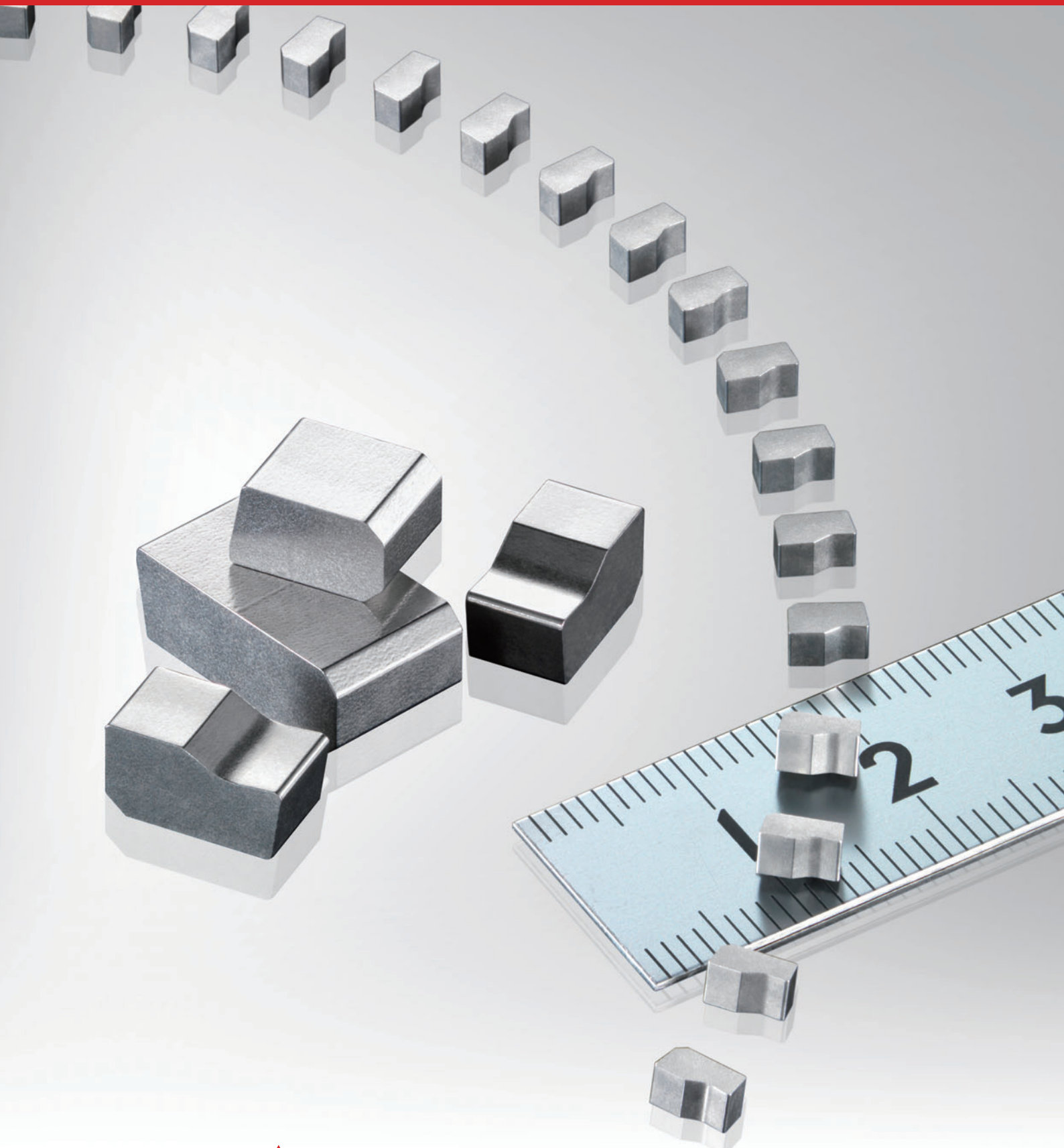


# CARBIDE & CERMET TIPS for CIRCULAR SAW BLADES



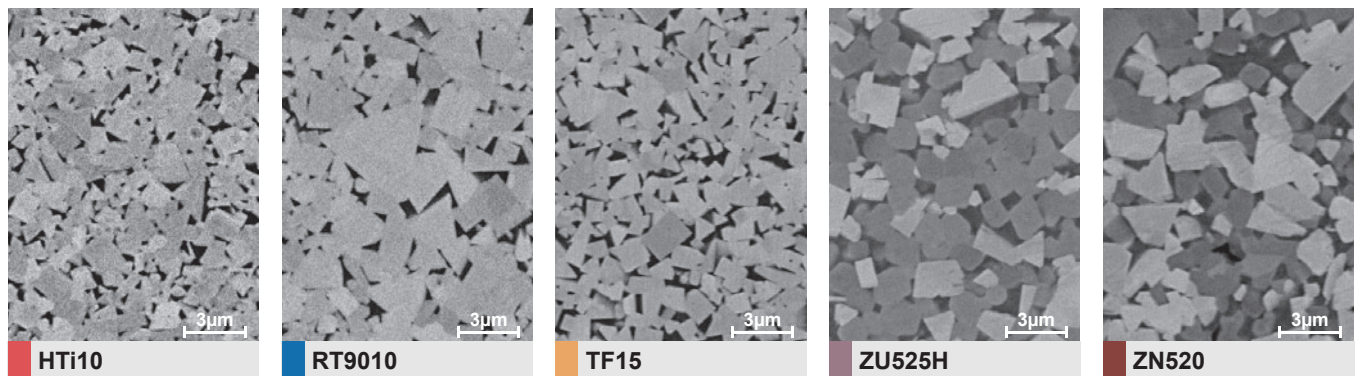
# Carbide & Cermet Tips for Circular Saw Blades

## Tungsten Carbide Grade Properties

Grade	ISO Code	Grain Size (μm)	Co (mass%)	TRS (GPa) *1	Hardness		Fracture Toughness (MPa·m <sup>1/2</sup> )	Work Material			
					HRA *2	HV *3		General Steel	Special Steel	Stainless Steel	Non-ferrous Metal
HTi10	K10	<1.0	6.0	2.0	92.0	1700	6.8		○		○
RT9010	K20	<1.5	5.7	2.2	91.8	1620	9.0		○		○
TF15	K20	<0.9	10.0	2.5	91.0	1550	8.7		○		○
ZU525H	P30	<3.0	12.5	2.1	90.5	1450	9.5	○	○	⊙	
ZN520	P40	<3.0	12.0	2.2	89.3	1300	12.0	○	○	○	

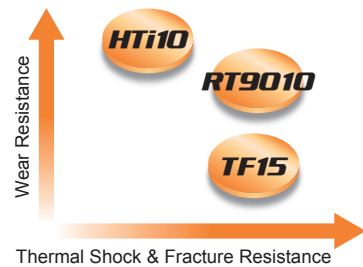
\*1 ISO03327 \*2 ISO03738 \*3 ISO03878

## 《SEM Pictures》

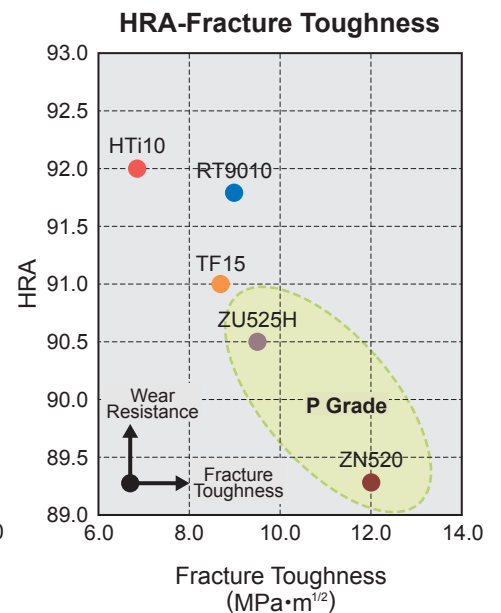
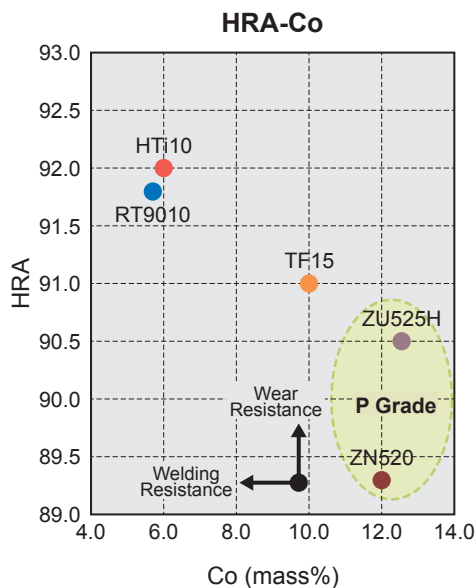
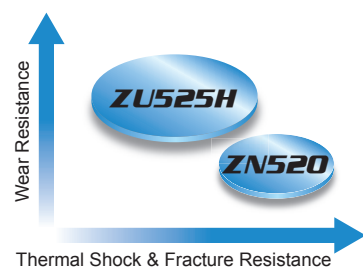


## 《Properties of Grade》

### ● K Grade



### ● P Grade

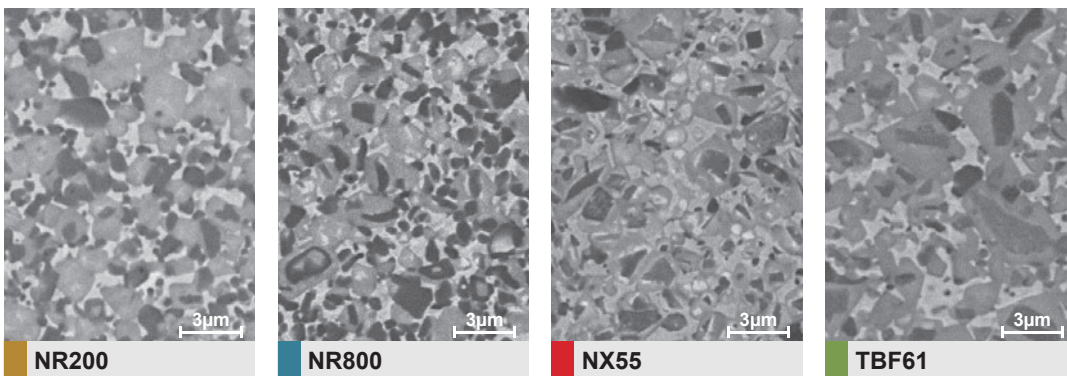


■ Cermet Grade Properties

Grade	ISO Code	Grain Size (μm)	Chemical Composition			TRS (GPa) *1	Hardness		Fracture Toughness (MPa·m <sup>1/2</sup> )	Work Material General Steel
			TiCN (mass%)	Co+Ni (mass%)	Others (mass%)		HRA *2	HV *3		
NR200	P10	<1.5	53	19	28	2.1	91.5	1570	5.3	○
NR800	P30	<1.5	48	23	29	2.2	90.0	1370	7.2	○
NX55	P10	<2.0	49	18	33	2.0	91.2	1500	6.1	○
TBF61	P20	<2.0	52	19	29	2.0	90.5	1450	5.5	◎

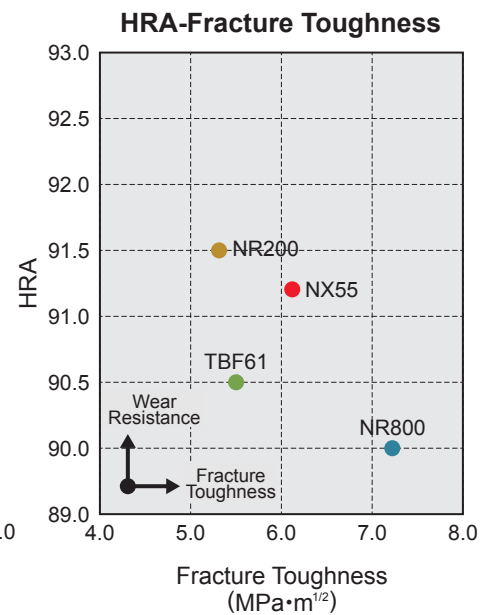
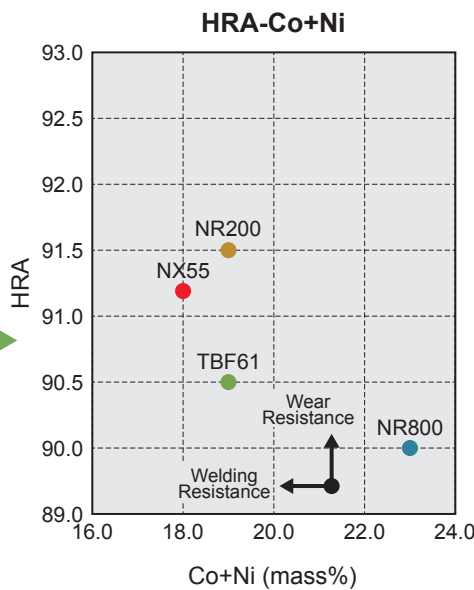
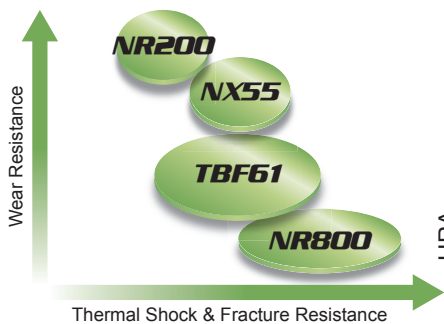
\*1 ISO03327 \*2 ISO03738 \*3 ISO03878

《SEM Pictures》

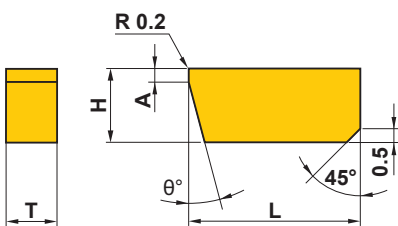
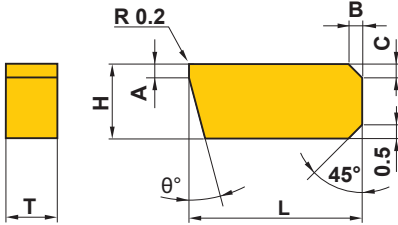
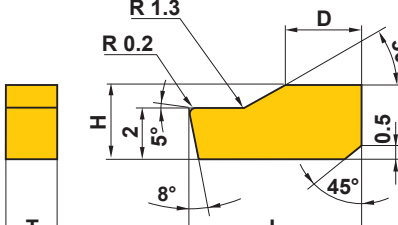


《Properties of Grade》

● Cermet



## Standard Tips

Geometry	Order Number	Dimensions (mm)									
		L	H	T	$\theta^\circ$	A	B	C	D		
<b>SBA type</b> 	<b>SBA-4x1.5xTx10%</b>	4	$\pm 0.2$	1.5	$\pm 0.2$	2-5	10	0.5	-	-	-
	<b>-4x2xTx15%</b>	4	$\pm 0.2$	2	$\pm 0.2$	2-5	15	0.5	-	-	-
	<b>-5x1.5xTx20%</b>	5	$\pm 0.2$	1.5	$\pm 0.2$	2-5	20	0.5	-	-	-
	<b>-5x2xTx15%</b>	5	$\pm 0.2$	2	$\pm 0.2$	2-5	15	0.5	-	-	-
	<b>-5x2.5xT</b>	5	$\pm 0.2$	2.5	$\pm 0.2$	2-5	0	-	-	-	-
	<b>-5x2.5xTx8%</b>	5	$\pm 0.2$	2.5	$\pm 0.2$	2-5	8	0.5	-	-	-
	<b>-5x3xTx8%</b>	5	$\pm 0.2$	3	$\pm 0.2$	2-5	8	0.5	-	-	-
	<b>-6x2xTx8%</b>	6	$\pm 0.2$	2	$\pm 0.2$	2-5	8	0.5	-	-	-
	<b>-6x2xTx45%</b>	6	$\pm 0.2$	2	$\pm 0.2$	2-5	45	1.5	-	-	-
	<b>-7x2.2xTx8%</b>	7	$\pm 0.2$	2.2	$\pm 0.2$	2-5	8	0.5	-	-	-
	<b>-7x2.5xT</b>	7	$\pm 0.2$	2.5	$\pm 0.2$	2-5	0	-	-	-	-
	<b>-7x2.5xTx8%</b>	7	$\pm 0.2$	2.5	$\pm 0.2$	2-5	8	0.5	-	-	-
	<b>-7x2.5xTx20%</b>	7	$\pm 0.2$	2.5	$\pm 0.2$	2-5	20	0.5	-	-	-
	<b>-7x3xT</b>	7	$\pm 0.2$	3	$\pm 0.2$	2-5	0	-	-	-	-
<b>-9x3xTx20%</b>	9	$\pm 0.2$	3	$\pm 0.2$	2-5	20	0.5	-	-	-	
<b>SBB type</b> 	<b>SBB-4x1.8xTx15%</b>	4	$\pm 0.2$	1.8	$\pm 0.2$	2-5	15	0.5	1	0.5	-
	<b>-4x2xTx15%</b>	4	$\pm 0.2$	2	$\pm 0.2$	2-5	15	0.5	1	0.5	-
	<b>-4x2.3xTx10%</b>	4	$\pm 0.2$	2.3	$\pm 0.2$	2-5	10	0.5	0.5	0.5	-
	<b>-5x1.8xTx15%</b>	5	$\pm 0.2$	1.8	$\pm 0.2$	2-5	15	0.5	1	0.5	-
	<b>-5x2.3xTx10%</b>	5	$\pm 0.2$	2.3	$\pm 0.2$	2-5	10	0.5	0.5	0.5	-
	<b>-6x2xTx15%</b>	6	$\pm 0.2$	2	$\pm 0.2$	2-5	15	0.5	1	0.5	-
	<b>-6x2.3xTx10%</b>	6	$\pm 0.2$	2.3	$\pm 0.2$	2-5	10	0.5	0.5	0.5	-
<b>-7x2.3xTx10%</b>	7	$\pm 0.2$	2.3	$\pm 0.2$	2-5	10	0.5	0.5	0.5	-	
<b>-7x2.5xTx10%</b>	7	$\pm 0.2$	2.5	$\pm 0.2$	2-5	10	0.5	0.5	0.5	-	
<b>SFA type</b> 	<b>SFA-4x2.5xT</b>	4	$\pm 0.2$	2.5	$\pm 0.2$	2-5	-	-	-	-	1.8
	<b>-4.5x2.5xT</b>	4.5	$\pm 0.2$	2.5	$\pm 0.2$	2-5	-	-	-	-	2
	<b>-5x2.5xT</b>	5	$\pm 0.2$	2.5	$\pm 0.2$	2-5	-	-	-	-	2.2

Note 1)  $\circ\circ\%$  shows  $\theta^\circ$ .

Note 2) Please contact us for any geometry.

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