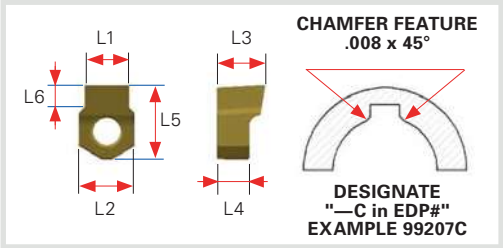
Broaching and Slotting Inserts

The Inserts designed to work exclusively with duMONT Tool Holders are a sintered steel alloy with a 13% cobalt content, heat treated to a 72 HRC hardness providing toughness and impact resistance. A TiN coating is applied to improve wear resistance and lubricity. All Inserts are designed to allow several re-sharpenings. Stock Insert specifications and mild steel application data are provided. A Chamfer Feature is available see footnote. See the Engineering Section for process and Special Insert information and available applications — Keyways in Tapered Bore, Square, Hexagon and Involute Internal Gears. We can add custom corner radius per your requirement, allow up to 2 weeks for modification and recoating.



See pages 41-42 and 50 for Tool Holders.
See pages 56 for Sharpening Stem.

Inserts (mm) - Tolerances

To order a different tolerance - EDP# + (TOLERANCE) = 99202P9

EDP No.	L1 (mm)	H-7 (Standard) L1 (High)	H-7 (Standard) L1 (Low)	P-9 L1 (High)	P-9 L1 (Low)	D-10 L1 (High)	D-10 L1 (Low)	C-11 L1 (High)	C-11 L1 (Low)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	Tool Holder Size	Sharpen Stem
99401		0.07910	0.07810											1.30		
99401( )	2			0.07850	0.07750	0.08110	0.08540	0.08350	0.08300	5.00	6.50	5.00	6.00	1.30	2	SS-1
99401C*		0.07910	0.07810											1.09		
99402		0.11860	0.11830											2.00		
99402( )	3			0.11790	0.11690	0.12090	0.12047	0.12280	0.12244	6.08	6.50	5.00	7.50	2.00	3	SS-1
99402C*		0.11860	0.11830											1.42		
99403		0.15800	0.15767											2.60		
99403( )	4			0.15710	0.15590	0.16020	0.15984	0.16220	0.16180	6.08	7.00	5.00	8.00	2.60	4	SS-1
99403C*		0.15800	0.15767											2.07		
99404		0.19730	0.19705											3.00		
99404( )	5			0.19650	0.19530	0.19960	0.19920	0.20160	0.20118	6.08	7.00	5.00	8.00	3.00	5	SS-1
99404C*		0.19730	0.19705											2.74		
99406		0.23680	0.23650											4.00		
99406( )	6			0.23560	0.23420	0.23940	0.23897	0.24090	0.24055	10.08	9.00	6.00	13.50	4.00	6	SS-2
99406C*		0.23680	0.23650											3.00		
99407		0.31560	0.31527											4.50		
99407( )	8			0.31440	0.31300	0.31810	0.31770	0.32050	0.32010	10.08	9.00	6.00	13.50	4.50	8	SS-2
99407C*		0.31560	0.31527											3.78		
99408		0.39430	0.39410											6.00		
99408( )	10			0.39300	0.39130	0.39720	0.39680	0.40000	0.39960	13.10	14.00	10.00	18.50	6.00	10	SS-3
99408C*		0.39430	0.39410											3.88		
99409		0.47310	0.47280											6.50		
99409( )	12			0.47170	0.47000	0.47600	0.47560	0.47950	0.47910	13.10	14.00	10.00	18.50	6.50	12	SS-3
99409C*		0.47310	0.47280											3.89		
99410		0.55190	0.55157											7.00		
99410( )	14			0.55050	0.54880	0.55510	0.55472	0.55910	0.55860	18.00	14.00	10.00	22.00	7.00	14/16	SS-4
99410C*		0.55190	0.55157											4.71		
99411		0.63060	0.63030											8.00		
99411( )	16			0.62920	0.62750	0.63390	0.63346	0.63780	0.63740	18.00	14.00	10.00	22.00	8.00	14/16	SS-4
99411C*		0.63060	0.63030											5.53		
99412		0.70950	0.70905											9.00		
99412( )	18			0.70780	0.70580	0.71450	0.71413	0.71810	0.71770	26.00	18.00	10.00	30.00	9.00	18/26	SS-5
99412C*		0.70950	0.70905											5.67		
99413		0.78820	0.78780											10.00		
99413( )	20			0.78650	0.78450	0.79330	0.79287	0.79690	0.79645	26.00	18.00	10.00	30.00	10.00	18/26	SS-5
99413C*		0.78820	0.78780											6.29		
99414		0.86700	0.86650											11.00		
99414( )	22			0.86520	0.86320	0.87200	0.87160	0.87560	0.87519	26.00	18.00	10.00	30.00	11.00	18/26	SS-5
99414C*		0.86700	0.86650											6.79		
99494		0.98510	0.98464											12.00		
99494( )	25			0.98340	0.98140	0.99010	0.98970	0.99370	0.99330	26.00	18.00	10.00	30.00	12.00	18/26	SS-5
99494C*		0.98510	0.98464											7.02		

*Chamfer feature providing a 45° Chamfer at the intersection of the bore and the walls of the broached section when cut to full depth is available by specifying a "C" in the EDP No. for example --- 99402-C.

Engineering Section

Special Inserts and Applications

The CNC Indexable Broaching System offers a wide range of Special Design Inserts that provide the opportunity to manufacture parts more efficiently and accurately through single machine processing. When location or timing is a critical design element of the part, the tooling system offers a means to do more work within the same coordinate system. Allow us to put our experience to work for you. Get the right Insert for the material you are machining, the shape or form you require with the programming needed to get your job done. Please contact us at 413-350-5200.

Blind Hole Inserts

Blind Hole Cutting requires a Special Insert. The Insert's composition and hardness is altered to reduce the risk of chipping. Additional design considerations are required for small diameter holes with restricted chip flow, deep hole cutting, and when working with bars of material in lathe operations. The programs used for Blind Hole Cutting require that special attention be given to the end of each stroke and the retraction of the Insert. A straight X-axis move out of the work can result in chipping of the Insert. Programming assistance is available; the manufacturer, model, and controls of the machine to be used as well as a fully dimensioned drawing of the finished part are required. The proper design, insert material, and programming is essential to success.

Cornering Inserts

Machine Squares, Hexagons, and Octagons with Inserts designed with two cutting edges intersecting at the appropriate angle 90°, 120° or 135°. Cut the corner, rotate the spindle (C axis) as required for the next cut (re-run of the subroutine) and repeat to completion. The same cornering Inserts may be used to generate a range of sizes of the given shape by simply increasing or decreasing the tool offset.

Internal Toothing and Grooving Inserts

Inserts designed to meet industry standards (ANSI, DIN, ISO etc.) as well as nonstandard geometries are available. A chamfering feature may be added in order to produce a burr-free part. One machine processing in the same coordinate system promotes product uniformity and processing efficiencies.

Sharpening – Allow us to extend the life of your inserts

Re-sharpening extends the life of the Insert and saves money. The Inserts that show a decline in surface finish (a sign of wear), can have their life extended through a resharpening process. The Inserts are designed to allow two to three resharpenings, more if tolerances allow. A Sharpening Stem is available for mounting and supporting of an Insert during re-sharpening. The Stem's hexagon shank facilitates the resharpening process. Sharpening must be properly performed using an appropriate grinder and grinding wheel. The original cutting angle must be maintained. Recoating of the Insert is required after sharpening.

Contact us for a quote to re-sharpen your inserts to proper manufactured geometry.

Engineering Section

	Aluminum			Bronze			Mild Steel / Low Alloy Steel			High Alloy Steel			Stainless		
Width of Insert	Cut per Stroke (inch)	Cutting Speed (inches/min)	Pressure Required (lbs)	Cut per Stroke (inch)	Cutting Speed (inches/min)	Pressure Required (lbs)	Cut per Stroke Inch	Cutting Speed (inches/min)	Pressure Required (lbs)	Cut per Stroke (inch)	Cutting Speed (inches/min)	Pressure Required (lbs)	Cut per Stroke (inch)	Cutting Speed (inches/min)	Pressure Required (lbs)
3/32	0.0060	480	71	0.0040	340	132	0.0035	300	182	0.0030	230	170	0.0023	200	141
1/8	0.0060	480	94	0.0040	340	176	0.0035	300	242	0.0028	230	211	0.0025	200	204
5/32	0.0060	480	118	0.0040	340	220	0.0035	300	302	0.0025	230	235	0.0023	200	235
3/16	0.0060	480	141	0.0040	340	236	0.0033	300	342	0.0025	230	282	0.0023	200	281
1/4	0.0055	480	172	0.0032	340	281	0.0025	300	345	0.0022	230	331	0.0020	200	326
9/32	0.0055	400	194	0.0032	300	316	0.0022	265	341	0.0021	200	355	0.0020	175	366
5/16	0.0050	400	196	0.0032	300	351	0.0022	265	379	0.0020	200	376	0.0019	175	387
3/8	0.0050	400	235	0.0027	300	355	0.0019	265	393	0.0017	200	384	0.0016	175	391
7/16	0.0044	400	241	0.0027	300	414	0.0018	265	434	0.0016	200	421	0.0015	175	428
1/2	0.0042	380	263	0.0026	270	456	0.0016	230	441	0.0015	180	451	0.0014	150	456
9/16	0.0040	380	282	0.0024	270	473	0.0016	230	496	0.0014	180	473	0.0013	150	476
5/8	0.0040	380	313	0.0023	270	504	0.0015	230	517	0.0014	180	526	0.0013	150	529
3/4	0.0035	380	329	0.0020	270	526	0.0013	230	538	0.0012	180	541	0.0011	150	538
2mm	0.0060	480	59	0.0040	340	110	0.0035	300	151	0.0025	230	118	0.0023	200	118
3mm	0.0060	480	89	0.0040	340	165	0.0035	300	227	0.0025	230	177	0.0023	200	176
4mm	0.0060	480	118	0.0040	340	220	0.0035	300	303	0.0025	230	236	0.0023	200	235
5mm	0.0060	480	148	0.0036	340	248	0.0033	300	357	0.0025	230	295	0.0023	200	294
6mm	0.0055	480	162	0.0032	340	264	0.0033	300	429	0.0022	230	312	0.0020	200	307
8mm	0.0055	400	216	0.0032	300	353	0.0025	265	433	0.0020	200	378	0.0018	175	368
10mm	0.0050	400	246	0.0027	300	372	0.0020	265	433	0.0017	200	401	0.0016	175	409
12mm	0.0045	380	266	0.0027	270	446	0.0019	230	494	0.0015	180	425	0.0014	150	430
14mm	0.0040	380	276	0.0025	270	482	0.0017	230	515	0.0013	180	430	0.0013	150	466
16mm	0.0040	380	315	0.0022	270	485	0.0015	230	520	0.0013	180	491	0.0011	150	450
18mm	0.0037	380	328	0.0020	270	496	0.0014	230	546	0.0012	180	510	0.0010	150	461
20mm	0.0034	360	335	0.0019	250	523	0.0013	200	563	0.0012	150	567	0.0010	130	512
22mm	0.0032	360	346	0.0018	250	546	0.0012	200	571	0.0010	150	520	0.0010	130	535
25mm	0.0032	360	394	0.0017	250	585	0.0011	200	595	0.0009	150	531	0.0009	130	544

CNC Programming Support

Programming – Allow us to put our experience to work for you.

Programming assistance is available; the make, model, and controls of the machine used, along with a print drawing of the part is required.

In the CNC program it is necessary to establish an approaching value which accounts for the "cord", the distance from the center of the cutting edge of the Insert to I.D. of the bore at the point the corners of the Inserts contact the I.D. of the bore. This distance is a function of Insert width and Bore Diameter. The approaching value being sufficiently lower than the diameter of the bore avoids damage to the Insert.

On-site engineering programming service is available at an hourly rate plus travel costs.