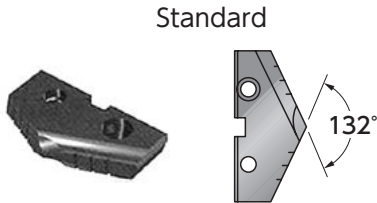


Appendix: List of Semi-standard Inserts Inserts for Y Series: $\phi 9.50 - \phi 11.07$

★ Select same size series between inserts and holders.

<Shapes>



Please order in units of 2 as 1 package contains 2 inserts.

Edge shape	Standard								
Material	Powder high-speed steel (M48)								
Coating	TiAlN			TiCN			TiN		
Edge dia.	P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker	
		Standard	HI		Standard	HI		Standard	HI
9.50	18YA-9.5	●		18YN-9.5	●		18YT-9.5	●	
9.53	18YA-0012	●		18YN-0012	●		18YT-0012	●	
9.80	18YA-.386	●		18YN-.386	●		18YT-.386	●	
9.92	18YA-.390	●		18YN-.390	●		18YT-.390	●	
10.00	18YA-10	●		18YN-10	●		18YT-10	●	
10.20	18YA-10.2	●		18YN-10.2	●		18YT-10.2	●	
10.32	18YA-0013	●		18YN-0013	●		18YT-0013	●	
10.50	18YA-10.5	●		18YN-10.5	●		18YT-10.5	●	
10.72	18YA-.421	●		18YN-.421	●		18YT-.421	●	
10.80	18YA-10.8	●		18YN-10.8	●		18YT-10.8	●	
11.00	18YA-11	●		18YN-11	●		18YT-11	●	

For recommended cutting conditions, please refer to pages **O70 - O71**.

Please order in units of 2 as 1 package contains 2 inserts.

Edge shape	Standard													
Material	Carbide (K20)						Carbide (P40)						Carbide (K10)	
Coating	TiAlN			TiN			TiAlN			TiN			TiAlN	
Edge dia.	P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker
		Standard	HI		Standard	HI		Standard	HI		Standard	HI		CI
9.50	1C2YA-9.5	●		1C2YT-9.5	●		1C5YA-9.5	●		1C5YT-9.5	●		1C3YA-9.5	●
9.53	1C2YA-0012	●		1C2YT-0012	●		1C5YA-0012	●		1C5YT-0012	●		1C3YA-0012	●
9.80	1C2YA-.386	●		1C2YT-.386	●		1C5YA-.386	●		1C5YT-.386	●		1C3YA-.386	●
9.92	1C2YA-.390	●		1C2YT-.390	●		1C5YA-.390	●		1C5YT-.390	●		1C3YA-.390	●
10.00	1C2YA-10	●		1C2YT-10	●		1C5YA-10	●		1C5YT-10	●		1C3YA-10	●
10.20	1C2YA-10.2	●		1C2YT-10.2	●		1C5YA-10.2	●		1C5YT-10.2	●		1C3YA-10.2	●
10.32	1C2YA-0013	●		1C2YT-0013	●		1C5YA-0013	●		1C5YT-0013	●		1C3YA-0013	●
10.50	1C2YA-10.5	●		1C2YT-10.5	●		1C5YA-10.5	●		1C5YT-10.5	●		1C3YA-10.5	●
10.72	1C2YA-.421	●		1C2YT-.421	●		1C5YA-.421	●		1C5YT-.421	●		1C3YA-.421	●
10.80	1C2YA-10.8	●		1C2YT-10.8	●		1C5YA-10.8	●		1C5YT-10.8	●		1C3YA-10.8	●
11.00	1C2YA-11	●		1C2YT-11	●		1C5YA-11	●		1C5YT-11	●		1C3YA-11	●

For recommended cutting conditions, please refer to pages **O70 - O71**.

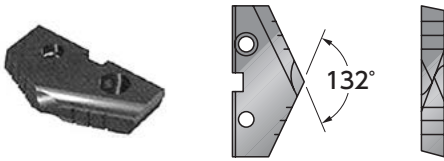
※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

Appendix: List of Semi-standard Inserts Inserts for Z Series: $\phi 11.11 - \phi 12.95$

★ Select same size series between inserts and holders.

<Shapes>

Standard



Please order in units of 2 as 1 package contains 2 inserts.

Edge shape	Standard								
Material	Powder high-speed steel (M48)								
Coating	TiAlN			TiCN			TiN		
Edge dia.	P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker	
		Standard	HI		Standard	HI		Standard	HI
11.11	18ZA-0014	●		18ZN-0014	●		18ZT-0014	●	
11.50	18ZA-11.5	●		18ZN-11.5	●		18ZT-11.5	●	
11.51	18ZA-.453	●		18ZN-.453	●		18ZT-.453	●	
11.91	18ZA-0015	●		18ZN-0015	●		18ZT-0015	●	
12.00	18ZA-12	●		18ZN-12	●		18ZT-12	●	
12.30	18ZA-.484	●		18ZN-.484	●		18ZT-.484	●	
12.50	18ZA-12.5	●		18ZN-12.5	●		18ZT-12.5	●	
12.70	18ZA-0016	●		18ZN-0016	●		18ZT-0016	●	

For recommended cutting conditions, please refer to pages **O70 - O71**.

Please order in units of 2 as 1 package contains 2 inserts.

Edge shape	Standard													
Material	Carbide (K20)						Carbide (P40)						Carbide (K10)	
Coating	TiAlN			TiN			TiAlN			TiN			TiAlN	
Edge dia.	P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker
		Standard	HI		Standard	HI		Standard	HI		Standard	HI		CI
11.11	1C2ZA-0014	●		1C2ZT-0014	●		1C5ZA-0014	●		1C5ZT-0014	●		1C3ZA-0014	●
11.50	1C2ZA-11.5	●		1C2ZT-11.5	●		1C5ZA-11.5	●		1C5ZT-11.5	●		1C3ZA-11.5	●
11.51	1C2ZA-.453	●		1C2ZT-.453	●		1C5ZA-.453	●		1C5ZT-.453	●		1C3ZA-.453	●
11.91	1C2ZA-0015	●		1C2ZT-0015	●		1C5ZA-0015	●		1C5ZT-0015	●		1C3ZA-0015	●
12.00	1C2ZA-12	●		1C2ZT-12	●		1C5ZA-12	●		1C5ZT-12	●		1C3ZA-12	●
12.30	1C2ZA-.484	●		1C2ZT-.484	●		1C5ZA-.484	●		1C5ZT-.484	●		1C3ZA-.484	●
12.50	1C2ZA-12.5	●		1C2ZT-12.5	●		1C5ZA-12.5	●		1C5ZT-12.5	●		1C3ZA-12.5	●
12.70	1C2ZA-0016	●		1C2ZT-0016	●		1C5ZA-0016	●		1C5ZT-0016	●		1C3ZA-0016	●

For recommended cutting conditions, please refer to pages **O70 - O71**.

※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

● : Standard stock

◎ : Semi-standard stock (Time required for delivery: approx. 2 weeks)production-to-order basis

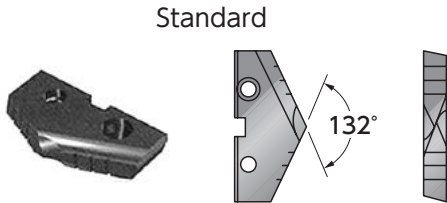
No symbol: Products manufactured production-to-order basis

New Products
Tool Materials / Selection Guide
PCD, CBN and ceramic
Cermets
Micro-grain Carbide, Carbide
Insert Stock List
Outside Machining Toolholders
SS
Grooving Tools
Threading Tools
Shaper
Internal machining tool range
Original Tools for Various Applications
Indexable End Milling Tools
Indexable Drill Inserts
Milling Cutters
Technical Data
Index

Appendix: List of Semi-standard Inserts Inserts for 0, 0.5 Series: $\phi 12.98 - \phi 17.65$

★ Select same size series between inserts and holders.

<Shapes>



Please order in units of 2 as 1 package contains 2 inserts.

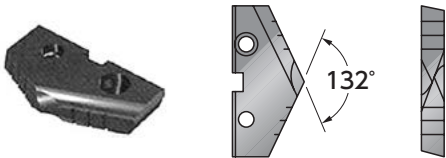
Edge shape	Standard								
	Material Powder high-speed steel (M48)								
Coating	TiAlN			TiCN			TiN		
Edge dia.	P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker	
		Standard	HI		Standard	HI		Standard	HI
13.00	180A-13	●		180N-13	●		180T-13	●	
13.10	180A-.515	●		180N-.515	●		180T-.515	●	
13.49	180A-0017	●		180N-0017	●		180T-0017	●	
13.50	180A-13.5	●		180N-13.5	●		180T-13.5	●	
13.89	180A-.546	●		180N-.546	●		180T-.546	●	
14.00	180A-14	●		180N-14	●		180T-14	●	
14.29	180A-0018	●		180N-0018	●		180T-0018	●	
14.50	180A-14.5	●		180N-14.5	●		180T-14.5	●	
14.68	180A-.578	●		180N-.578	●		180T-.578	●	
15.00	180A-15	●		180N-15	●		180T-15	●	
15.08	180A-0019	●		180N-0019	●		180T-0019	●	
15.48	180A-.609	●		180N-.609	●		180T-.609	●	
15.50	180A-15.5	●		180N-15.5	●		180T-15.5	●	
15.88	180A-0020	●		180N-0020	●		180T-0020	●	
16.00	180A-16	●		180N-16	●		180T-16	●	
16.27	180A-.640	●		180N-.640	●		180T-.640	●	
16.50	180A-16.5	●		180N-16.5	●		180T-16.5	●	
16.67	180A-0021	●		180N-0021	●		180T-0021	●	
17.00	180A-17	●		180N-17	●		180T-17	●	
17.07	180A-.671	●		180N-.671	●		180T-.671	●	
17.46	180A-0022	●		180N-0022	●		180T-0022	●	
17.50	180A-17.5	●		180N-17.5	●		180T-17.5	●	

For recommended cutting conditions, please refer to pages **O70 - O71**.

※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

<Shapes>

Standard



Please order in units of 2 as 1 package contains 2 inserts.

Edge shape	Standard													
Material	Carbide (K20)						Carbide (P40)						Carbide (K10)	
Coating	TiAlN			TiN			TiAlN			TiN			TiAlN	
Edge dia.	P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker
		Standard	HI		Standard	HI		Standard	HI		Standard	HI		CI
13.00	1C20A-13	●		1C20T-13	●		1C50A-13	●		1C50T-13	●		1C30A-13	●
13.10	1C20A-.515	●		1C20T-.515	●		1C50A-.515	●		1C50T-.515	●		1C30A-.515	●
13.49	1C20A-0017	●		1C20T-0017	●		1C50A-0017	●		1C50T-0017	●		1C30A-0017	●
13.50	1C20A-13.5	●		1C20T-13.5	●		1C50A-13.5	●		1C50T-13.5	●		1C30A-13.5	●
13.89	1C20A-.546	●		1C20T-.546	●		1C50A-.546	●		1C50T-.546	●		1C30A-.546	●
14.00	1C20A-14	●		1C20T-14	●		1C50A-14	●		1C50T-14	●		1C30A-14	●
14.29	1C20A-0018	●		1C20T-0018	●		1C50A-0018	●		1C50T-0018	●		1C30A-0018	●
14.50	1C20A-14.5	●		1C20T-14.5	●		1C50A-14.5	●		1C50T-14.5	●		1C30A-14.5	●
14.68	1C20A-.578	●		1C20T-.578	●		1C50A-.578	●		1C50T-.578	●		1C30A-.578	●
15.00	1C20A-15	●		1C20T-15	●		1C50A-15	●		1C50T-15	●		1C30A-15	●
15.08	1C20A-0019	●		1C20T-0019	●		1C50A-0019	●		1C50T-0019	●		1C30A-0019	●
15.48	1C20A-.609	●		1C20T-.609	●		1C50A-.609	●		1C50T-.609	●		1C30A-.609	●
15.50	1C20A-15.5	●		1C20T-15.5	●		1C50A-15.5	●		1C50T-15.5	●		1C30A-15.5	●
15.88	1C20A-0020	●		1C20T-0020	●		1C50A-0020	●		1C50T-0020	●		1C30A-0020	●
16.00	1C20A-16	●		1C20T-16	●		1C50A-16	●		1C50T-16	●		1C30A-16	●
16.27	1C20A-.640	●		1C20T-.640	●		1C50A-.640	●		1C50T-.640	●		1C30A-.640	●
16.50	1C20A-16.5	●		1C20T-16.5	●		1C50A-16.5	●		1C50T-16.5	●		1C30A-16.5	●
16.67	1C20A-0021	●		1C20T-0021	●		1C50A-0021	●		1C50T-0021	●		1C30A-0021	●
17.00	1C20A-17	●		1C20T-17	●		1C50A-17	●		1C50T-17	●		1C30A-17	●
17.07	1C20A-.671	●		1C20T-.671	●		1C50A-.671	●		1C50T-.671	●		1C30A-.671	●
17.46	1C20A-0022	●		1C20T-0022	●		1C50A-0022	●		1C50T-0022	●		1C30A-0022	●
17.50	1C20A-17.5	●		1C20T-17.5	●		1C50A-17.5	●		1C50T-17.5	●		1C30A-17.5	●

For recommended cutting conditions, please refer to pages **O70 - O71**.

※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

● : Standard stock

◎ : Semi-standard stock (Time required for delivery: approx. 2 weeks)production-to-order basis

No symbol: Products manufactured production-to-order basis

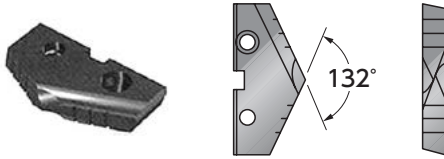
Indexable Drill Inserts

Appendix: List of Semi-standard Inserts Inserts for 1, 1.5 Series: $\phi 17.53 - \phi 24.38$

★ Select same size series between inserts and holders.

<Shapes>

Standard



Please order in units of 2 as 1 package contains 2 inserts.

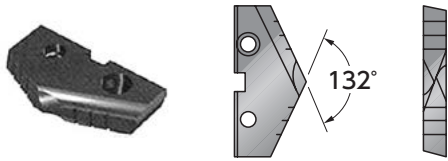
Edge shape	Standard																	
	Powder high-speed steel (M4)							Powder high-speed steel (M48)										
Material	TiAlN			TiCN			TiN			TiAlN			TiCN			TiN		
Coating	P/N		Chipbreaker	P/N		Chipbreaker	P/N		Chipbreaker	P/N		Chipbreaker	P/N		Chipbreaker	P/N		Chipbreaker
Edge dia.			Standard			Standard			Standard			Standard			Standard			Standard
17.86	131A-.703		●	131N-.703		●	131T-.703		●	181A-.703		●	181N-.703		●	181T-.703		●
18.00	131A-18		●	131N-18		●	131T-18		●	181A-18		●	181N-18		●	181T-18		●
18.26	131A-0023		●	131N-0023		●	131T-0023		●	181A-0023		●	181N-0023		●	181T-0023		●
18.50	131A-18.5		●	131N-18.5		●	131T-18.5		●	181A-18.5		●	181N-18.5		●	181T-18.5		●
18.65	131A-.734		●	131N-.734		●	131T-.734		●	181A-.734		●	181N-.734		●	181T-.734		●
19.00	131A-19		●	131N-19		●	131T-19		●	181A-19		●	181N-19		●	181T-19		●
19.05	131A-0024		●	131N-0024		●	131T-0024		●	181A-0024		●	181N-0024		●	181T-0024		●
19.45	131A-.765		●	131N-.765		●	131T-.765		●	181A-.765		●	181N-.765		●	181T-.765		●
19.50	131A-19.5		●	131N-19.5		●	131T-19.5		●	181A-19.5		●	181N-19.5		●	181T-19.5		●
19.84	131A-0025		●	131N-0025		●	131T-0025		●	181A-0025		●	181N-0025		●	181T-0025		●
20.00	131A-20		●	131N-20		●	131T-20		●	181A-20		●	181N-20		●	181T-20		●
20.24	131A-.796		●	131N-.796		●	131T-.796		●	181A-.796		●	181N-.796		●	181T-.796		●
20.50	131A-20.5		●	131N-20.5		●	131T-20.5		●	181A-20.5		●	181N-20.5		●	181T-20.5		●
20.64	131A-0026		●	131N-0026		●	131T-0026		●	181A-0026		●	181N-0026		●	181T-0026		●
21.00	131A-21		●	131N-21		●	131T-21		●	181A-21		●	181N-21		●	181T-21		●
21.43	131A-0027		●	131N-0027		●	131T-0027		●	181A-0027		●	181N-0027		●	181T-0027		●
21.83	131A-.859		●	131N-.859		●	131T-.859		●	181A-.859		●	181N-.859		●	181T-.859		●
22.00	131A-22		●	131N-22		●	131T-22		●	181A-22		●	181N-22		●	181T-22		●
22.23	131A-0028		●	131N-0028		●	131T-0028		●	181A-0028		●	181N-0028		●	181T-0028		●
22.62	131A-.890		●	131N-.890		●	131T-.890		●	181A-.890		●	181N-.890		●	181T-.890		●
23.00	131A-23		●	131N-23		●	131T-23		●	181A-23		●	181N-23		●	181T-23		●
23.02	131A-0029		●	131N-0029		●	131T-0029		●	181A-0029		●	181N-0029		●	181T-0029		●
23.42	131A-.921		●	131N-.921		●	131T-.921		●	181A-.921		●	181N-.921		●	181T-.921		●
23.81	131A-0030		●	131N-0030		●	131T-0030		●	181A-0030		●	181N-0030		●	181T-0030		●
24.00	131A-24		●	131N-24		●	131T-24		●	181A-24		●	181N-24		●	181T-24		●

For recommended cutting conditions, please refer to pages **O70 - O71**.

※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

<Shapes>

Standard



Please order in units of 2 as 1 package contains 2 inserts.

Edge shape	Standard													
Material	Carbide (K20)						Carbide (P40)						Carbide (K10)	
Coating	TiAlN		TiN				TiAlN		TiN				TiAlN	
Edge dia.	P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker		P/N	Chipbreaker
		Standard	HI		Standard	HI		Standard	HI		Standard	HI		
17.86	1C21A-.703	●		1C21T-.703	●		1C51A-.703	●		1C51T-.703	●		1C31A-.703	●
18.00	1C21A-18	●		1C21T-18	●		1C51A-18	●		1C51T-18	●		1C31A-18	●
18.26	1C21A-0023	●		1C21T-0023	●		1C51A-0023	●		1C51T-0023	●		1C31A-0023	●
18.50	1C21A-18.5	●		1C21T-18.5	●		1C51A-18.5	●		1C51T-18.5	●		1C31A-18.5	●
18.65	1C21A-.734	●		1C21T-.734	●		1C51A-.734	●		1C51T-.734	●		1C31A-.734	●
19.00	1C21A-19	●		1C21T-19	●		1C51A-19	●		1C51T-19	●		1C31A-19	●
19.05	1C21A-0024	●		1C21T-0024	●		1C51A-0024	●		1C51T-0024	●		1C31A-0024	●
19.45	1C21A-.765	●		1C21T-.765	●		1C51A-.765	●		1C51T-.765	●		1C31A-.765	●
19.50	1C21A-19.5	●		1C21T-19.5	●		1C51A-19.5	●		1C51T-19.5	●		1C31A-19.5	●
19.84	1C21A-0025	●		1C21T-0025	●		1C51A-0025	●		1C51T-0025	●		1C31A-0025	●
20.00	1C21A-20	●		1C21T-20	●		1C51A-20	●		1C51T-20	●		1C31A-20	●
20.50	1C21A-20.5	●		1C21T-20.5	●		1C51A-20.5	●		1C51T-20.5	●		1C31A-20.5	●
20.64	1C21A-0026	●		1C21T-0026	●		1C51A-0026	●		1C51T-0026	●		1C31A-0026	●
21.00	1C21A-21	●		1C21T-21	●		1C51A-21	●		1C51T-21	●		1C31A-21	●
21.43	1C21A-0027	●		1C21T-0027	●		1C51A-0027	●		1C51T-0027	●		1C31A-0027	●
22.00	1C21A-22	●		1C21T-22	●		1C51A-22	●		1C51T-22	●		1C31A-22	●
22.23	1C21A-0028	●		1C21T-0028	●		1C51A-0028	●		1C51T-0028	●		1C31A-0028	●
23.00	1C21A-23	●		1C21T-23	●		1C51A-23	●		1C51T-23	●		1C31A-23	●
23.02	1C21A-0029	●		1C21T-0029	●		1C51A-0029	●		1C51T-0029	●		1C31A-0029	●
23.42	1C21A-.921	●		1C21T-.921	●		1C51A-.921	●		1C51T-.921	●		1C31A-.921	●
23.81	1C21A-0030	●		1C21T-0030	●		1C51A-0030	●		1C51T-0030	●		1C31A-0030	●
24.00	1C21A-24	●		1C21T-24	●		1C51A-24	●		1C51T-24	●		1C31A-24	●

For recommended cutting conditions, please refer to pages **O70 - O71**.

※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

● : Standard stock

◎ : Semi-standard stock (Time required for delivery: approx. 2 weeks)production-to-order basis

No symbol: Products manufactured production-to-order basis

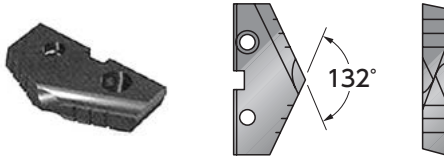
Indexable Drill Inserts

Appendix: List of Semi-standard Inserts Inserts for 2, 2.5 Series: $\phi 24.41 - \phi 35.05$

★ Select same size series between inserts and holders.

<Shapes>

Standard



Please order in units of 2 as 1 package contains 2 inserts.

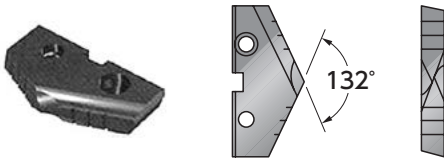
Edge shape	Standard																							
	Powder high-speed steel (M4)						Powder high-speed steel (M48)																	
Material	TiAlN			TiCN			TiN			TiAlN			TiCN			TiN								
Coating	P/N		Chipbreaker	P/N		Chipbreaker	P/N		Chipbreaker	P/N		Chipbreaker	P/N		Chipbreaker	P/N		Chipbreaker						
Edge dia.			Standard	HI			Standard	HI		Standard	HI		Standard	HI		Standard	HI							
24.61	132A-0031	●			132N-0031	●			132T-0031	●			182A-0031	●			182N-0031	●			182T-0031	●		
25.00	132A-25	●			132N-25	●			132T-25	●			182A-25	●			182N-25	●			182T-25	●		
25.40	132A-0100	●			132N-0100	●			132T-0100	●			182A-0100	●			182N-0100	●			182T-0100	●		
25.80	132A-1.015	●			132N-1.015	●			132T-1.015	●			182A-1.015	●			182N-1.015	●			182T-1.015	●		
26.00	132A-26	●			132N-26	●			132T-26	●			182A-26	●			182N-26	●			182T-26	●		
26.19	132A-0101	●			132N-0101	●			132T-0101	●			182A-0101	●			182N-0101	●			182T-0101	●		
26.59	132A-1.046	●			132N-1.046	●			132T-1.046	●			182A-1.046	●			182N-1.046	●			182T-1.046	●		
26.99	132A-0102	●			132N-0102	●			132T-0102	●			182A-0102	●			182N-0102	●			182T-0102	●		
27.00	132A-27	●			132N-27	●			132T-27	●			182A-27	●			182N-27	●			182T-27	●		
27.78	132A-0103	●			132N-0103	●			132T-0103	●			182A-0103	●			182N-0103	●			182T-0103	●		
28.00	132A-28	●			132N-28	●			132T-28	●			182A-28	●			182N-28	●			182T-28	●		
28.18	132A-1.109	●			132N-1.109	●			132T-1.109	●			182A-1.109	●			182N-1.109	●			182T-1.109	●		
28.58	132A-0104	●			132N-0104	●			132T-0104	●			182A-0104	●			182N-0104	●			182T-0104	●		
29.00	132A-29	●			132N-29	●			132T-29	●			182A-29	●			182N-29	●			182T-29	●		
29.37	132A-0105	●			132N-0105	●			132T-0105	●			182A-0105	●			182N-0105	●			182T-0105	●		
30.00	132A-30	●			132N-30	●			132T-30	●			182A-30	●			182N-30	●			182T-30	●		
30.16	132A-0106	●			132N-0106	●			132T-0106	●			182A-0106	●			182N-0106	●			182T-0106	●		
30.96	132A-0107	●			132N-0107	●			132T-0107	●			182A-0107	●			182N-0107	●			182T-0107	●		
31.00	132A-31	●			132N-31	●			132T-31	●			182A-31	●			182N-31	●			182T-31	●		
31.75	132A-0108	●			132N-0108	●			132T-0108	●			182A-0108	●			182N-0108	●			182T-0108	●		
32.00	132A-32	●			132N-32	●			132T-32	●			182A-32	●			182N-32	●			182T-32	●		
32.54	132A-0109	●			132N-0109	●			132T-0109	●			182A-0109	●			182N-0109	●			182T-0109	●		
33.00	132A-33	●			132N-33	●			132T-33	●			182A-33	●			182N-33	●			182T-33	●		
33.34	132A-0110	●			132N-0110	●			132T-0110	●			182A-0110	●			182N-0110	●			182T-0110	●		
34.00	132A-34	●			132N-34	●			132T-34	●			182A-34	●			182N-34	●			182T-34	●		
34.13	132A-0111	●			132N-0111	●			132T-0111	●			182A-0111	●			182N-0111	●			182T-0111	●		
34.93	132A-0112	●			132N-0112	●			132T-0112	●			182A-0112	●			182N-0112	●			182T-0112	●		
35.00	132A-35	●			132N-35	●			132T-35	●			182A-35	●			182N-35	●			182T-35	●		

For recommended cutting conditions, please refer to pages **070 - 071**.

※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

<Shapes>

Standard



Please order in units of 2 as 1 package contains 2 inserts.

Edge shape	Standard												
Material	Carbide (K20)						Carbide (P40)						Carbide (K10)
Coating	TiAlN		TiN				TiAlN		TiN				TiAlN
Edge dia.	P/N	Chipbreaker	P/N	Chipbreaker	P/N	Chipbreaker	P/N	Chipbreaker	P/N	Chipbreaker	P/N	Chipbreaker	CI
		Standard		Standard		Standard		Standard		Standard		Standard	
24.61	1C22A-0031	●	1C22T-0031	●	1C52A-0031	●	1C52T-0031	●	1C32A-0031	●			
25.00	1C22A-25	●	1C22T-25	●	1C52A-25	●	1C52T-25	●	1C32A-25	●			
25.40	1C22A-0100	●	1C22T-0100	●	1C52A-0100	●	1C52T-0100	●	1C32A-0100	●			
26.00	1C22A-26	●	1C22T-26	●	1C52A-26	●	1C52T-26	●	1C32A-26	●			
26.19	1C22A-0101	●	1C22T-0101	●	1C52A-0101	●	1C52T-0101	●	1C32A-0101	●			
26.59	1C22A-1.046	●	1C22T-1.046	●	1C52A-1.046	●	1C52T-1.046	●	1C32A-1.046	●			
26.99	1C22A-0102	●	1C22T-0102	●	1C52A-0102	●	1C52T-0102	●	1C32A-0102	●			
27.00	1C22A-27	●	1C22T-27	●	1C52A-27	●	1C52T-27	●	1C32A-27	●			
27.78	1C22A-0103	●	1C22T-0103	●	1C52A-0103	●	1C52T-0103	●	1C32A-0103	●			
28.00	1C22A-28	●	1C22T-28	●	1C52A-28	●	1C52T-28	●	1C32A-28	●			
28.18	1C22A-1.109	●	1C22T-1.109	●	1C52A-1.109	●	1C52T-1.109	●	1C32A-1.109	●			
28.58	1C22A-0104	●	1C22T-0104	●	1C52A-0104	●	1C52T-0104	●	1C32A-0104	●			
29.00	1C22A-29	●	1C22T-29	●	1C52A-29	●	1C52T-29	●	1C32A-29	●			
29.37	1C22A-0105	●	1C22T-0105	●	1C52A-0105	●	1C52T-0105	●	1C32A-0105	●			
30.00	1C22A-30	●	1C22T-30	●	1C52A-30	●	1C52T-30	●	1C32A-30	●			
30.16	1C22A-0106	●	1C22T-0106	●	1C52A-0106	●	1C52T-0106	●	1C32A-0106	●			
30.96	1C22A-0107	●	1C22T-0107	●	1C52A-0107	●	1C52T-0107	●	1C32A-0107	●			
31.00	1C22A-31	●	1C22T-31	●	1C52A-31	●	1C52T-31	●	1C32A-31	●			
31.75	1C22A-0108	●	1C22T-0108	●	1C52A-0108	●	1C52T-0108	●	1C32A-0108	●			
32.00	1C22A-32	●	1C22T-32	●	1C52A-32	●	1C52T-32	●	1C32A-32	●			
32.54	1C22A-0109	●	1C22T-0109	●	1C52A-0109	●	1C52T-0109	●	1C32A-0109	●			
33.00	1C22A-33	●	1C22T-33	●	1C52A-33	●	1C52T-33	●	1C32A-33	●			
33.34	1C22A-0110	●	1C22T-0110	●	1C52A-0110	●	1C52T-0110	●	1C32A-0110	●			
34.00	1C22A-34	●	1C22T-34	●	1C52A-34	●	1C52T-34	●	1C32A-34	●			
34.13	1C22A-0111	●	1C22T-0111	●	1C52A-0111	●	1C52T-0111	●	1C32A-0111	●			
34.93	1C22A-0112	●	1C22T-0112	●	1C52A-0112	●	1C52T-0112	●	1C32A-0112	●			
35.00	1C22A-35	●	1C22T-35	●	1C52A-35	●	1C52T-35	●	1C32A-35	●			

For recommended cutting conditions, please refer to pages **O70 - O71**.

※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

● : Standard stock

◎ : Semi-standard stock (Time required for delivery: approx. 2 weeks)production-to-order basis

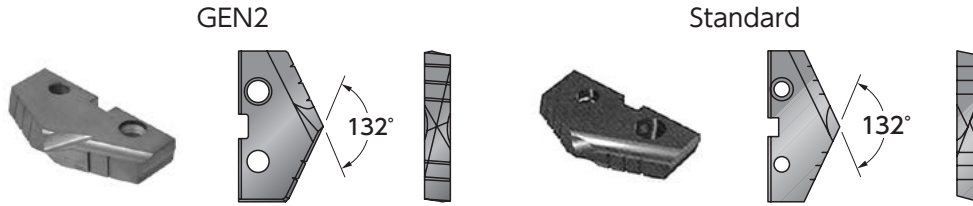
No symbol: Products manufactured production-to-order basis

New Products
Tool Materials / Selection Guide
PCD, CBN and ceramic
Cement
PVD-coated Cement
Micro-grain Carbide, Carbide
Insert Stock List
Outside Machining Toolholders
SS
Grooving Tools
Threading Tools
Shaper
Internal machining tool range
Original Tools for Various Applications
Indexable End Milling Tools
Indexable Drill Inserts
Milling Cutters
Technical Data
Index

Appendix: List of Semi-standard Inserts Inserts for 3 Series: $\phi 34.36 - \phi 47.80$

★ Select same size series between inserts and holders.

<Shapes>



Please order in units of 2 as 1 package contains 2 inserts.

Edge shape	GEN2						Standard													
Material	Powder high-speed steel (M4)						Carbide (K20)													
Coating	TiN						TiAlN						TiN							
Edge dia.	P/N		Chipbreaker		P/N		Chipbreaker		P/N		Chipbreaker		P/N		Chipbreaker		P/N		Chipbreaker	
			Standard	HI			Standard	HI		Standard	HI		Standard	HI		Standard	HI		Standard	HI
35.72	433T-0113	●			1C23A-0113	●			1C23T-0113	●			1C53A-0113	●			1C53T-0113	●		
36.00	433T-36	●			1C23A-36	●			1C23T-36	●			1C53A-36	●			1C53T-36	●		
36.51	433T-0114	●			1C23A-0114	●			1C23T-0114	●			1C53A-0114	●			1C53T-0114	●		
37.00	433T-37	●			1C23A-37	●			1C23T-37	●			1C53A-37	●			1C53T-37	●		
37.31	433T-0115	●			1C23A-0115	●			1C23T-0115	●			1C53A-0115	●			1C53T-0115	●		
38.00	433T-38	●			1C23A-38	●			1C23T-38	●			1C53A-38	●			1C53T-38	●		
38.10	433T-0116	●			1C23A-0116	●			1C23T-0116	●			1C53A-0116	●			1C53T-0116	●		
38.89	433T-0117	●			1C23A-0117	●			1C23T-0117	●			1C53A-0117	●			1C53T-0117	●		
39.00	433T-39	●			1C23A-39	●			1C23T-39	●			1C53A-39	●			1C53T-39	●		
39.69	433T-0118	●			1C23A-0118	●			1C23T-0118	●			1C53A-0118	●			1C53T-0118	●		
40.00	433T-40	●			1C23A-40	●			1C23T-40	●			1C53A-40	●			1C53T-40	●		
40.48	433T-0119	●			1C23A-0119	●			1C23T-0119	●			1C53A-0119	●			1C53T-0119	●		
41.00	433T-41	●			1C23A-41	●			1C23T-41	●			1C53A-41	●			1C53T-41	●		
41.28	433T-0120	●			1C23A-0120	●			1C23T-0120	●			1C53A-0120	●			1C53T-0120	●		
42.00	433T-42	●			1C23A-42	●			1C23T-42	●			1C53A-42	●			1C53T-42	●		
42.07	433T-0121	●			1C23A-0121	●			1C23T-0121	●			1C53A-0121	●			1C53T-0121	●		
42.86	433T-0122	●			1C23A-0122	●			1C23T-0122	●			1C53A-0122	●			1C53T-0122	●		
43.00	433T-43	●			1C23A-43	●			1C23T-43	●			1C53A-43	●			1C53T-43	●		
43.66	433T-0123	●			1C23A-0123	●			1C23T-0123	●			1C53A-0123	●			1C53T-0123	●		
44.00	433T-44	●			1C23A-44	●			1C23T-44	●			1C53A-44	●			1C53T-44	●		
44.45	433T-0124	●			1C23A-0124	●			1C23T-0124	●			1C53A-0124	●			1C53T-0124	●		
45.00	433T-45	●			1C23A-45	●			1C23T-45	●			1C53A-45	●			1C53T-45	●		
45.24	433T-0125	●			1C23A-0125	●			1C23T-0125	●			1C53A-0125	●			1C53T-0125	●		
46.00	433T-46	●			1C23A-46	●			1C23T-46	●			1C53A-46	●			1C53T-46	●		
46.04	433T-0126	●			1C23A-0126	●			1C23T-0126	●			1C53A-0126	●			1C53T-0126	●		
46.83	433T-0127	●			1C23A-0127	●			1C23T-0127	●			1C53A-0127	●			1C53T-0127	●		
47.00	433T-47	●			1C23A-47	●			1C23T-47	●			1C53A-47	●			1C53T-47	●		
47.63	433T-0128	●			1C23A-0128	●			1C23T-0128	●			1C53A-0128	●			1C53T-0128	●		

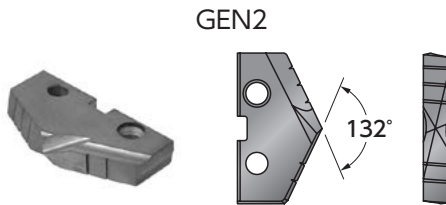
For recommended cutting conditions, please refer to pages **O70 - O71**.

※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

Appendix: List of Semi-standard Inserts Inserts for 4 Series: $\phi 46.99 - \phi 65.28$

★ Select same size series between inserts and holders.

<Shapes>



Please order in units of 2 as 1 package contains 2 inserts.

Edge shape	GEN2		
Material	Powder high-speed steel (T15)		
Coating	TiN		
Edge dia.	P/N	Chipbreaker	
		Standard	HI
48.00	454T-48	●	
48.42	454T-0129	●	
49.00	454T-49	●	
49.21	454T-0130	●	
50.00	454T-50	●	
50.01	454T-0131	●	
50.80	454T-0200	●	
51.00	454T-51	●	
51.59	454T-0201	●	
52.00	454T-52	●	
52.39	454T-0202	●	
53.00	454T-53	●	
53.18	454T-0203	●	
53.98	454T-0204	●	
54.00	454T-54	●	
54.79	454T-0205	●	
55.00	454T-55	●	
55.56	454T-0206	●	
56.00	454T-56	●	
56.36	454T-0207	●	
57.00	454T-57	●	
57.15	454T-0208	●	
57.94	454T-0209	●	
58.00	454T-58	●	
58.74	454T-0210	●	
59.00	454T-59	●	
59.53	454T-0211	●	
60.00	454T-60	●	
60.33	454T-0212	●	
61.00	454T-61	●	
61.12	454T-0213	●	
61.91	454T-0214	●	
62.00	454T-62	●	
62.71	454T-0215	●	
63.00	454T-63	●	
63.50	454T-0216	●	
64.00	454T-64	●	
64.29	454T-0217	●	
65.00	454T-65	●	
65.09	454T-0218	●	

For recommended cutting conditions, please refer to pages **O70 - O71**.

※Name of chipbreaker is put in the end of item number except for standard chipbreaker.

● : Standard stock

◎ : Semi-standard stock (Time required for delivery: approx. 2 weeks)production-to-order basis

No symbol: Products manufactured production-to-order basis

- New Products
- Tool Materials / Selection Guide
- PCD, CBN and ceramic
- Cermet PVD-coated Cermet
- Micro-grain Carbide, Carbide
- Insert Stock List
- Outside Machining Toolholders
- SS
- Grooving Tools
- Threading Tools
- Shaper
- Internal Machining tool range
- Original Tools for Various Applications
- Indexable End Milling Tools
- Indexable Drill Inserts
- Milling Cutters
- Technical Data
- Index