

Hard part turning with new generation CBN grades



An innovation in hard part turning

For everybody working with transmission and hard part turning, there is a reason to choose our new CB7105 and CB7115 grades.

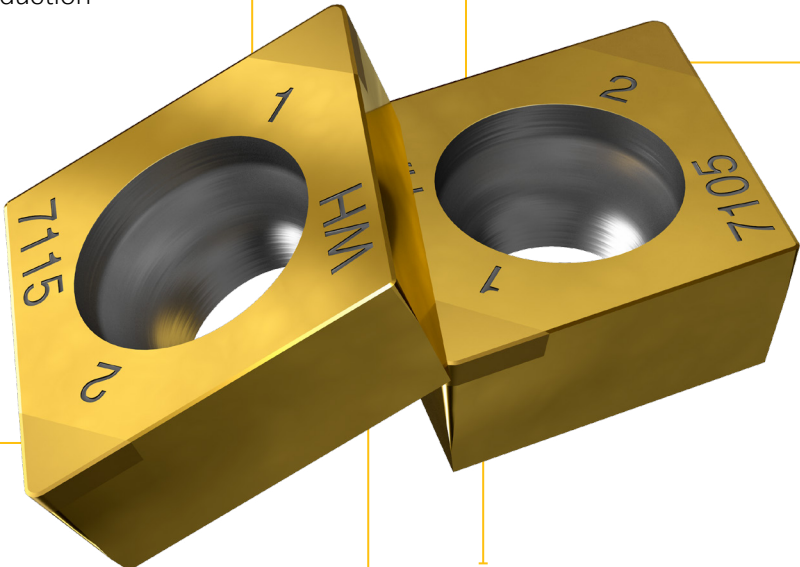
Adding value in both speed capabilities and more secure edge line and consistent tool life meaning lower cost per component.

Designed to break new ground in hard part turning, the grades achieve efficient and secure machining with excellent surface finish.

New generation Cubic Boron Nitride materials enhance crater wear resistance and fracture resistance at high cutting speed in case hardened and induction hardened materials.

TiN-PVD coating for excellent surface finish that also is a help to identify used cutting edges.

Optimized edge preparation for best balance between long tool life and reliable machining.



CB7115 – One-cut strategy, a single cut with larger chip thickness, can produce leading levels of surface quality and dimensional tolerance.

CB7105 – When utilize high speed machining or longer tool life at lower speed.

Cubic Boron Nitride material for best dimensional accuracy and tight tolerance of the machined component.

Benefits

- Lower cost per part through high speed machining or longer tool life at lower speed (CB7105)
- Lower cost per part when aiming for one cut strategy at high speed (CB7115)
- Reliable and predictable machining

Application

Hard part turning is usually a finishing or semi-finishing process with high dimensional accuracy and surface quality requirements.

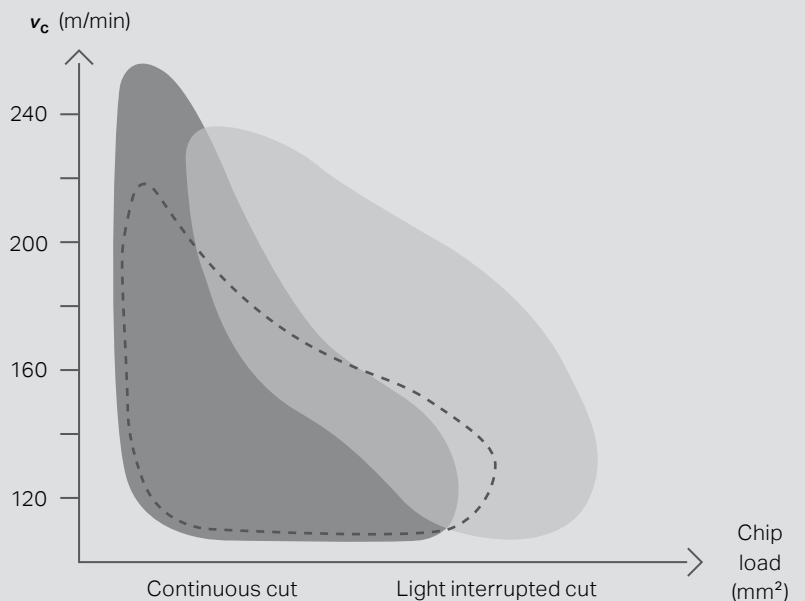
Component materials are case hardened steel or induction hardened steel.

Typical machining challenges with these materials are surface and dimensional tolerance demand with competitive tool life.



Application area

- **CB7105**
CB7105 for continuous cut, smaller depth of cut and smaller chip loads at high speed.
- **CB7115**
Continuous to light interrupted cut or larger chip loads at medium to high speed.
- **CB7015**



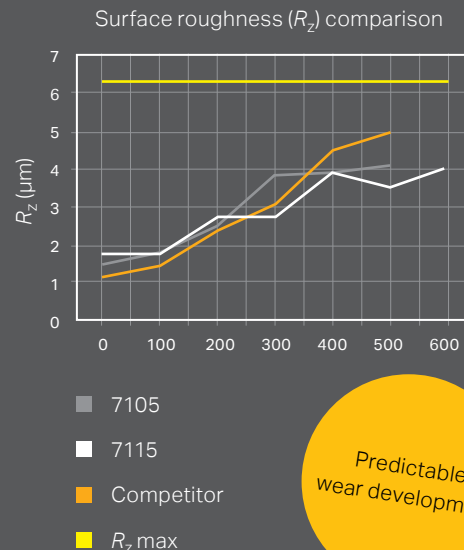
Edge preparation CB7105 and CB7115

Available geometries are standard radius, wiper and Xcel.

Product family	T-Max P		CoroTurn® 107	
	CB7105	CB7115	CB7105	CB7115
Type	CB7105	CB7115	CB7105	CB7115
Standard	S01525	S01525	S01020	S01020
Wiper	S01520	S01520	S01520	S01520
Xcel	S01515	S01515	S01515	S01515
Standard light	S01020	-	-	-
Standard strong	-	S02030	-	S02030

The customer has today a stable production of 250 components per shift or 500 components per day. Rising demand allows the customer to increase production by at least 15% per shift. Sandvik Coromant's new CBN grades CB7105 and CB7115 were tested against a competitor in actual application. The result showed that both grades were not only able to match the competitor in terms of number of components, CB7115 surpasses (600 components) with predictable surface generation.

Customer case	
Industry segment	Automotive
Operation	Continuous cut
Time in cut (min/component)	0.15
Component	HDP- Antriebsrad
Workpiece material	16MnCrS5, case hardened, HRc 57-62
Emulsion	Dry
Cutting data	
v_c m/min (ft/min)	170 (557)
f_n mm/r (inch/rev)	0.22 (.009)
a_p mm (inch)	0.15 (.006)
Reference	Competitor
Variant 1:	CNGA 120412S01520HWG 7115
Variant 2:	CNGA 120412S01520HWG 7105



Predictable wear development

Result:

- Competitor (Predetermined), 500 parts
- CB7105 (Predetermined), 500 parts
- CB7115 (Predetermined), 500 & 600 parts

For more information please contact your local Sandvik Coromant representative.

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