



**POSITIVE & NEGATIVE  
INSERTS**

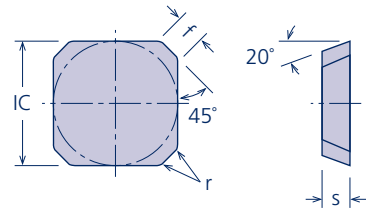
*Aydosa*


**MILLING**



90°  
SQUARE

# SEKN



CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)				WORKPIECE MATERIAL			MACHINING CONDITION		
		IC	s	f	r	P <span style="color:blue">■</span>	M <span style="color:yellow">■</span>	K <span style="color:red">■</span>	●	●	✱
	SEKN1203AFSN-8220 1129532-22	12.7	3.18	2.35	1	***	***	**	**	***	*
	SEKN1504AFSN-8220 1129535-22	15.88	4.76	2.35	1	***	***	**	**	***	*

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Heat-resist. Alloy, Titanium Alloy H Hardened Materials

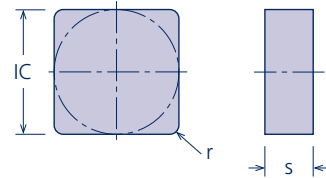
● Good ● Average ✱ Difficult


\*\*\* Excellent \*\* Good \* Fair



90°  
SQUARE

# SNUN



CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)			WORKPIECE MATERIAL			MACHINING CONDITION		
		IC	s	r	P <span style="color:blue">■</span>	M <span style="color:yellow">■</span>	K <span style="color:red">■</span>	●	●	✱
	SNUN120412-8220 1129583-22	12.7	4.76	1.2	***	***	**	**	***	*

P Steel 
 M Stainless Steel 
 K Cast Iron 
 N Non-Ferrous Metal 
 S Heat-resist. Alloy, Titanium Alloy 
 H Hardened Materials

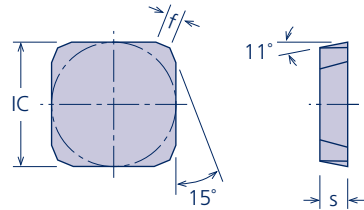
● Good 
 ● Average 
 ✱ Difficult


\*\*\* Excellent 
 \*\* Good 
 \* Fair



90°  
SQUARE

# SPKN



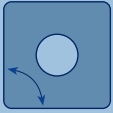
CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)			WORKPIECE MATERIAL			MACHINING CONDITION		
		IC	s	f	P <span style="color:blue">■</span>	M <span style="color:yellow">■</span>	K <span style="color:red">■</span>	●	●	✱
	SPKN1203EDSR-8220 1129616-22	12.7	3.18	1.4	***	***	**	**	***	*
	SPKN1504EDSR-8220 1129625-22	15.88	4.76	1.4	***	***	**	**	***	*

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Heat-resist. Alloy, Titanium Alloy H Hardened Materials

● Good ● Average ✱ Difficult

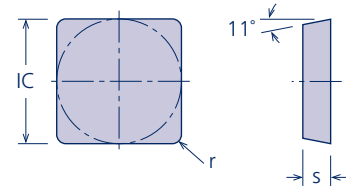
\*\*\* Excellent \*\* Good \* Fair






90°  
SQUARE

# SPUN



CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)			WORKPIECE MATERIAL			MACHINING CONDITION		
		IC	s	r	P <span style="color:blue">■</span>	M <span style="color:yellow">■</span>	K <span style="color:red">■</span>	●	●	✱
	SPUN120308-8220 1129646-22	12.7	3.18	0.8	***	***	**	**	***	*
	SPUN120312-8220 1129648-22	12.7	3.18	1.2	***	***	**	**	***	*

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Heat-resist. Alloy, Titanium Alloy H Hardened Materials

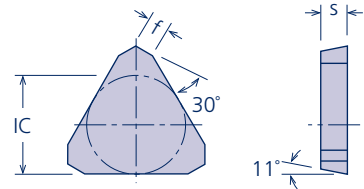
● Good ● Average ✱ Difficult

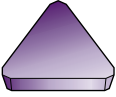
\*\*\* Excellent \*\* Good \* Fair



60°  
TRIANGLE

# TPKN



CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)			WORKPIECE MATERIAL			MACHINING CONDITION		
		IC	s	f	P <span style="color:blue">■</span>	M <span style="color:yellow">■</span>	K <span style="color:red">■</span>	●	●	✱
	TPKN1603PPSN-8220 1129762-22	9.53	3.18	1.2	***	***	**	**	***	*
	TPKN2204PDSR-8220 1129769-22	12.7	4.76	1.4	***	***	**	**	***	*

P Steel 
 M Stainless Steel 
 K Cast Iron 
 N Non-Ferrous Metal 
 S Heat-resist. Alloy, Titanium Alloy 
 H Hardened Materials

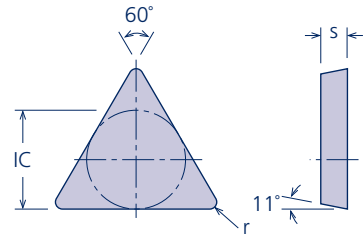
● Good 
 ● Average 
 ✱ Difficult


\*\*\* Excellent 
 \*\* Good 
 \* Fair



60°  
TRIANGLE

# TPUN



CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)			WORKPIECE MATERIAL			MACHINING CONDITION		
		IC	s	r	P ■	M ■	K ■	●	●	✱
	TPUN160304-8220 1129780-22	9.53	3.18	0.4	***	***	**	**	***	*
	TPUN160308-8220 1129782-22	9.53	3.18	0.8	***	***	**	**	***	*
	TPUN160312-8220 1129784-22	9.53	3.18	1.2	***	***	**	**	***	*
	TPUN220408-8220 1129787-22	12.7	4.76	0.8	***	***	**	**	***	*
	TPUN220412-8220 1129789-22	12.7	4.76	1.2	***	***	**	**	***	*

P Steel 
 M Stainless Steel 
 K Cast Iron 
 N Non-Ferrous Metal 
 S Heat-resist. Alloy, Titanium Alloy 
 H Hardened Materials

● Good 
 ● Average 
 ✱ Difficult

\*\*\* Excellent 
 \*\* Good 
 \* Fair

# TECHNICAL

## RECOMMENDED CUTTING CONDITIONS

MATERIAL GROUP	MATERIAL EXAMPLE SAE/AISI(EN)	HARDNESS / TENSILE STRENGTH	CUTTING SPEED Vc (m/min)	FEED fz (mm/tooth)
<b>P STEEL</b>				
Mild Steel	1020(EN3A)	180 HB	130 - 270	0.10 - 0.30
Carbon Steel	1043(EN8) / 1055(EN9)	180 - 300 HB	100 - 210	0.07 - 0.25
Alloy Steel	4140H(EN19) / 4340(EN24) / 3316(EN36B)	350 HB	100 - 210	0.07 - 0.25
<b>M STAINLESS STEEL</b>				
Stainless steel (Austenitic)	303 / 304 / 316	270 HB	100 - 210	0.07 - 0.25
Stainless steel (Martensitic)	420	270 HB	100 - 210	0.07 - 0.25
<b>K CAST IRON</b>				
Gray Cast Iron	GG	350 MPa	100 - 210	0.07 - 0.25
Nodular (Ductile) Cast Iron	GGG	800 MPa	70 - 150	0.07 - 0.25

# RDMT FEATURES

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**Edge Condition**  
Edge conditioning technology that ensures consistent edge hone quality on all cutting edges.

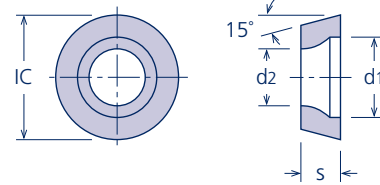
**Coating**  
The AlTiN coating has an exceptionally smooth surface for almost frictionless chip removal. The remarkable coating adhesion and coating hardness protects the substrate in even the most demanding applications.


**Substrate**  
The "high pressure sintered" micro-grain carbide substrate offers high transverse strength with excellent density. Our carbide to cobalt ratio ensures optimum wear resistance and toughness.



ROUND

# RDMT



CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)				WORKPIECE MATERIAL					MACHINING CONDITION		
		IC	s	d1	d2	P	M	K	S	H	●	●	✱
	RDMT0702M0-L8220 1129391-22	7	2.38	3.72	2.84	***	***	**	**	**	**	***	*
	RDMT1003M0-R8220 1129402-22	10	3.18	6.25	4.2	***	***	**	**	**	**	***	*
	RDMT12T3M0-R8220 1129403-22	12	3.97	6.25	4.2	***	***	**	**	**	**	***	*
	RDMT1604M0-R8220 1129405-22	16	4.76	7.6	5.2	***	***	**	**	**	**	***	*

P Steel 
 M Stainless Steel 
 K Cast Iron 
 N Non-Ferrous Metal 
 S Heat-resist. Alloy, Titanium Alloy 
 H Hardened Materials

● Good 
 ● Average 
 ✱ Difficult

\*\*\* Excellent 
 \*\* Good 
 \* Fair

# TECHNICAL

## RECOMMENDED CUTTING CONDITIONS

MATERIAL GROUP	MATERIAL EXAMPLE SAE/AISI(EN)	HARDNESS / TENSILE STRENGTH	CUTTING SPEED Vc (m/min)	FEED fz (mm/tooth)
<b>P</b> STEEL				
Mild Steel	1020(EN3A)	180 HB	130 - 270	0.12 - 0.6
Carbon Steel	1043(EN8) / 1055(EN9)	180 - 300 HB	100 - 210	0.1 - 0.55
Alloy Steel	4140H(EN19) / 4340(EN24) / 3316(EN36B)	350 HB	100 - 210	0.1 - 0.55
<b>M</b> STAINLESS STEEL				
Stainless steel (Austenitic)	303 / 304 / 316	270 HB	100 - 210	0.1 - 0.3
Stainless steel (Martensitic)	420	270 HB	100 - 210	0.1 - 0.3
<b>K</b> CAST IRON				
Gray Cast Iron	GG	350 MPa	100 - 210	0.1 - 0.35
Nodular (Ductile) Cast Iron	GGG	800 MPa	70 - 150	0.1 - 0.35
<b>H</b> HARDENED MATERIALS				
Hardened Steel	D2 / H13	40 - 55HRc	40 - 100	0.08 - 0.20

# SOMT FEATURES



**Edge Condition**  
Edge conditioning technology that ensures consistent edge hone quality on all cutting edges.

**Coating**  
The AlTiN coating has an exceptionally smooth surface for almost frictionless chip removal. The remarkable coating adhesion and coating hardness protects the substrate in even the most demanding applications.

**Cutting Edge**  
Numbered cutting edges assist with indexing.

**Wiper**  
The wiper ensures excellent floor surface finish.

**Helical Cutting Edge**  
The edge results in true 90° shoulder.

**Geometry**  
Marking indicates the geometry for different applications:  
- L for light  
- M for medium  
- R for roughing

**Rake Geometry**  
The design incorporates a varying rake angle. This ensures equal cutting forces through the cut, which in turn minimizes cyclic loading of the edge. The end result is a more reliable insert.

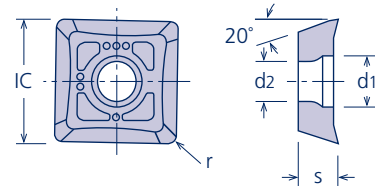
**Substrate**  
The "high pressure sintered" micro-grain carbide substrate offers high transverse strength with excellent density. Our carbide to cobalt ratio ensures optimum wear resistance and toughness.






90°  
SQUARE

# SOMT



CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)					WORKPIECE MATERIAL						MACHINING CONDITION		
		IC	s	r	d1	d2	P	M	K	N	S	H	●	●	✘
M MEDIUM	 SOMT12T308-M8220 1129516-22	12.7	3.97	0.8	4.1	5.5	***	***	**		**	*	**	***	*

Steel 
  Stainless Steel 
  Cast Iron 
  Non-Ferrous Metal 
  Heat-resist. Alloy, Titanium Alloy 
  Hardened Materials

\*\*\* Excellent   \*\* Good   \* Fair

● Good   ● Average   ✘ Difficult

# TECHNICAL

## RECOMMENDED CUTTING CONDITIONS

MATERIAL GROUP	MATERIAL EXAMPLE SAE/AISI(EN)	HARDNESS / TENSILE STRENGTH	CUTTING SPEED Vc (m/min)	FEED fz (mm/tooth)
<b>P STEEL</b>				
Mild Steel	1020(EN3A)	180 HB	130 - 270	0.10 - 0.30
Carbon Steel	1043(EN8) / 1055(EN9)	180 - 300 HB	100 - 210	0.07 - 0.25
Alloy Steel	4140H(EN19) / 4340(EN24) / 3316(EN36B)	350 HB	100 - 210	0.07 - 0.25
<b>M STAINLESS STEEL</b>				
Stainless steel (Austenitic)	303 / 304 / 316	270 HB	100 - 210	0.07 - 0.25
Stainless steel (Martensitic)	420	270 HB	100 - 210	0.07 - 0.25
<b>K CAST IRON</b>				
Gray Cast Iron	GG	350 MPa	100 - 210	0.07 - 0.25
Nodular (Ductile) Cast Iron	GGG	800 MPa	70 - 150	0.07 - 0.25
<b>N NON-FERROUS METAL</b>				
Aluminium Alloy	-	-	300 - 1000	0.10 - 0.30
<b>S HEAT-RESISTANT ALLOY, TITANIUM ALLOY</b>				
Ti Alloy	Ti6Al4V	35 - 45 HRc	30 - 60	0.07 - 0.25
High Temp. Alloys	Inconel 718	200 HB	20 - 40	0.07 - 0.25
<b>H HARDENED MATERIALS</b>				
Hardened Steel	D2 / H13	40 - 55HRc	40 - 100	0.07 - 0.15

## SEHT FEATURES

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### Edge Condition

Edge conditioning technology that ensures consistent edge hone quality on all cutting edges.

### Coating

The AlTiN coating has an exceptionally smooth surface for almost frictionless chip removal. The remarkable coating adhesion and coating hardness protects the substrate in even the most demanding applications.

### Geometry

Marking indicates the geometry for different applications:

- L for light
- M for medium
- R for roughing

### Cutting Edge

Numbered cutting edges assist with indexing.

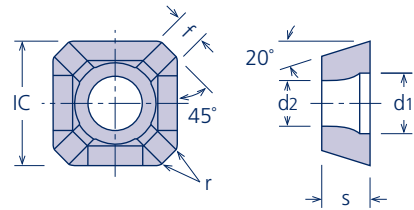
### Substrate



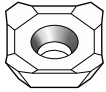
The "high pressure sintered" micro-grain carbide substrate offers high transverse strength with excellent density. Our carbide to cobalt ratio ensures optimum wear resistance and toughness.



90°  
SQUARE

# SEHT



CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)						WORKPIECE MATERIAL						MACHINING CONDITION		
		IC	s	f	r	d1	d2	P	M	K	N	S	H	●	●	✘
L LIGHT	 SEHT1204AFEN-L8220 1129540-22	12.7	4.76	1.4	1	7.5	5.5	***	***	**		**	*	**	***	*
M MEDIUM	 SEHT1204AFSN-M8220 1129542-22	12.7	4.76	1.4	1	7.5	5.5	***	***	**		**	*	**	***	*
AL ALUMINUM	 SEHT1204AFFN-ALK15M 1129546-10	12.7	4.76	1.4	1	7.5	5.5				***			**	***	*

[P] Steel [M] Stainless Steel [K] Cast Iron [N] Non-Ferrous Metal [S] Heat-resist. Alloy, Titanium Alloy [H] Hardened Materials

● Good ● Average ✘ Difficult

\*\*\* Excellent \*\* Good \* Fair

# TECHNICAL

## RECOMMENDED CUTTING CONDITIONS

MATERIAL GROUP	MATERIAL EXAMPLE SAE/AISI(EN)	HARDNESS / TENSILE STRENGTH	CUTTING SPEED Vc (m/min)	FEED fz (mm/tooth)
<b>P STEEL</b>				
Mild Steel	1020(EN3A)	180 HB	130 - 270	0.10 - 0.30
Carbon Steel	1043(EN8) / 1055(EN9)	180 - 300 HB	100 - 210	0.07 - 0.25
Alloy Steel	4140H(EN19) / 4340(EN24) / 3316(EN36B)	350 HB	100 - 210	0.07 - 0.25
<b>M STAINLESS STEEL</b>				
Stainless steel (Austenitic)	303 / 304 / 316	270 HB	100 - 210	0.07 - 0.25
Stainless steel (Martensitic)	420	270 HB	100 - 210	0.07 - 0.25
<b>K CAST IRON</b>				
Gray Cast Iron	GG	350 MPa	100 - 210	0.07 - 0.25
Nodular (Ductile) Cast Iron	GGG	800 MPa	70 - 150	0.07 - 0.25
<b>N NON-FERROUS METAL</b>				
Aluminium Alloy	-	-	300 - 1000	0.10 - 0.30
<b>S HEAT-RESISTANT ALLOY, TITANIUM ALLOY</b>				
Ti Alloy	Ti6Al4V	35 - 45 HRc	30 - 60	0.07 - 0.25
High Temp. Alloys	Inconel 718	200 HB	20 - 40	0.07 - 0.25
<b>H HARDENED MATERIALS</b>				
Hardened Steel	D2 / H13	40 - 55HRc	40 - 100	0.07 - 0.15

# APKT FEATURES

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**Edge Condition**  
Edge conditioning technology that ensures consistent edge hone quality on all cutting edges.

**Clearance Geometry**  
A re-inforced relief clearance angle results in strength and stability through the cut.

**Geometry**  
Marking indicates the geometry for different applications:  
- L for light  
- M for medium  
- R for roughing

**Coating**  
The AlTiN coating has an exceptionally smooth surface for almost frictionless chip removal. The remarkable coating adhesion and coating hardness protects the substrate in even the most demanding applications.

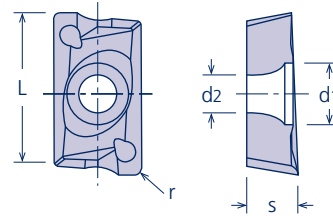
**Rake Geometry**  
The design incorporates a varying rake angle. This ensures equal cutting forces through the cut, which in turn minimizes cyclic loading of the edge. The end result is a more reliable insert.

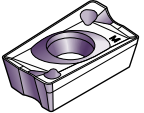
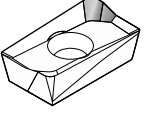
**Substrate**  
The "high pressure sintered" micro-grain carbide substrate offers high transverse strength with excellent density. Our carbide to cobalt ratio ensures optimum wear resistance and toughness.



**85°**  
PARALLELOGRAM

# APKT



CHIP BREAKER	DESCRIPTION / GRADE ITEM NUMBER	DIMENSIONS (mm)					WORKPIECE MATERIAL						MACHINING CONDITION		
		L	s	r	d1	d2	P	M	K	N	S	H	●	●	✘
M MEDIUM 	APKT1003PDER-M8220 1129010-22	10.3	3.45	0.8	3.85	2.85	***	***	**		**	*	**	***	*
	APKT1604PDER-M8220 1129015-22	16.2	5.25	0.8	6.0	4.4	***	***	**		**	*	**	***	*
AL ALUMINUM 	APKT1003PDFR-ALK15M 1129014-10	10.3	3.45	0.8	3.85	2.85				***			**	***	*
	APKT1604PDFR-ALK15M 1129019-10	16.2	5.25	0.8	6.0	4.4				***			**	***	*

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Heat-resist. Alloy, Titanium Alloy H Hardened Materials  
 \*\*\* Excellent \*\* Good \* Fair

● Good ● Average ✘ Difficult

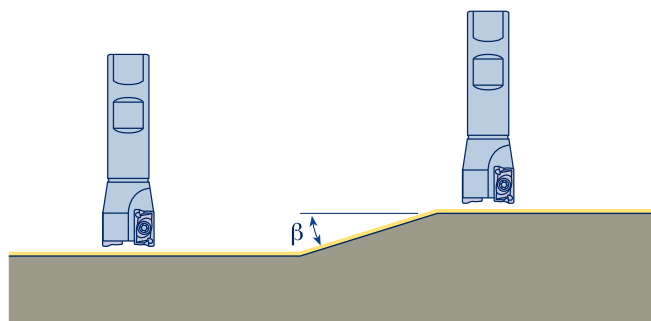
# TECHNICAL

## RECOMMENDED CUTTING CONDITIONS

MATERIAL GROUP	MATERIAL EXAMPLE SAE/AISI(EN)	HARDNESS / TENSILE STRENGTH	CUTTING SPEED Vc (m/min)	FEED fz (mm/tooth)
<b>P STEEL</b>				
Mild Steel	1020(EN3A)	180 HB	130 - 270	0.10 - 0.30
Carbon Steel	1043(EN8) / 1055(EN9)	180 - 300 HB	100 - 210	0.07 - 0.25
Alloy Steel	4140H(EN19) / 4340(EN24) / 3316(EN36B)	350 HB	100 - 210	0.07 - 0.25
<b>M STAINLESS STEEL</b>				
Stainless steel (Austenitic)	303 / 304 / 316	270 HB	100 - 210	0.07 - 0.25
Stainless steel (Martensitic)	420	270 HB	100 - 210	0.07 - 0.25
<b>K CAST IRON</b>				
Gray Cast Iron	GG	350 MPa	100 - 210	0.07 - 0.25
Nodular (Ductile) Cast Iron	GGG	800 MPa	70 - 150	0.07 - 0.25
<b>N NON-FERROUS METAL</b>				
Aluminium Alloy	-	-	300 - 1000	0.10 - 0.30
<b>S HEAT-RESISTANT ALLOY, TITANIUM ALLOY</b>				
Ti Alloy	Ti6Al4V	35 - 45 HRc	30 - 60	0.07 - 0.25
High Temp. Alloys	Inconel 718	200 HB	20 - 40	0.07 - 0.25
<b>H HARDENED MATERIALS</b>				
Hardened Steel	D2 / H13	40 - 55HRc	40 - 100	0.07 - 0.15

## MAX. RAMPING ANGLE ( $\beta$ )

CUTTING EDGE DIAMETER (mm)	RAMP ANGLE ( $\beta$ )
12	14
16	13
20	7
25	5
32	3
40	2.5
50	2
63	1.8
80	1.5
100	1
125	0.8
160	0.7



NOTE:  
 - Air or high pressure coolant is recommended for ramping to evacuate chips.  
 - Reduce ramping angle when machining ductile materials to avoid chip jamming.



**AYDOSA MAK. SAN. VE TIC. LTD. STI.**  
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