

UPLAS WHEELS



New Bond Wheels

Uplas wheels are high-performance wheels using a compound bond manufactured by sintering special ceramic and metal bonds with our original technology.

Uplas wheels take advantage of extremely sharp ceramics bond and a metal bond with extended wheel life.

Characteristics of Uplas Bond

High performance

Excellent sharpness and longer wheel life are realized by the strong abrasive retention and moderate fracture of the bond.

Wide rang of applications

The bond strength can be adjusted over a wide range to adapt the wheel to a variety of materials and grinding conditions.

Easily Truing/Dressing

Truing with WA or GC wheels is twice as efficient and dressing with them is five or more times as efficient as with resin bonded wheels, increasing production capacity.

CBN Wheels

Types of Bond

Materials	Bonds	
High-speed steel, sintered alloy, etc.	UB75 The sharpness and wheel life are maximized with grain sizes between #60 and #325.	FUB75 A modified version of UP75 with improved sharpness. Especially useful for harder materials.

Application

High-speed steel

NC tool grinder Makino CNR-60

Creep grinding – wet (straight oil)

Wheel speed: 24 m/s

Work speed: 20 mm/min

Depth of cut: 4 mm

Wheel: CBN 140 R 125
FUB75

1F1 75D x 12T x 20H x 10X

	Uplas	Conv. Resin
Work speed	20 mm/min	10 mm/min
Dressing interval	3 peices	1 peices
Wheel life	400% of conventional	—

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Diamond Wheels

Types of Bond

Materials	Bonds	
Cemented carbide Cermet	●UB75 The sharpness and wheel life are maximized with finer grain sizes between #270 and #1000.	●RUB75 A modified version of UB75 bond with improved sharpness at #400 or coarser.
PCD/PCBN	●UB73 Excellent surface quality and average performance of metal and vitrified bonds are obtained with grain sizes between #400 and #2500.	
Alumina, silicon nitride, silicon carbide, etc.	●KUB75 A bond specialized for ceramic materials at grain sizes between #60 and #1000 and ensuring excellent sharpness and wheel life, especially for resin bonds.	
Others	●CF50 Specialized for tungsten	●UF50・UB55 Supporting individual special applications

Applications

● Cemented Carbide

Mitsubishi CNC cylindrical grinder A32-P
Cylindrical grinding
Wet (oil)

Work diameter: 16 mm
Stock Removal: 0.04 mm
Wheel speed: 30 m/s
Work speed: 15 m/min
Feed speed: 330 mm/min
Depth of cut: 20μm
Wheel: SD 800 N 100 UB75

Improved stock removal rate 20%

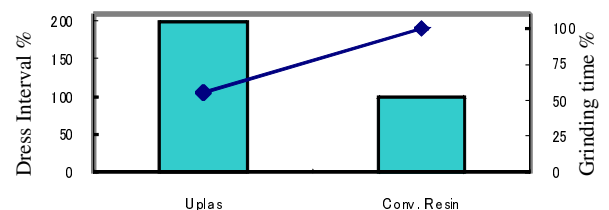
● Cermet

Makino C-40 Automatic Wet (water solution)
Creep grinding
Work Chip breaker
Feed speed: 15 mm/min
Depth of cut: 0.5mm
Wheel speed: 28 m/s
Wheel: SD 600 L 100 UB75
1A1 100D x 10T x 20H x 5X

Surface finish	2S (excellent)
Sharpness	Low grinding noise / low chipping
Dress interval	50 pieces (conventionally 25 pieces)

● Alumina

Okamoto surface grinder
Wet (water solution) traverse grinding
Wheel speed: 33 m/s
Work speed: 16 m/min
Feed speed: 20 mm/pass
Depth of cut: 10 μm
Wheel: SD 140 T 100 KUB75
1A1R 450D x 40T x 127H x 5X



● Silicon nitride

Centerless grinder Chubu Machinery Works
Wet (water solution)
Wheel speed: 25 m/s Feed speed: 17 mm/min
Depth of cut: 0.5 mm
Wheel: SD 120 T 125 KUB75
9A1 200D x 60T x 32H x 5X

