



Turning tool

Non-Ferrous Application Series

Tungaloy Report No. 555S1-US

Introducing **DX200** grade inserts — **100% diamond grade** perfect for machining tungsten carbide and other **superhard non-ferrous metals**

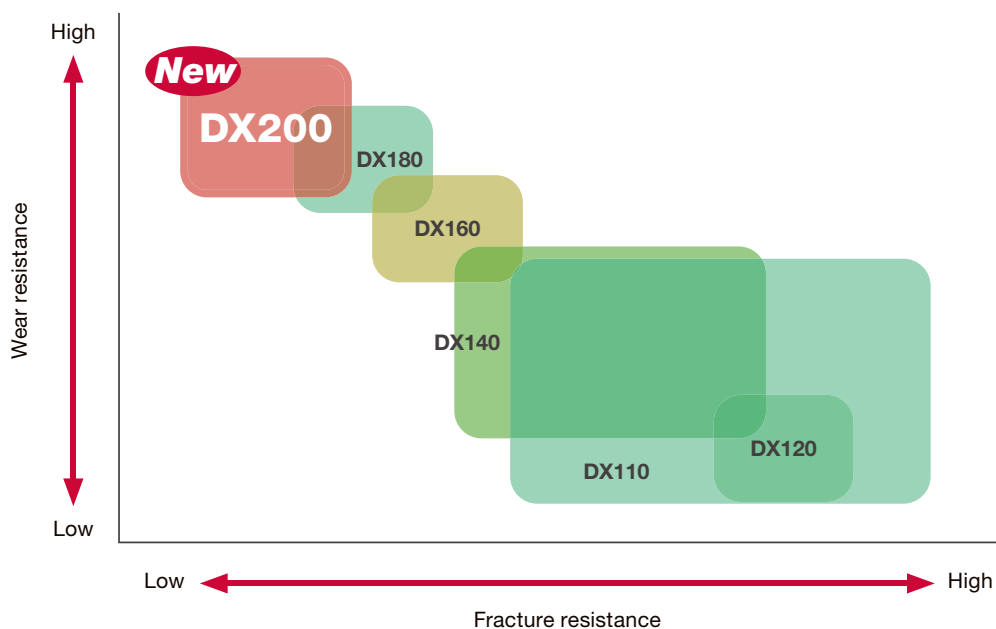


Non-Ferrous Application Series

DX200 — Ultra hard grade with premium wear resistance

■ 100% diamond grade

- **DX200** has the highest hardness of all DX grades, making it ideal for machining tungsten carbide and other superhard non-ferrous metals.
- **DX200** has no catalyst metal such as binder in its structure that would cause contaminations of the machined surfaces. This feature makes the grade suitable for machining sputtering targets for semiconductor industries.



■ Sharp cutting edge

DX200 has a sharp cutting edge that provides excellent surface finish.

Cutting edge shape



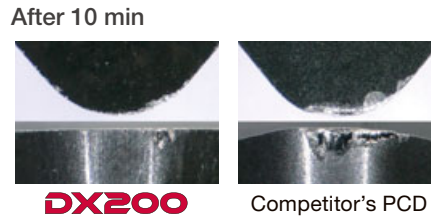
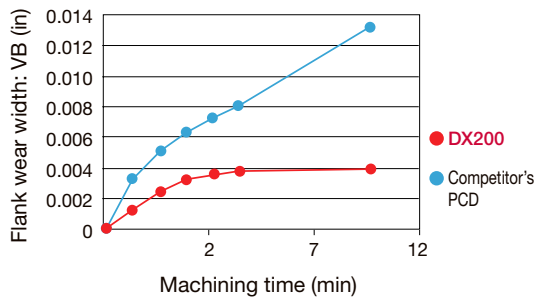
DX200



Conventional PCD grade

Cutting performance

Wear resistance



N

Insert : 1QP-DCGW 32.51F
DX200
Workpiece material : Tungsten carbide
(85HRA)
Toolholder : SDJCL163
Cutting speed : $V_c = 66$ sfm
Feed : $f = 0.004$ ipr
Depth of cut : $a_p = 0.004$ "
Coolant : Wet

DX200 provides better wear resistance than competitor's PCD grade.

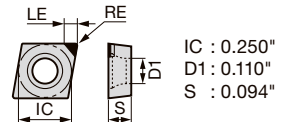
PCD Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

CC



**80° Rhombic
Positive 7°
with hole**

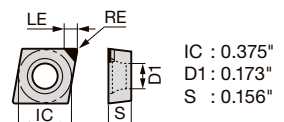


Application	Designation		Dimension (in)		No. of corners	Chipbreaker	DX200	●	◐	✱	●	◐	✱	●	◐	✱	●	◐	✱		
	Inch	Metric	RE	LE																	
	Finishing	1QP-CCGW 21.51F	1QP-CCGW060204F	0.016																0.118	1

CC



**80° Rhombic
Positive 7°
with hole**



Application	Designation		Dimension (in)		No. of corners	Chipbreaker	DX200	●	◐	✱	●	◐	✱	●	◐	✱	●	◐	✱		
	Inch	Metric	RE	LE																	
	Finishing	1QP-CCGW 32.50.5F	1QP-CCGW09T302F	0.008																0.118	1
	1QP-CCGW 32.51F	1QP-CCGW09T304F	0.016	0.118	1	●	●	◐	✱	●	◐	✱	●	◐	✱	●	◐	✱	●	◐	✱

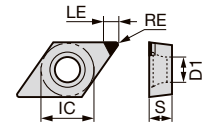
PCD Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

DC



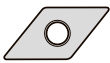
**55° Rhombic
Positive 7°
with hole**



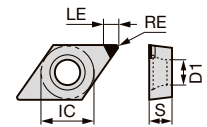
IC : 0.250"
D1 : 0.110"
S : 0.094"

Application	Designation		Dimension (in)		No. of corners	Chipbreaker														
			RE	LE																
							Inch		Metric											
Finishing	1QP-DCGW 21.50.5F	1QP-DCGW070202F	0.008	0.118	1	DX200	●													
	1QP-DCGW 21.51F	1QP-DCGW070204F	0.016	0.118	1	DX200	●													

DC



**55° Rhombic
Positive 7°
with hole**



IC : 0.375"
D1 : 0.156"
S : 0.173"

Application	Designation		Dimension (in)		No. of corners	Chipbreaker														
			RE	LE																
							Inch		Metric											
Finishing	1QP-DCGW 32.50.5F	1QP-DCGW11T302F	0.008	0.118	1	DX200	●													
	1QP-DCGW 32.51F	1QP-DCGW11T304F	0.016	0.118	1	DX200	●													

● : Line up

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grade	Cutting speed Vc (sfm)	Feed f (ipr)	Depth of cut ap (in)
N	Tungsten carbide (HRA80 - 95)	DX200	16 - 98	0.001 - 0.004	0.001 - 0.008
	FRP	DX200	1640 - 3281	0.002 - 0.012	0.004 - 0.039
	CFRP	DX200	328 - 2297	0.002 - 0.012	0.004 - 0.039
	Carbon	DX200	984 - 1640	0.002 - 0.012	0.004 - 0.039
	Green ceramics	DX200	328 - 656	0.001 - 0.004	0.004 - 0.039
	Sputtering targets for semiconductor	DX200	33 - 328	0.001 - 0.004	0.001 - 0.008



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