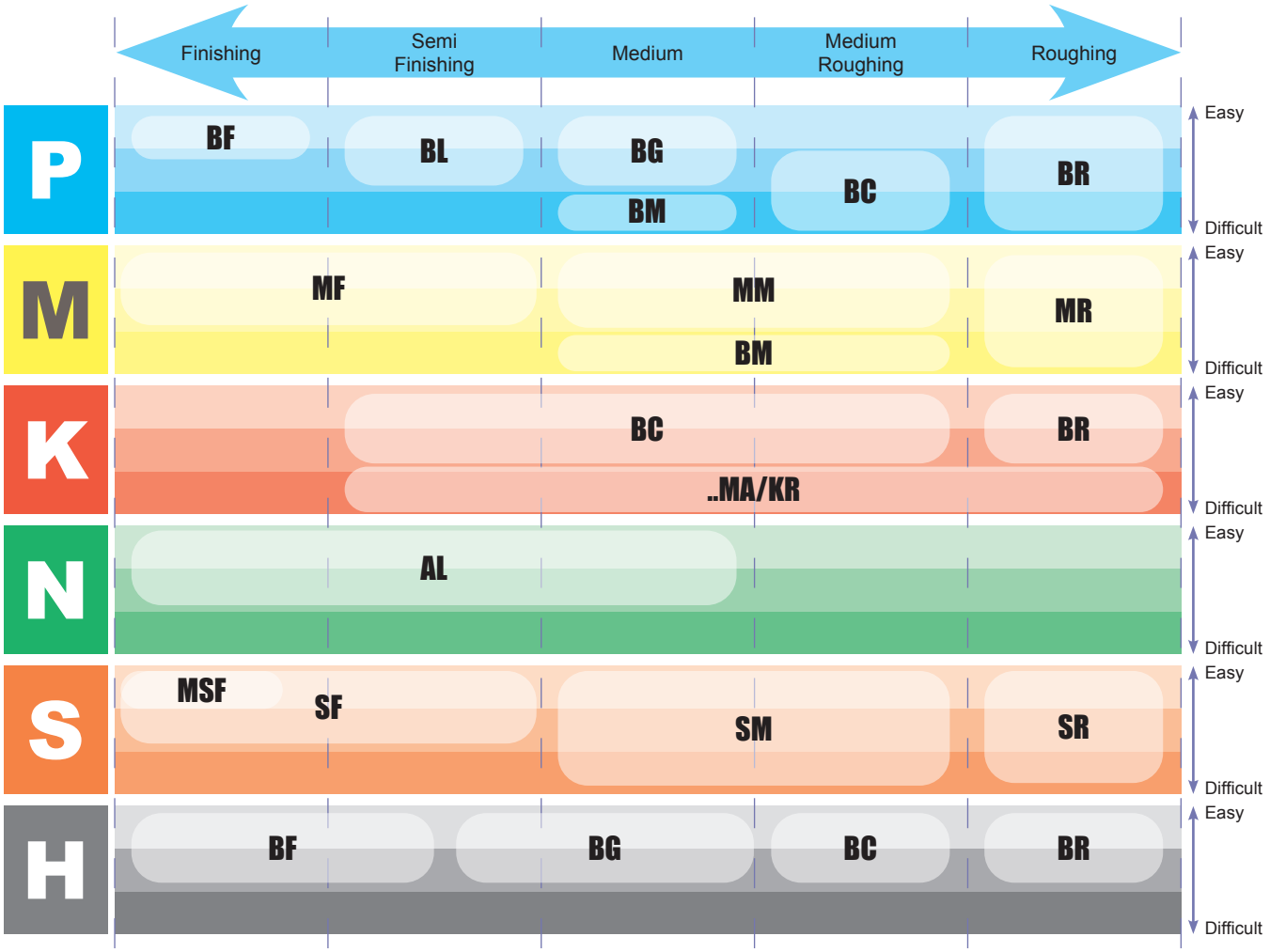
CHIPBREAKER GUIDE

Chipbreaker		BF			MF			MSF			SF			BL			BG			BM			MM			SM			BC			BR			MR			SR			AL			MA KR		
ISO	Grade	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	ET1001																	o	o											o	o															
	ET31C	•												•			•			•	•									o	o			•												
	ET315C	•												•	•		•			•											•			•												
	ET32C	•												•	•		•			•	•		o						•	•			•												
	ET33C	•												•	•		•			•	•								•	•			•												
	ET801	o												o			o																o												
M	ET33C	•												•	•		•			•			•										•												
	ET21P				•			o															•																						
	ET23P				•			o															•												•										
	ET24P							o															•	•											•										
K	ET1001																•													•	•														•
	ET31C	•															•													•	•														•
	ET801	o															o																o												
N	ET10D																																								•	•				
	ET10U																																								•	•				
S	ET41P							•			•															•	•										•								
	ET24P																						•	•										•										
H	ET31C	o															o													o	o			o											
	ET801	o															o																o												

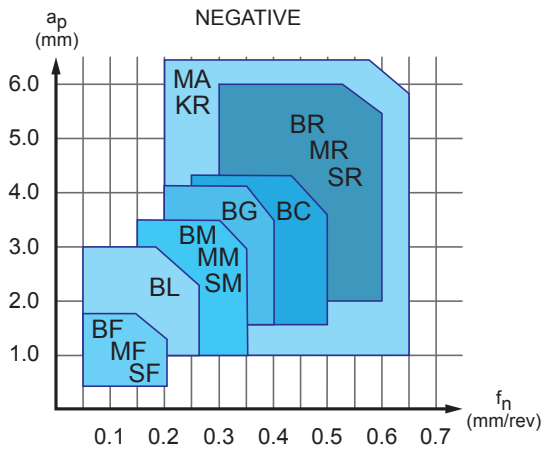
●:Primary application O:Secondary application

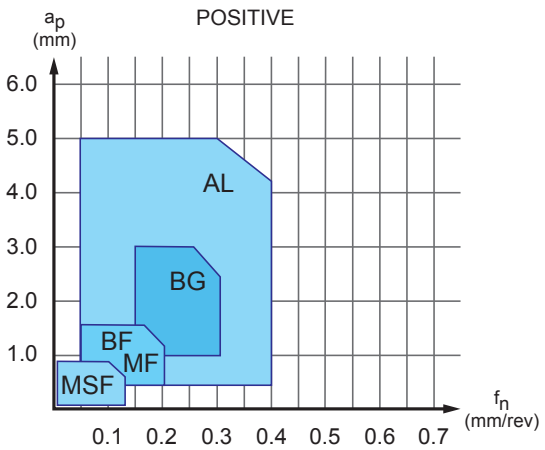
NEGATIVE CHIPBREAKERS						POSITIVE CHIPBREAKERS	
BF	Finishing	**BR**	Roughing and interrupted cut	**SF**	Finishing of clean HRSA material	**BF**	Finishing
BL	Light cutting and sticky materials	**MA**	Cast iron heavy roughing	**SM**	Medium cutting of clean HRSA material	**MSF**	Finishing of clean HRSA material
BM	Medium cutting and unstable conditions	**MF**	Finishing of stainless steel	**SR**	Roughing of clean HRSA material	**MF**	Finishing of stainless steel
BG	Medium cutting First choice	**MM**	Medium cutting of stainless steel			**BG**	Medium Cutting
BC	Cast iron and medium roughing of steel	**MR**	Roughing of stainless steel and scale/skin HRSA			**AL**	For Aluminium

CHIPBREAKER GUIDE



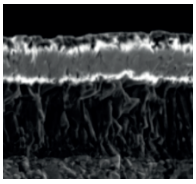
CHIPBREAKER MAPS





INSERT GRADES

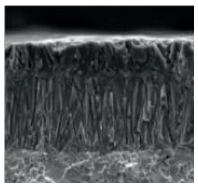
CVD COATED GRADES



P01 - P10
K10 - K25

ET1001
First choice for stable turning of Cast Iron

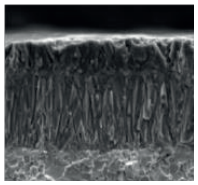
CVD TiCN - Al_2O_3



P05 - P20
K15 - K35

ET31C
First choice for high speed finishing of Steels and ductile Cast Iron.

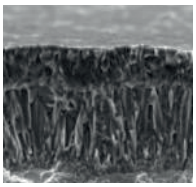
CVD TiCN - Al_2O_3



P10 - P25

ET315C
Balanced grade for continuous cutting of steels.

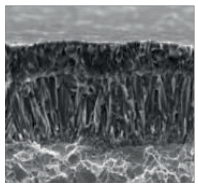
CVD TiCN - Al_2O_3



P15 - P30

ET32C
Versatile grade for general turning of Steels.

CVD TiCN - Al_2O_3

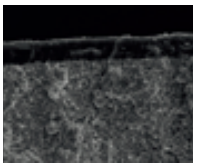


P20 - P35
M20 - M30

ET33C
Tough grade for turning of Stainless Steel and interrupted cutting of Steel.

CVD TiCN - Al_2O_3

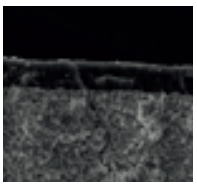
PVD COATED GRADES



M05 - M20

ET21P
First choice for stable turning of Stainless Steel.

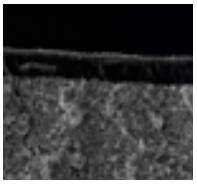
PVD Coated



M20 - M35

ET23P
Optimised grade for cutting of Stainless Steel at low cutting speeds.

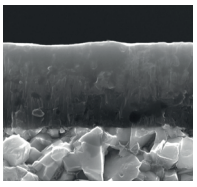
PVD Coated



M30 - M40
S30 - S50

ET24P
Optimised grade for interrupted cutting of Stainless Steel and skin & scale cuts in HRSA.

PVD Coated



S05 - S15

ET41P
Optimised grade for clean HRSA materials

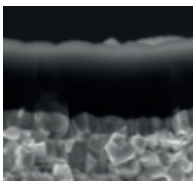
PVD Coated

P10 - P30
K20 - K30
H20 - H30

ET801
Turning grade for mid and low cutting conditions in most steels and cast iron

PVD Coated

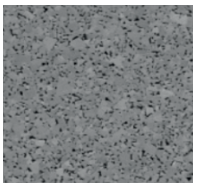
NON-FERROUS GRADES



N05 - N35

ET10D
First choice for high speed turning of Aluminium, and Si >10%

TaC Coated

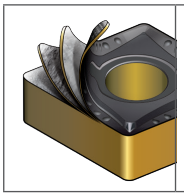


N05 - N35

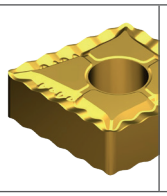
ET10U
Polished face for general turning of Aluminium.

Uncoated

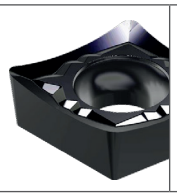
COATING



Multi-layer CVD coated grades are finished with a special process to enable smoother chip flow.

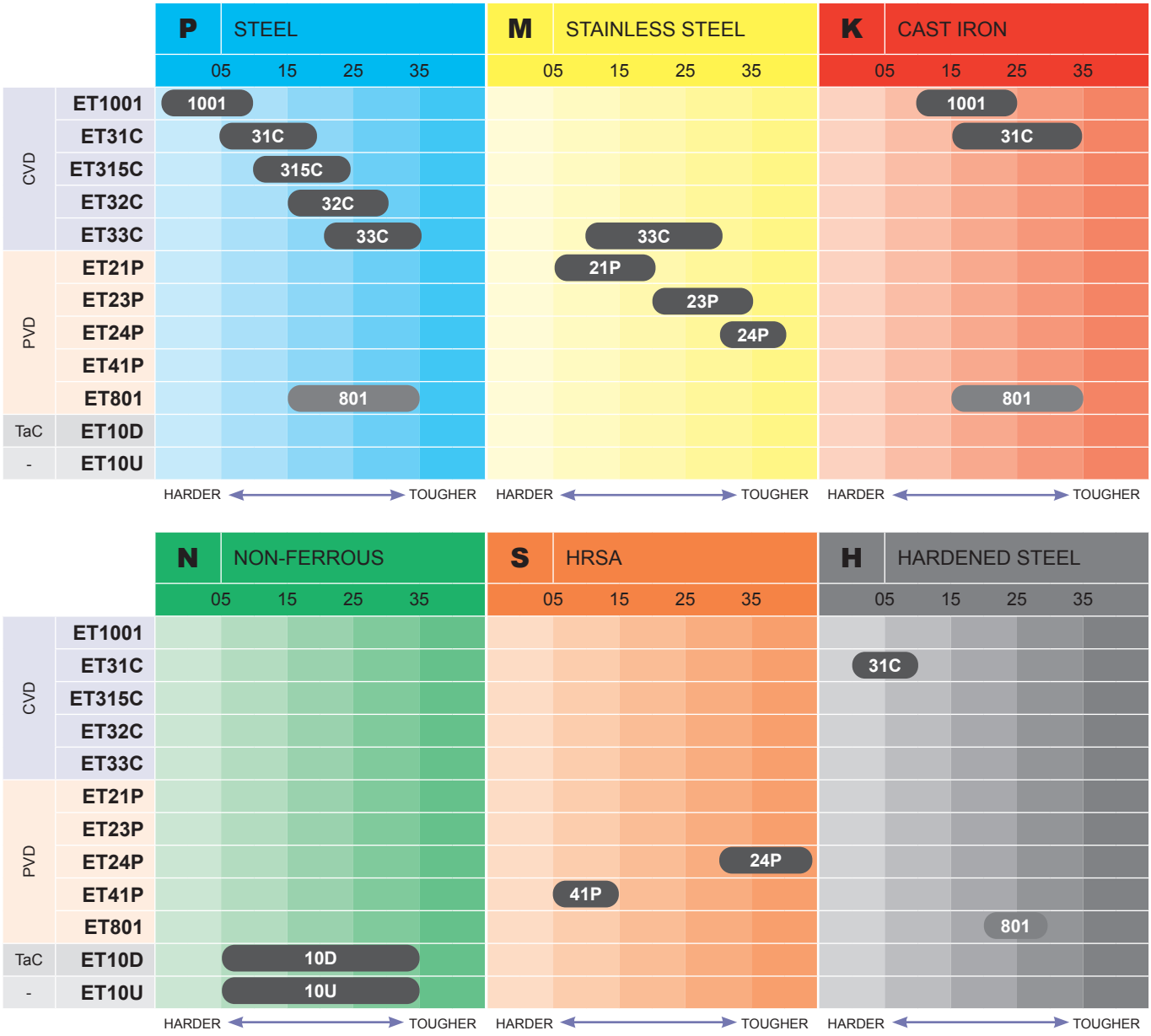


Single layer PVD coated grades are designed to balance edge strength with extended tool life.



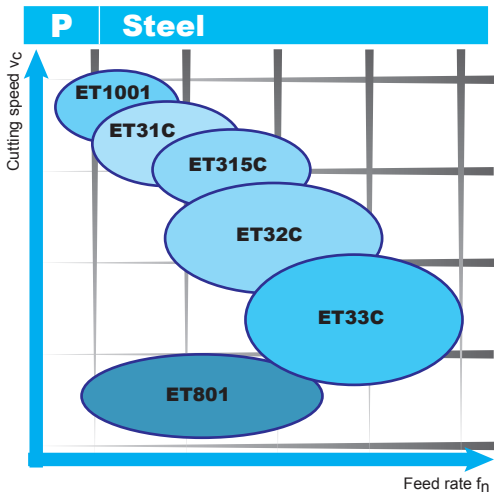
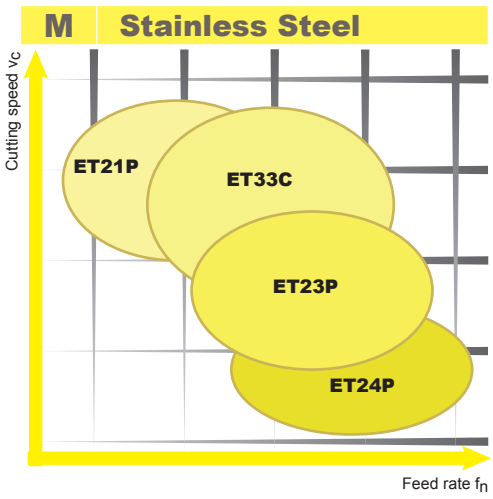
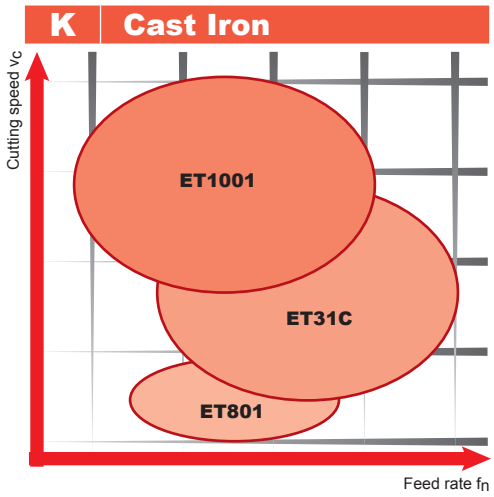
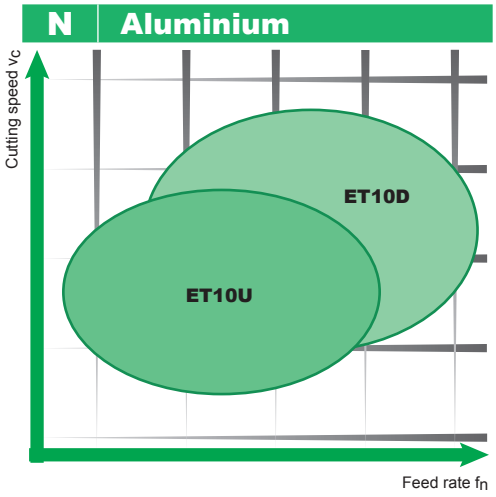
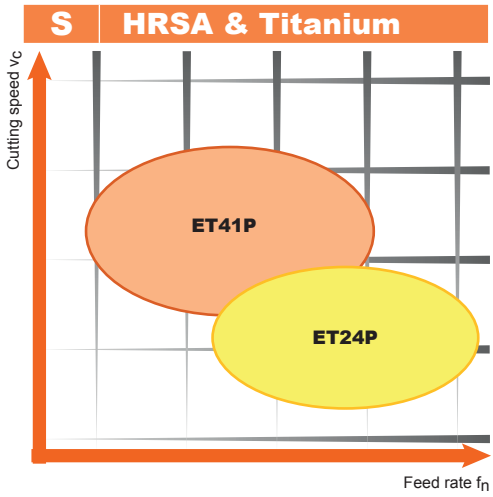
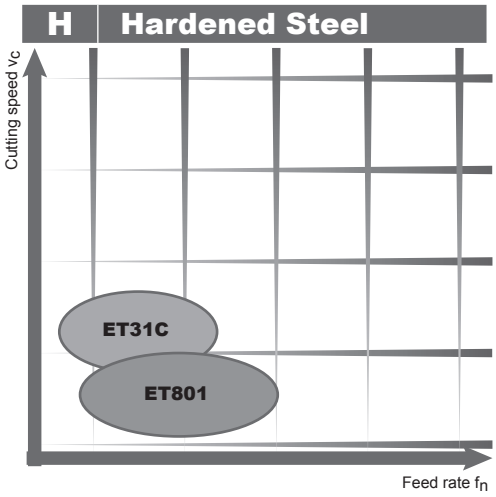
TaC coated inserts maintain sharp cutting edge due to coating thickness of ≤ 1 µm and highly polished face.

INSERT GRADE GUIDE



THEORETICAL SURFACE ROUGHNESS BY INSERT RADIUS

Ra (Rz) μm	Insert corner radius					
	0.2	0.4	0.8	1.2	1.6	2.4
	f_n (mm/rev)					
0.4 (1.6)	0.05	0.07	0.10	0.12	0.14	0.18
1.6 (6.3)	0.10	0.14	0.20	.025	0.28	0.35
3.2 (12.5)	0.14	0.20	0.28	0.35	0.40	0.49
6.3 (25)	-	0.28	0.40	0.49	0.57	0.69
8 (32)	-	-	0.45	0.55	0.64	0.78

INSERT GRADE APPLICATION AREA

The charts below indicate grade selection in relation to cutting speed and feed rate