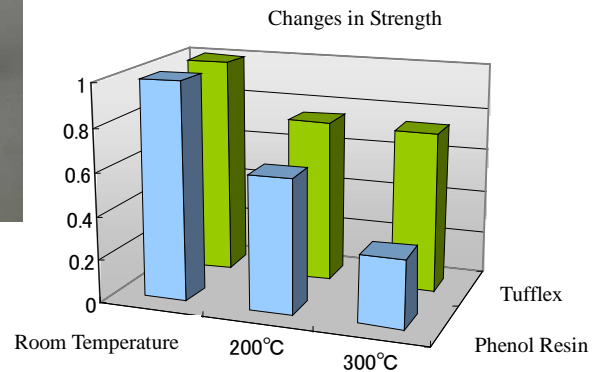


# TUFFLEX WHEELS



## Heat-resistant resin bond wheel

Tufflex wheels are high-performance wheels made of polyimide resin specially modified by us for super abrasive wheels to ensure excellent sharpness and durability at the same time.



## Tufflex wheel ultra-heat-resistant resin

1. Strength does not decrease when hot.

In bending strength tests while heated, phenol resin fell to 30% of its room temperature strength when heated to 300°C, while Tufflex maintained 70% strength.

2. Tufflex has a higher heat deformation temperature than phenol resin.

3. Tufflex demonstrates high gripping strength of grain while grinding.

## Features of Tufflex Bond

### ● High performance grinding

Efficient grinding is realized by the excellent sharpness ensured by strong gripping strength of grain and the use of a heat-resistant bond that has a higher heat deformation point and does not degrade in strength when hot.

### ● Excellent Profile Holding

Demonstrates particular efficiency in grinding requiring profile holding due to excellent durability.

### ● Excellent wheel life

Greatly improved wheel life due to excellent durability.

## CBN Wheels

### ● Types of Application/Bonds

	Grinding conditions	Bonds
Wet	Tool steel medium/heavy grinding	PT8 series
	Die steel medium/heavy grinding	IPT series
	Tool/die steel heavy grinding	FPT・TPT series

# TUFFLEX WHEELS

## ● Applications

### Sintered Alloy

Nippei vertical spindle surface grinder - wet (water solution)

Wheel speed: 16 m/s Work speed: 35 m/min Depth of cut: 0.20 mm

Wheel: CBN 80 R 125 TPT87 6A2 40D x 35T x 5W x 3X

	Tufflex	Conv. Resin
Sharpness	Excellent	Normal
Surface roughness	0.3 µm Ra	0.35 µm Ra
Dressing interval	Not required	Not required
Wheel life	210% of conv.	-

### Die steel

Okamoto surface grinder - wet (water solution) creep grinding

Wheel speed: 30 m/s Work speed: 120 mm/min Depth of cut: 1.5 mm

Wheel: CBN 140 M 125 PT82 1L1 200D x 10T x 31.75H x 3X

	Tufflex	Conv. Resin
Sharpness	Feed: 120mm/min	60 mm/min
Dressing interval	5 pieces	2 pieces
Wheel life	200% of conv.	-

## Diamond wheel

## ● Types of Applications/Bonds

	Grinding conditions	Bonds
Wet	Carbide/ceramics medium/heavy grinding	PT8 series
	Cermet grinding	VPT•RPT series
	Carbide/steel simultaneous	JPT series
Dry	Carbide medium/heavy grinding	PTN series

## ● Example Applications

### Carbide

Makino Seiki wet (oil-based) drilling groove grinding

Work: φ6 mm (Grinding length 80 mm) Removal stock: 2.5 mm

Wheel speed: 25 m/s Work speed: 70mm/min Depth of cut: 2.5 mm

Wheel: SDC 270 P 125 PT81 14FF1 150D x 10T x 31.75H x 6U x 5X

	Tufflex	Conv. Resin
Feed	70 mm/min	30 mm/min
Dressing interval	50 pieces	40 pieces
Wheel life	125% of conv.	-
Grinding efficiency	230% of conv.	-

### Alumina

Washino surface grinder - wet (water solution)

Work: 30 mm x 10 mm x 25 mm Removal stock 0.1 mm

Wheel speed: 25 m/s Work speed: 10 m/min Depth of cut: 10 µm

Wheel: SDC 230 N 100 PT81 14A1R 200D x 25T x 31.75H x 3U x 3X

	Tufflex	Conv. Resin
Depth of cut	10 µm	5 µm
Dressing interval	15 pieces	8 pieces
Wheel life	200% of conv.	—