

S C H X 09 03 04 F R Z 7 P 9

1

2

3

4

5

6

7

8

9

10

11

12


1

Insert shape

Symbol	w [degree]	
A	80°	
L	90°	
C	80°	
M	86°	
S	90°	
T	60°	
X	Special shape	

2

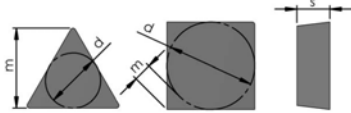
Clearance angle



Symbol	w [degree]
B	5°
C	7°
D	15°
P	11°

3

Tolerances



Symbol	d [± mm]	m [± mm]	s [± mm]
C	0,025	0,013	0,025
H	0,013	0,013	0,025
E	0,025	0,025	0,025
G	0,025	0,025	0,13
M			
d=6,35	0,05	0,08	0,13
d=9,525	0,05	0,08	0,13
d=12,7	0,08	0,13	0,13
d=15,875	0,1	0,15	0,13


4

Form of top surface

Symbol	
W	
T	
X	Special surface


5

Cutting edge length



Code	[mm]
04	4,76
06	6,35 *
07	7
09	9,53 *
11	11
12	12,7 *
15	15,88 *
16	15,88
17	17
19	19 *
25	25,4 *
30	30 *

Cutting edge length "X" - shape exempt "XDCW"




Code	[mm]
06	6 *
065	6,4
07	7 *
075	7,4
08	8,5 *
085	8,38
09	9 *
095	9,5 *
10	10 *
105	10,5 *
11	11 *
115	11,38

Code	[mm]
12	12 *
125	12,38
13	12,88
135	13,5 *
14	13,88
145	14,38
15	15 *
17	16,88
20	19,88
26	25,8

6

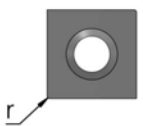
Insert thickness



Code	s [mm]
01	1,8
T1	1,98
02	2,4
03	3,18
T3	3,97
04	4,45 *
04	4,76
06	6,0

7

Corner radius



Code	r [mm]
02	0,2
04	0,4
08	0,8
10	1,0
12	1,2
AC	Anglechamfer

8

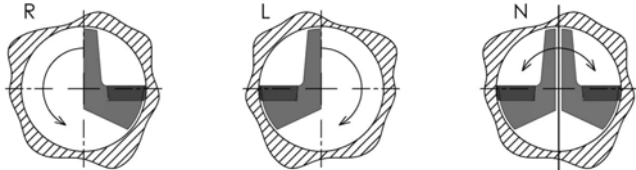
Cutting edge

F	sharp
E	rounded

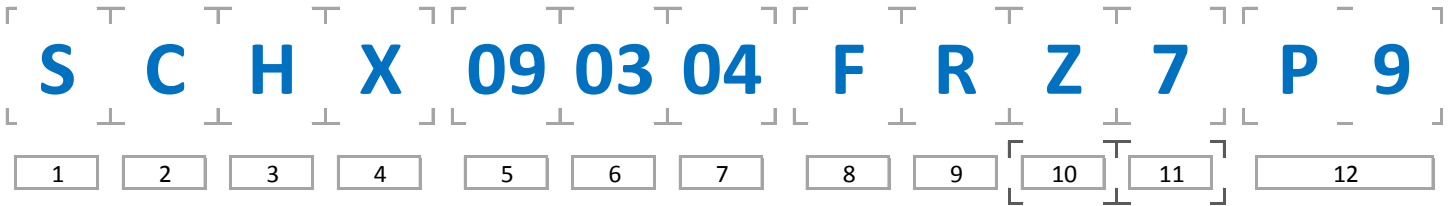
* Only for XB..... - Inserts available

9

Cutting direction



* Divergent Dimension by Inserts with guiding chamfers



10 Performance Insert

Symbol		
H	without guiding chamfers	
Z	with guiding chamfers	

11 Performance cutting edge

Code			Code		
1	4 ground chip breakers		5	permanent brazed PCD cutting edge	
3	High positive chip breakers		7	Lower chip breakers	
4	Chip splitter				

12 Grade

Symbol	DIN-ISO 513	Coating	Symbol	DIN-ISO 513	Coating	Symbol	DIN-ISO 513	Coating
AK1	HF - N20	-----	K5	HC - K20	TiN	P7	HC - P40	TiN
C1	HT - P10	-----	K9	HC - K10	TiAlN	P9	HC - P10	TiAlN
D1	DP - N20	-----	KHX	HC - K10-K40	Al + TiN	PHX	HC - P10-P40	Al + TiN
K1	HF - K20	-----	U9	HC - P15	Al2O3 + TiN			
P2	HF - P30	-----	P5	HC - K40/P40	TiN	S6	HSSE	TiN

Exemplification

10 Guiding chamfers (..Z..)

Round ground guiding chamfers prevent chattering and burnish the bore surface

11 Cutting edge (..7..)

Low cutting and short chip breakers generate short chips --> suitable for long chipping materials

12 Applications Area for the Grades

Symbol	Grade	Steel	Stainless Steel	Cast iron	Nonferrous metal	Special alloys and Titanium	Hard materials
		P	M	K	N	S	H
AK1	Carbide			o	+	o	
C1	Cermet	+			o		
D1	PCD				+		
K1	Carbide			+			
P2	Carbide	+					
S6	HSSE	+	+	o		+	
K5	Carbide		o	+			o
K9	Carbide		o	+			o
KHX	Carbide		o	++			+
U9	Carbide	+	o	+			o
P5	Carbide	+	+	o			
P7	Carbide	+	+	o			
P9	Carbide	+	+	o			
PHX	Carbide	++	++	o			

+ = Main application / o = Minor application