

90° W390 Shoulder Milling Inserts

- Designed for small depths of cut and wide feed
- Designed for high speed machining
- Finishing and roughing capability

SPECIAL!!
W390 11T308
\$5.86 each
 *The above prices are valid
 through 9/30/19

Specification

Inserts	Designation	Grade					Dimensions (mm)						Drawing
		CX22HS	CX31NA	CX32HA	CX41NS	CX41NA	A	B	S	r	d1	t1	
	P Steel	●	●	●	○	○							
	M Stainless steel	○	○	○	●	●							
	K Cast iron	●	○	○	○	○							
	W390 11T308-MG	✓		✓			11	6.9	3.59	0.8	2.8	-	

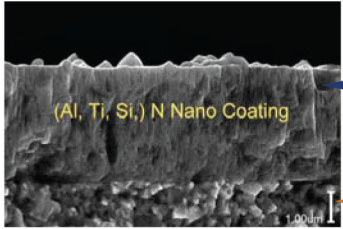
MG: Positive edge with radius, low cutting force and chatter reduction.

Recommended Cutting Conditions

Working Material	Vc (speed)		fz (feed)		ap (Axial DOC)	
	m/min	SFM	FPT mm	FPT in	mm	inMG
Carbon Steel (HB85-225)	80 ~ 200	260 ~ 660	0.08 ~ 0.20	0.003" ~ 0.008"	~ 8.0	~ .3150"
Stainless 300 Series	50 ~ 110	165 ~ 360	0.05 ~ 0.15	0.002" ~ 0.006"	~ 4.0	~ .1575"
Cast Iron (HB140-220)	80 ~ 180	260 ~ 590	0.08 ~ 0.20	0.003" ~ 0.008"	~ 7.0	~ .2756"

Coated Carbide

- ✔ New HS Grade for High Speed Milling
- ✔ High adhesion strength to the substrate improves stable cutting performance and achieves longer tool life.
- ✔ Provide excellent heat resistance and oxidation resistance.
- ✔ Maintain highest performance in wet cutting, dry cutting, even hardened material.



Smooth surface prevents chip adhesion.
Multi-layered structure prevents crack expansion which causes chipping and fracture.

Newly development substrate with heat resistance and strength

Grade Type	Substrate (HRA)	Coating Type	Thickness	Coolant		Suitable Condition
				Dry	Wet	
CX22HS	92	Al.Ti.Si.X.N	3~4	★ ★ ★ ★	★ ★ ★ ★ ★ ★	●
<ul style="list-style-type: none"> · High-performance premium grade with a high level of shock and heat resistance. · Specially designed to operates at medium to high cutting speeds and is capable of retaining a secure cutting edge at high metal removal condition. · · First choice for mold steel, hardened steel and high-temperature alloys 						
CX32HS	91.6	Ti.Si.X.N	3~4	★ ★ ★ ★	★ ★ ★ ★ ★ ★	●
CX31NA	91.7	Al.Ti.X.N	3~4	★ ★ ★ ★ ★ ★	★ ★ ★ ★ ★ ★	●
<ul style="list-style-type: none"> · Wide cutting range, both wear resistance and impact resistance are well-balanced at all general machining application. · Priority grade for semi-finishing or medium cutting. · Stainless 400 series machining is recommended. 						
CX41NS	90.2	Ti.Si.X.N	3~4	★ ★ ★ ★	★ ★ ★ ★ ★ ★	⊕
CX42HA	90.2	Al.Ti.X.N	3~4	★ ★ ★ ★ ★ ★	★ ★ ★ ★ ★ ★	⊕
<ul style="list-style-type: none"> · Priority grade for roughing purpose, this grade incorporates high temperature strength. · Excellent shock resistance ability, especially during heavy interrupted machining. · Stainless 300 series machining is recommended. 						



RG - Negative cutting edge protection. General purpose chip breaker for steels and cast iron.



MG - Positive edge with radius, low cutting force and chatter reduction.