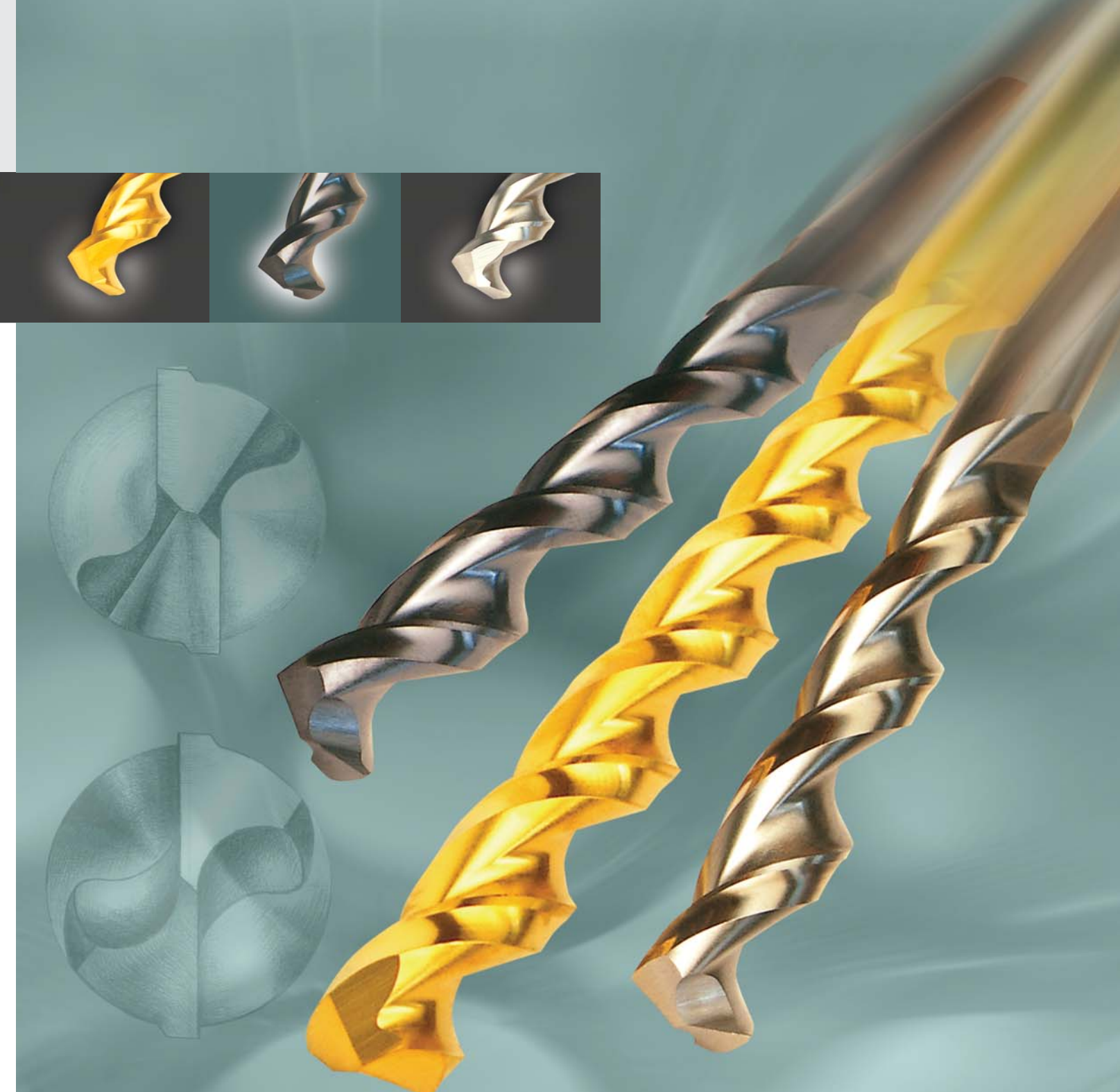
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LIGHTHOUSE ADVERTISING



UD ULTRA PARABOLIC TWIST DRILLS

Heavy Duty

UD ULTRA PARABOLIC FORM TWIST DRILL RANGE

This range of drills is specifically designed to meet the challenges of a broad spectrum of difficult drilling applications.

Available in Fractional and Metric sizes in Stub, Jobber and Extra Length Long series.

Refer to catalogue for details

PRODUCT TYPES

UDL Designed for LONG CHIP FORMING MATERIALS, such as Aluminium, Copper and Stainless Steels, with special UX Notch point or Split point.

UDS Designed for SHORT CHIP FORMING MATERIALS, such as Titanium and Nickel Chrome Alloys, with special UX Notch point or Split point.

BENEFITS OF THE HEAVY DUTY UD DRILL RANGE

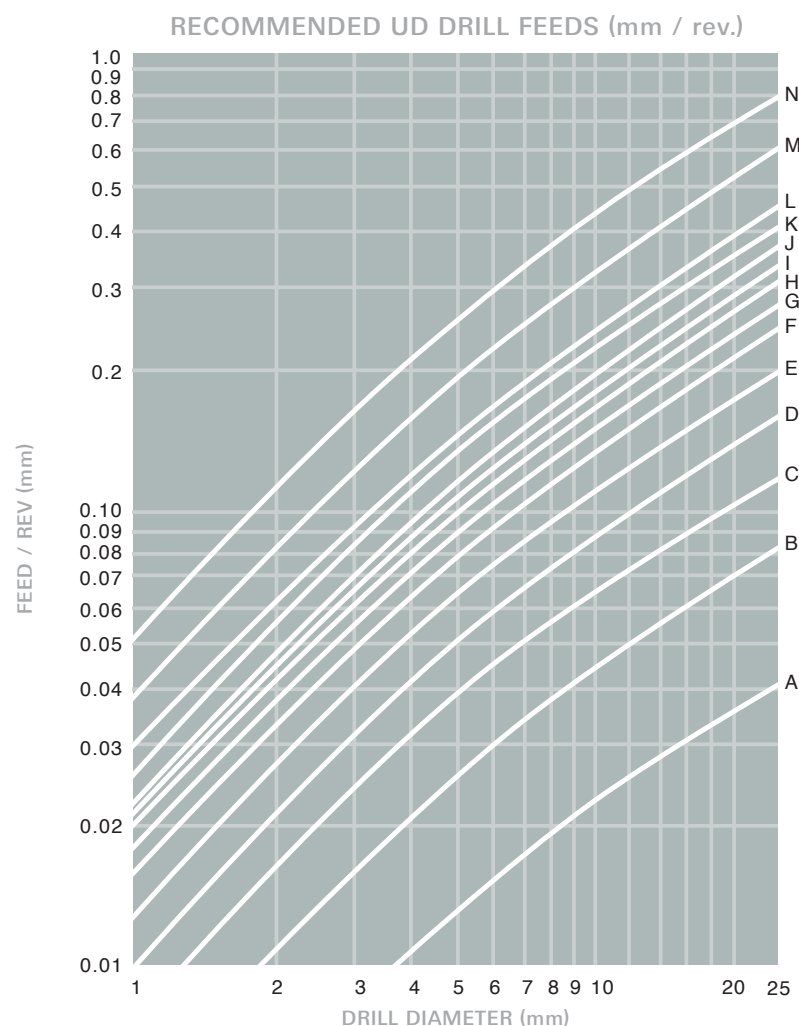
- Easier penetration and reduced time per hole
- Increased hole depth and accuracy
- Increased number of holes per sharpening
- Reduced drilling cost
- Coatings - these drills can be supplied with either TiN, TiCN or TiAlN coatings to further enhance their performance.
- Suggested coatings are indicated in the drill selection guide.

DRILL CHARACTERISTICS

- Flutes** Wide, polished, "PARABOLIC FORM" flutes with 40° helix on UDL and 33° helix on UDS drills provide fast chip removal and reduced heat generation at the point. The increased web thickness allows increased feed rates.
- Materials** Manufactured from HSS-Co (5% Cobalt) to ensure increased wear and heat resistance during drilling operations.
- Hole depth** Hole depths greater than 5 times diameter with the uncoated drill (conventional drill 3 times diameter). Hole depths up to 15 times diameter with coated drills, with proportionally reduced feed rates.

HOW TO USE THE DRILL FEED CHART

1. Locate Feed Curve (determined from the "selection guide" chart overleaf)
2. Locate Drill diameter along bottom axis of chart
3. Determine point of intersection of Feed Curve and Drill diameter
4. Project horizontally from point on intersection to left hand side of chart and read off nearest FEED in mm/rev
5. Select nearest Feed on drilling machine within +/- 20% of chart figure



SOMTA UD DRILL PRODUCT CODE	UD ULTRA PARABOLIC DRILL PRODUCT TYPE SUMMARY				DRILL LENGTH
	UDL LONG CHIP	UDS SHORT CHIP	UX NOTCH POINT	SPLIT POINT	
153	✓		✓		STUB
163	✓			✓	STUB
154	✓		✓		JOBBER
164	✓			✓	JOBBER
155		✓	✓		JOBBER
109	✓		✓		LONG SERIES
110	✓			✓	LONG SERIES
118	✓		✓		EXTRA LENGTH SERIES 1
119	✓		✓		EXTRA LENGTH SERIES 2
120	✓		✓		EXTRA LENGTH SERIES 3

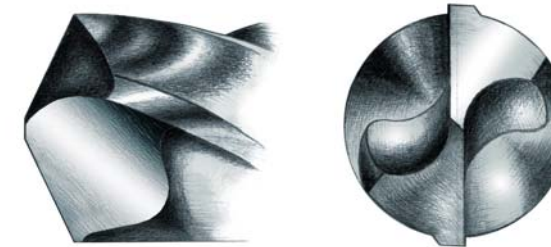
Please specify SOMTA product code, and required coating

POINT STYLES

UX NOTCHED POINT - TO DIN 1412 FORM D

The 130° special notched "UX" point style provides self centring, easier penetration, improved hole accuracy and improved load distribution. This special notch geometry gives a corrected rake angle of 15° which provides a strong point for harder materials, as well as preventing snatching with materials such as Aluminium, Brass, Bronze and Plastics. Available on UDL and UDS drills from 1/8" (3mm) to 1/2" (13mm) diameter.

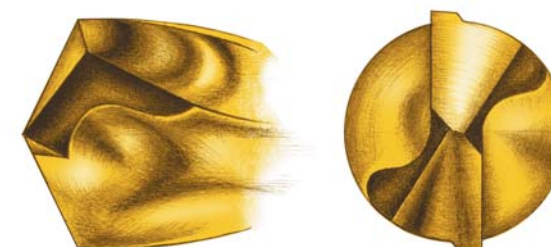
UX NOTCH POINT GEOMETRY



SPLIT POINT - TO DIN 1412 FORM C

The 130° SPLIT POINT is a conventional point providing self centring and easier penetration. Available on UDL and UDS drills from 1 mm to 13mm diameter.

SPLIT POINT GEOMETRY



ACTUAL SIZE

