

## **TUNGSTEN CARBIDE BRAZED TIPS**

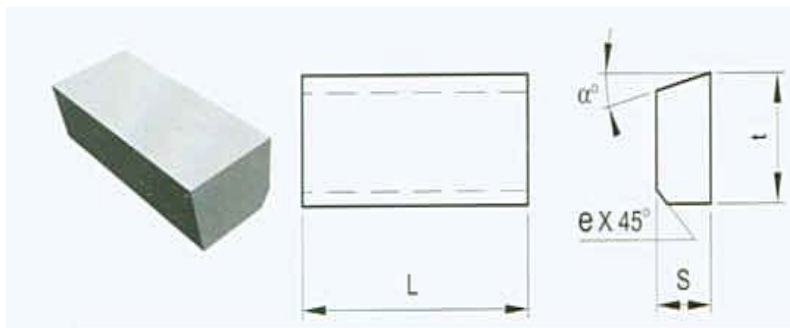
➤ **Carbide Grades:**

Grade	ISO Code	Density G/cm3	Hardness HRA(HV)	T.R.S MPa	Applications
YW1 YW3 YW4	M10	14.4	91.5	1960	Suitable for finishing and semi-finishing of stainless steel and conventional alloy steel
YW2	M20	12.9	90.5	1460	The grade can be used for the semi-finishing of stainless steel and low-alloy steel and it is mainly used for the machining of railway wheel hubs
	M30	14.5	1600	2000	Suitable for the roughing of heat-resistant alloys
YT05 YT15	P10	12.6 11.3	92.5 91.0	1260 1300	Suitable for the finishing and semi-finishing of steel and cast steel with a moderate feed rate and a rather high cutting speed
YT14 YS30C SC30 YS25	P20	11.4 12.5 12.9 13.0	90.5 91 91 90.5	1400 1740 2000 1780	Suitable for the finishing and semi-finishing of steel and cast steel. YS25 is specially used for the milling of steel and cast steel
YT5	P30	12.8	89.5	1560	Suitable for the heavy duty rough turning of steel and cast steel with a big feed rate at a medium and low speed under unfavorable working conditions
	P40	13.1	1320	1650	Suitable for the heavy duty turning of steel and cast steel at a big feed rate and also for face milling

➤ **Product Informations:**

Type A1

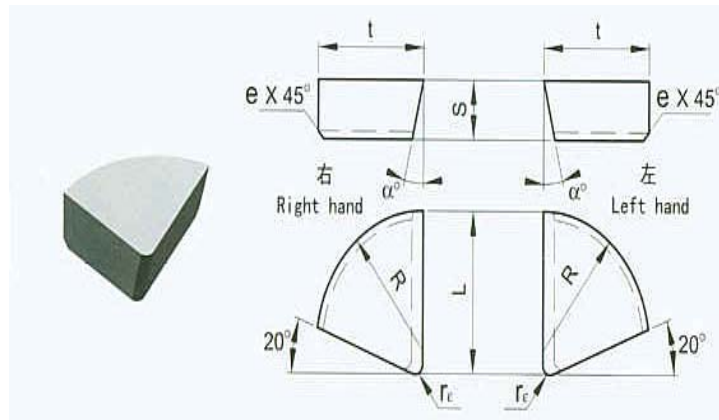
*For making periphery turning tools, boring tools and grooving tools*



TYPE	SIZE (mm)			
	L	B	C	e
A106	6	5	2.5	-
A108	8	7	3.0	-
A110	10	6	3.5	0.8
A112	12	10	4.0	0.8
A114	14	12	4.5	0.8
A116	16	10	5.5	0.8
A118	18	12	7.0	0.8
A118A	18	16	6.0	0.8
A120	20	12	7.0	0.8
A122	22	15	8.5	0.8
A122A	22	18	7.0	0.8
A125	25	15	8.5	0.8
A125A	25	20	10	0.8
A130	30	16	10	0.8
A136	36	20	10	0.8
A140	40	18	10.5	1.2
A150	50	20	10.5	1.2

Type A2

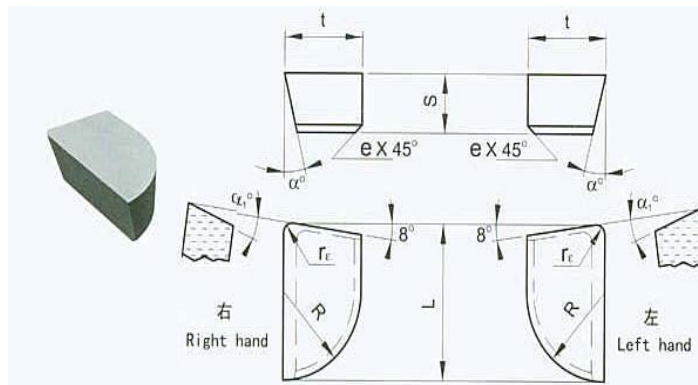
For making boring tools and end turning tools



TYPE		SIZE (mm)				
R.H	L.H	L	B	C	R	e
A208	-	8	7	2.5	6	-
A210	-	10	8	3.0	6	-
A212	A212Z	12	10	4.5	10	0.8
A216	A216Z	16	14	6	14	0.8
A220	A220Z	20	18	7	18	0.8
A225	A225Z	25	20	8	20	0.8

Type A3

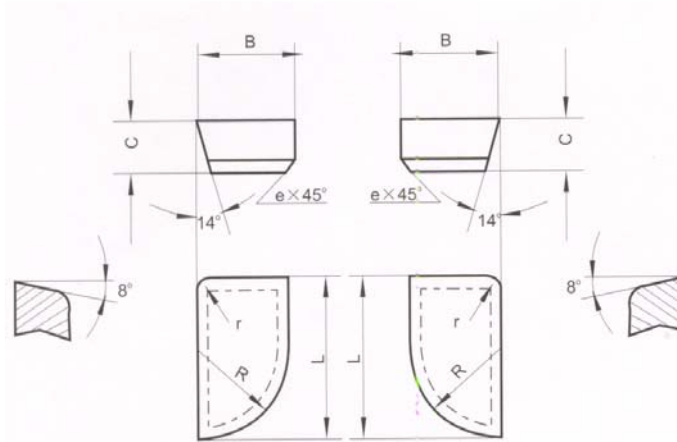
For making end and periphery turning tools



TYPE		SIZE (mm)				
R.H	L.H		B	C	R	e
A310	-	10	6	3	6	-
A312	A312Z	12	7	4	7	0.8
A315	A315Z	15	9	6	9	0.8
A320	A320Z	20	11	7	11	0.8
A325	A325Z	25	14	8	14	0.8
A330	A330Z	30	16	9.5	16	0.8
A340	A340Z	40	18	10.5	18	1.2

*Type A4*

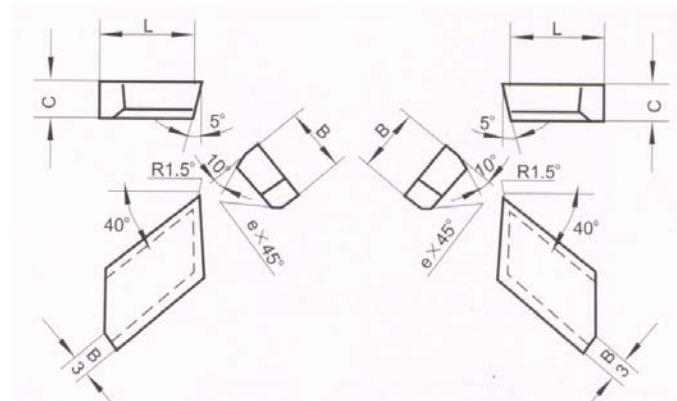
*For making periphery turning tools, boring tools and end turning tools*



TYPE		SIZE (mm)				
R.H	L.H	L	B	C	R	e
A406	-	6	5	2.5	5	-
A408	-	8	6	3	6	-
A410	A410Z	10	6	3	6	-
A412	A412Z	12	8	4.5	8	0.8
A416	A416Z	16	10	5.5	10	0.8
A420	A420Z	20	12	7	12.5	0.8
A425	A425Z	25	15	8.5	16	0.8
A430	A430Z	30	16	6	16	0.8
A430A	A430AZ	30	16	9.5	16	0.8
A440	A440Z	40	18	8	18	0.8
A440A	A440AZ	40	18	10.5	18	1.2
A450	A450Z	50	20	8	20	0.8
A450A	A450AZ	50	20	12	20	1.2

*Type B1*

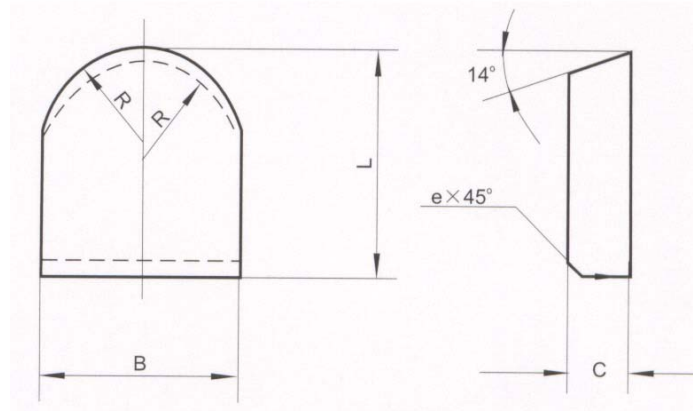
*For making forming turning tools, planing and milling tools for machining dove tail grooves*



TYPE		SIZE (mm)				
R.H	L.H	L	B	C	R	e
B108	-	8	6	3	11.5	-
B112	B112Z	12	8	4	1.5	1
B116	B116Z	16	10	5	1.5	1
B120	B120Z	20	14	5	1.5	1
B120A	B120AZ	20	16	7	1.5	1.5
B125	B125Z	25	14	5	1.5	1.5
B125A	B125AZ	25	18	8	1.5	1.5
B130	B130Z	30	20	8	1.5	1.5

*Type B2*

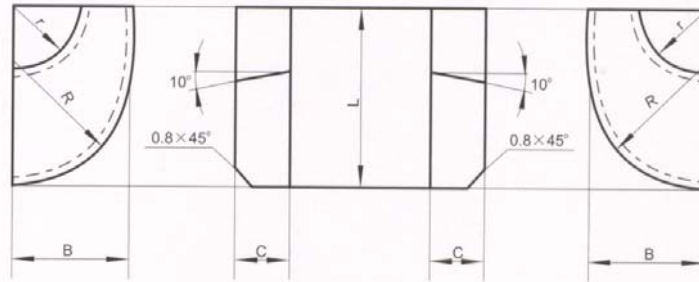
*For making forming tools for machining concave radii and forming turning tools for railway wheels*



TYPE	SIZE(mm)				
	L	B	C	R	e
B208	8	8	3	4	-
B210	10	10	3.5	5	0.8
B212	12	12	4.5	6	0.8
B214	14	16	5	8	0.8
B216	16	20	6	10	0.8
B220	20	25	7	12.5	0.8
B225	25	30	8	15	0.8
B228	28	35	9	17.5	0.8

*Type B3*

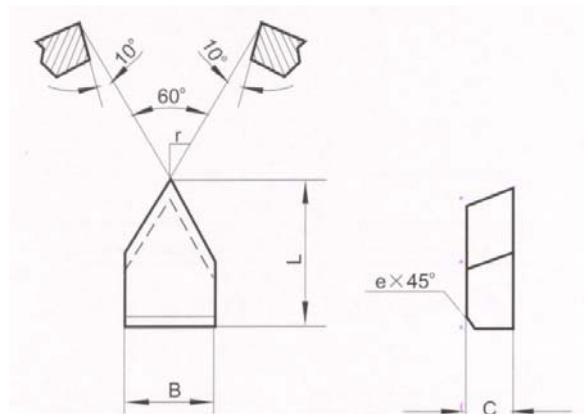
*For making turning tools for radius machining*



TYPE		SIZE (mm)				
R.H	L.H	L	B	C	R	e
B312	B312Z	12	8	4	8	3
B315	B315Z	15	10	5	10	5
B318	B318Z	18	12	6	12	6
B322	B322Z	22	16	7	16	10

*Type C1*

*For making threading tools & turning tools for the finishing of peripheries*

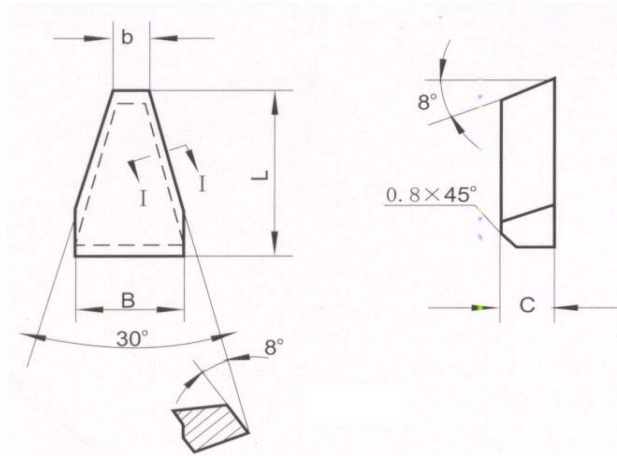


TYPE	SIZE(mm)				
	L	B	C	r	e
C110	10	4	3	0.5	-
C116	16	6	4	0.5	0.8
C120	20	8	5	0.5	0.8
C122	22	10	6	0.5	0.8

TYPE	SIZE(mm)				
	L	B	C	r	e
C125	25	12	7	0.5	0.8

*Type C2*

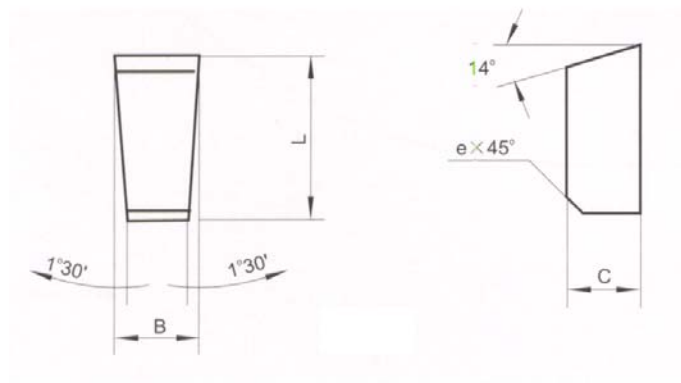
*For making finishing turning tools and trapezoid threading turning tools*



Type	Size (mm)				
	L	B	C	r	e
C215	15	7	4	1.8	0.8
C218	18	10	5	3.1	0.8
C223	23	14	5	4.9	0.8
C228	28	18	6	7.7	0.8
C236	36	28	7	13.1	0.8

*Type C3*

*For making parting tools and grooving tools*

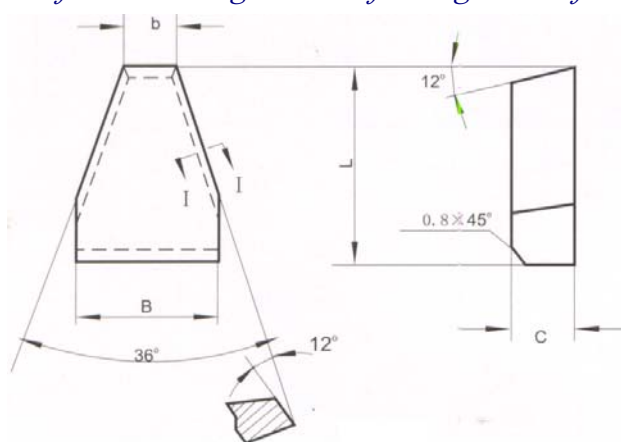


Type	Size(mm)
------	----------

	L	B	C	e
C303	12	3	3	-
C304	14	4	4	0.8
C305	17	5	5	0.8
C306	17	6	6	0.8
C308	20	8	7	0.8
C310	22	10	8	0.8
C312	22	12	10	0.8
C316	25	16	11	1.2

*Type C4*

*For making grooving tools for machining wheels of triangular belfs*

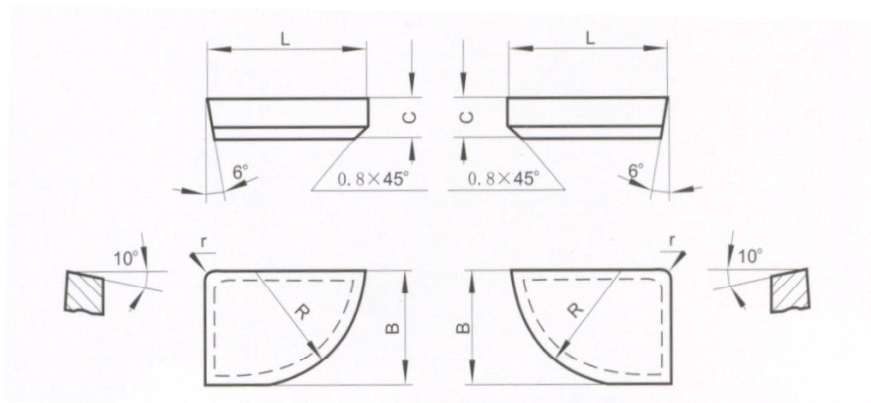


Type	Size(mm)			
	L	B	C	b
C420	20	12	5	3
C425	25	16	5	4
C430	30	20	6	5.5
C435	35	25	6	7.5
C442	42	35	8	12.5
C450	45	42	8	15



*Type D1*

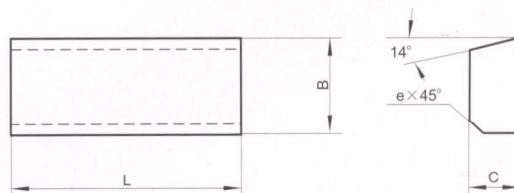
*For making and milling tools, periphery turning tools and boring tools*



Type		Size (mm)				
R.H	L.H	L	B	C	R	r
D110	D110Z	10	8	2.5	8	0.5
D112	D112Z	12	10	3	10	0.5
D115	D115Z	15	12	3.5	12.5	0.5
D120	D120Z	20	16	4	16	1
D125	D125Z	25	20	5	20	1
D130	D130Z	30	20	6	20	1

*Type D2*

*For making 3-edged milling tools, milling tools for T grooves and adjustable boring tools*

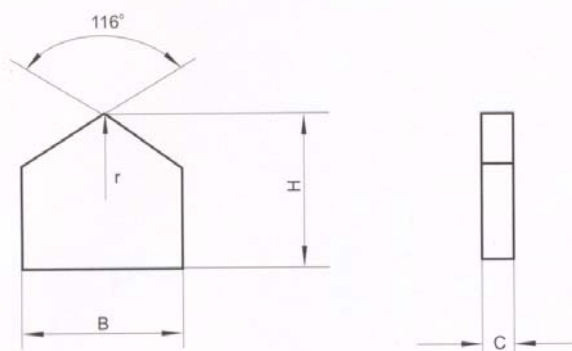


Type	Size(mm)			
	L	B	C	e
D206	6	7	3	-
D208	8	4	3	-
D210	10	5	3	-
D210A	10	10	3	-
D212	12	6	3	-
D212A	12	12	3.5	0.8
D214	14	7	3.5	0.8

Type	Size(mm)			
	L	B	C	e
D214A	14	12	3.5	0.8
D216	16	7	3.5	0.8
D216A	16	12	3.5	0.8
D218	18	5	3	-
D218A	18	7	3.5	0.8
D218B	18	12	3.5	0.8
D220	20	10	4	0.8
D222	22	6	3	-
D222A	22	14	4	0.8
D224	24	14	4	0.8
D226	26	10	5	0.8
D226A	26	14	5	0.8
D228	28	10	4	0.8
D228A	28	14	4	0.8
D230	30	14	5	0.8
D232	32	12	5	0.8
D236	36	14	4	0.8
D238	38	12	5	0.8
D240	40	14	5	0.8
D246	46	14	5	0.8

*Type E1*

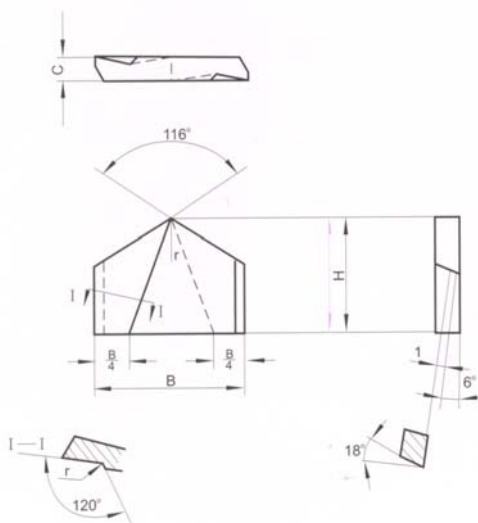
*For making straight flute drills for machining non-metal and metal materials*



Type	Size (mm)			
	B	H	C	r
E105	5	5	1.5	1
E106	6	6	1.5	1
E107	7	6	1.5	1
E108	8	7	1.8	1
E109	9	8	2	1
E110	10	9	2	1

*Type E2*

*For making twist drills and straight flute drills*

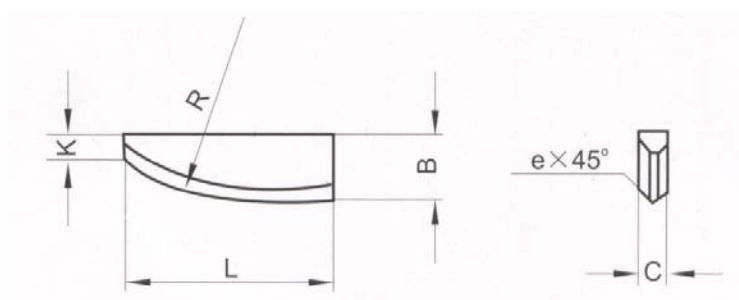


Type	Size(mm)			
	B	H	C	r
E210	10.8	9	2	1
E211	11.8	10	2.5	1
E213	13	11	2.5	1
E214	14	12	2.5	1
E215	15	13	2.5	1
E216	16	14	3	1
E217	17	15	3	1.5
E218	18	16	3	1.5
E219	19	17	3	1.5
E220	20	18	3.5	1.5
E221	21	18	3.5	1.5
E222	22	18	3.5	1.5
E223	23	18	4	1.5
E224	24	18	4	1.5
E225	25	22	4.5	2
E226	26	22	4.5	2
E227	27.5	22	4.5	2
E228	28.5	22	4.5	2
E229	29.5	24	5	2
E230	30.5	24	5	2
E231	31.5	24	5	2
E233	33.5	26	5	2
E236	36.5	26	5	2
E239	39.5	26	5	2
E242	42	28	6	2
E244	42	28	6	2

Type	Size(mm)			
	B	H	C	r
E247	47	28	6	2
E250	50	30	6	2
E252	52	30	6	2

*Type E3*

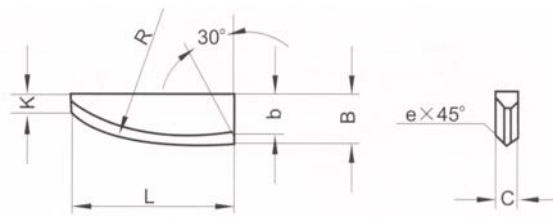
*For making keyway milling tools, end milling tools and broaching bits*



Type	Size (mm)					
	L	B	C	R	K	e
E312	12	6	1.5	20	1.5	-
E315	15	3.5	2	20	1.5	-
E315A	15	7	2	20	1.5	-
E320	20	4.5	2.5	25	2.5	-
E320A	20	6	3.5	25	2.5	0.5
E320B	20	9	2.5	25	2.5	-
E325	25	8	3	30	3.5	0.5
E325A	25	15	3	30	3.5	0.5
E330	30	10	4	30	3.5	0.5
E330A	30	21	4	30	3.5	0.5
E335	35	10	5	30	3.5	0.5
E340	40	12	5	30	3.5	0.5
E345	45	12	6	30	3.5	0.5

*Type E4*

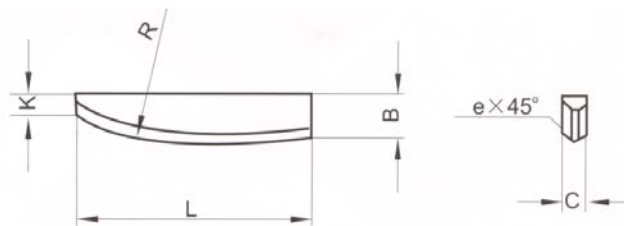
*For making broaching drill bits*



Type	Size (mm)						
	L	B	C	R	K	e	b
E415	15	4	2	15	1.5	-	2.5
E418	18	5	2.5	20	1.5	-	3.5
E420	20	6	3	25	1.5	0.5	5
E425	25	8	3.5	25	2	0.5	6
E430	30	10	4	30	2	0.5	8

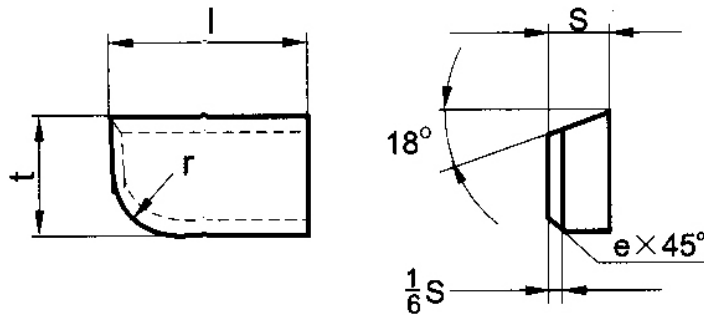
*Type E5*

*For making hand-operated reamers and automatic reamers*



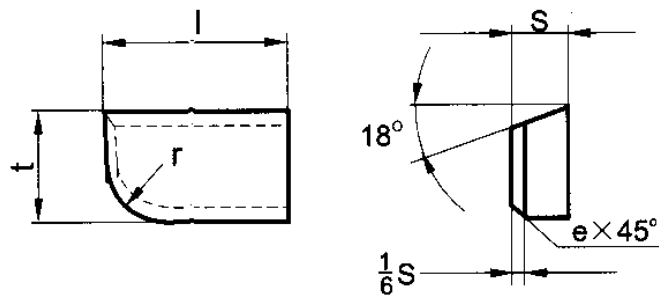
Type	Size (mm)					
	L	B	C	R	K	e
E515	15	2.5	1.3	20	1.5	-
E518	18	3	1.5	25	1.5	-
E522	22	3.5	2	25	1.5	-
E525	25	4	2.5	30	2	-
E530	30	5	3	30	2	0.5
E540	40	6	3.5	30	2	0.5

*Type A*



TYPE	SIZE (mm)			
	l	t	s	r
A5	5	3	2	2
A6	6	4	2.5	2.5
A8	8	5	3	3
A10	10	6	4	4
A12	12	8	5	5
A16	16	10	6	6
A20	20	12	7	7
A25	25	14	8	8
A32	32	18	10	10
A40	40	22	12	12
A50	50	25	14	14

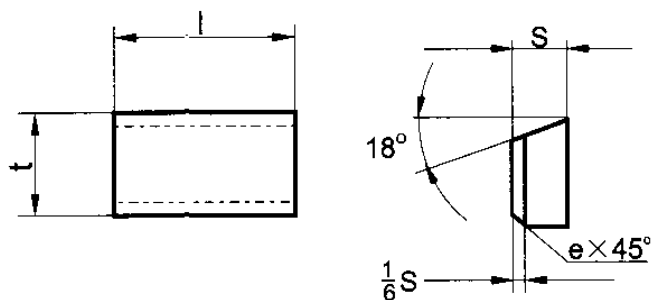
*Type B*



TYPE	SIZE (mm)			
	l	t	s	r
B5	5	3	2	2
B6	6	4	2.5	2.5
B8	8	5	3	3
B10	10	6	4	4
B12	12	8	5	5

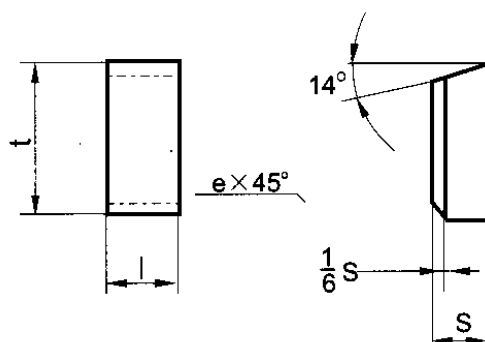
B16	16	10	6	6
B20	20	12	7	7
B25	25	14	8	8
B32	32	18	10	10
B40	40	22	12	12
B50	50	25	14	14

*Type C*



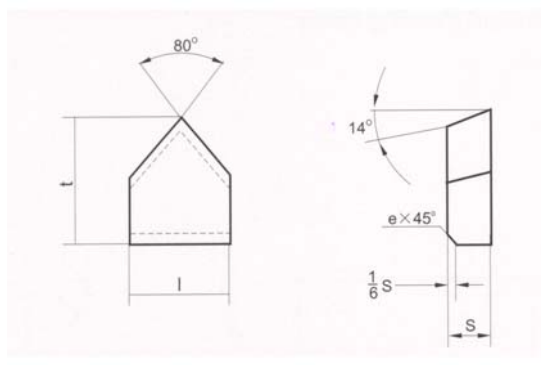
TYPE	SIZE (mm)		
	l	t	s
C5	5	3	2
C6	6	4	2.5
C8	8	5	3
C10	10	6	4
C12	12	8	5
C16	16	10	6
C20	20	12	7
C25	25	14	8
C32	32	18	10
C40	40	22	12
C50	50	25	14

Type D



TYPE	SIZE (mm)		
	l	t	s
D3	3	8	3
D4	4	10	4
D5	5	12	5
D6	6	14	6
D8	8	16	8
D10	10	18	10
D12	12	20	12

Type E

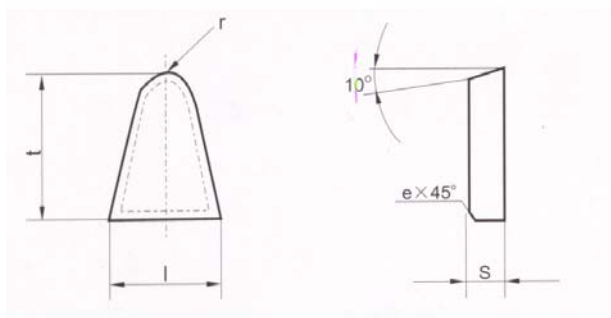


TYPE	SIZE (mm)		
	l	t	s
E4	4	10	2.5
E5	5	12	3
E6	6	14	3.5
E8	8	16	4
E10	10	18	5



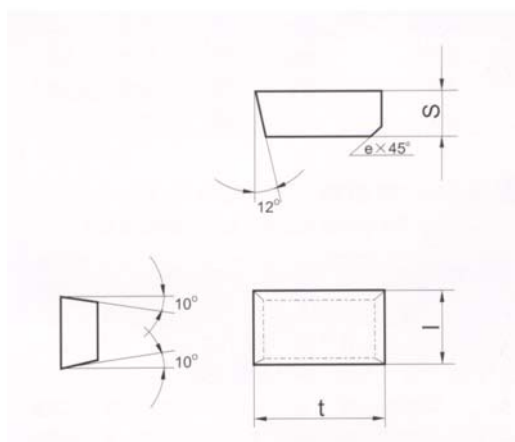
E12	12	20	6
E16	16	22	7
E20	20	25	8
E25	25	28	9
E32	32	32	10

*Type G*



TYPE	SIZE (mm)			
	l	t	s	r
G8	8	12	4	1
G10	10	14	4	1.5
G12	12	17	5	2.5
G16	16	20	6	3.5
G20	20	24	6	4.5
G25	25	28	8	6
G30	30	34	10	8

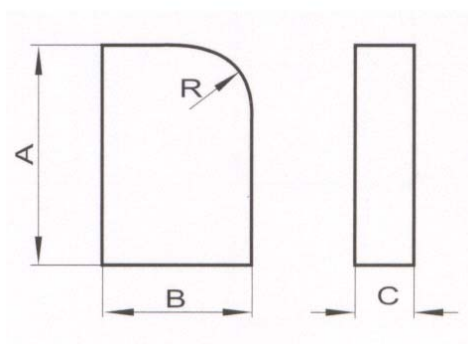
*Type K*



TYPE	SIZE (mm)		
	l	t	s

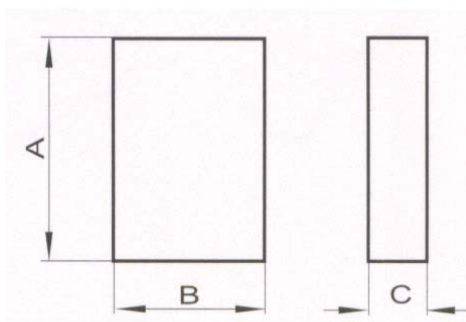
K2	2.5	15	4
K3	3.5	15	4
K4	4.5	15	4
K5	5.5	15	4
K6	6.5	15	4
K7	7.5	15	4
K8	8.5	20	6
K9	9.5	20	6
K10	10.5	20	6
K12	12.8	20	6

Type 01



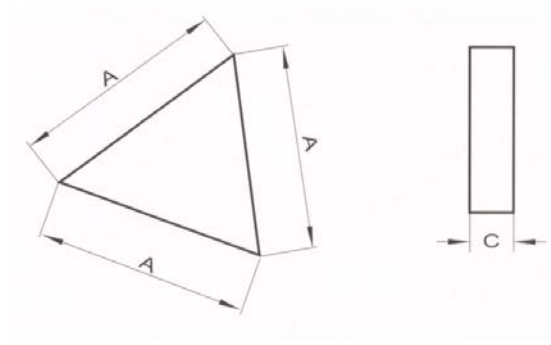
TYPE	SIZE(mm)			
	A	B	C	R
01-0	10	6	3	4
01-1	13	9	3	5
01-2	16	11	4	5
01-3	19	13	5	5
01-4	22	15	6	8
01-5	25	17	7	8
01-6	30	20	8	8

*Type 02*



TYPE	SIZE(mm)		
	A	B	C
02-0	10	6	3
02-1	13	9	3
02-2	16	11	4
02-3	19	13	5
02-4	22	15	6
02-5	25	17	7
02-6	30	20	8

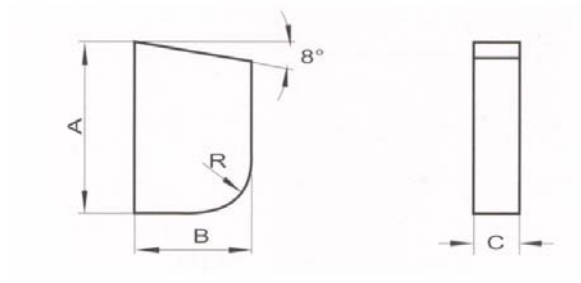
*Type 03*



TYPE	SIZE(mm)	
	A	C
03-0	10	3
03-1	12	3
03-2	15	4
03-3	18	5
03-4	24	6

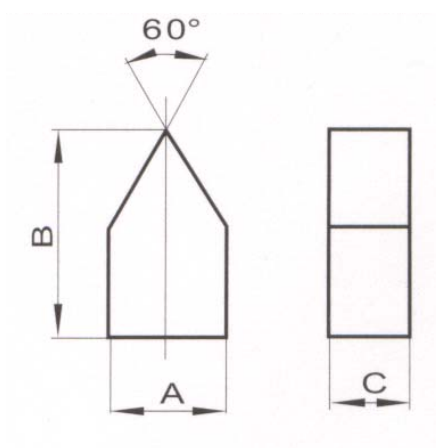
03-5	24	7
03-6	28	8

*Type 04*



TYPE	SIZE(mm)			
	A	B	C	R
04-0	10	6	3	4
04-1	13	9	3	5
04-2	16	11	4	5
04-3	19	13	5	5
04-4	22	15	6	8
04-5	25	17	7	8
04-6	30	20	8	8

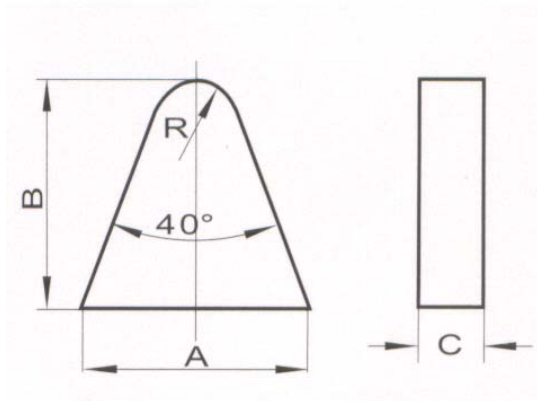
*Type 05*



TYPE	SIZE(mm)		
	A	B	C
05-1	5	8	3
05-2	6	10	4
05-3	7	12	5
05-4	9	16	6

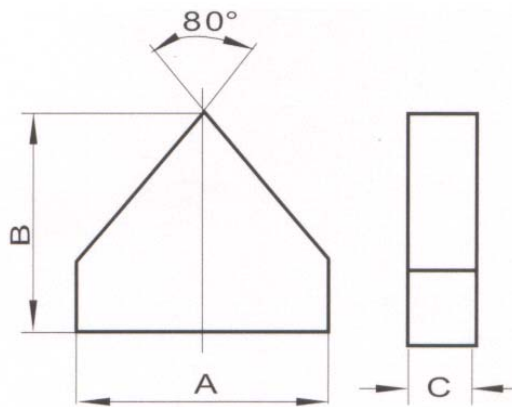
05-5	10	18	7
05-6	11	20	8

Type 06



TYPE	SIZE(mm)			
	A	B	C	R
06-0	10	10	3	2
06-1	13	13	3	2.5
06-2	16	16	4	3
06-3	19	19	5	4
06-4	22	22	6	4
06-5	25	25	7	5
06-6	30	30	8	6

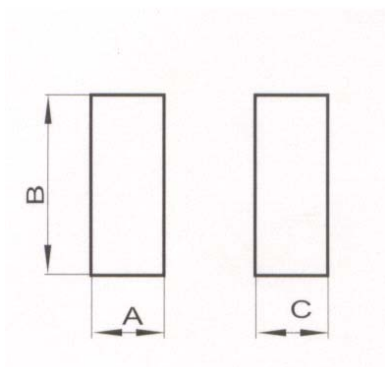
Type 07



TYPE	SIZE(mm)		
	A	B	C

07-0	10	10	3
07-1	13	13	3
07-2	16	16	4
07-3	19	19	5
07-4	25	20	6
07-5	25	22	7
07-6	30	25	8

*Type 08*



TYPE	SIZE(mm)		
	A	B	C
08-1	3	8	3
08-3	4	13	4
08-4	5	15	5
08-5	6	17	6
08-6	8	20	8