



# MASTER CATALOG 2018

VOLUME TWO | **ROTATING TOOLS**



HOLEMAKING | TAPPING | SOLID END MILLING | INDEXABLE MILLING

# ➤ SEFAS™ Combination Drilling System

## Primary Application

Combines centering, drilling, and chamfering into a single operation, increasing productivity by reducing cycle time and number of tool changes.

Achieve productivity gains by still using standard solid carbide or KenTIP™ drills. The SEFAS system provides full through coolant capabilities.



## Features and Benefits

### Productivity

- Reduce the number of tool changes and cycle time by combining drilling and countersinking into one operation.
- Achieve highest metal removal rates by applying an HP-style drill.
- Reduce inventory and avoid reconditioning by using KenTIP blades.
- Easily change tool within the machine by using KenTIP.

### Versatility

- Any style of standard HP drill can be used for highest metal removal rates.
- Use TX drills to achieve excellent hole quality and tool life in non-ferrous materials.
- For increased accuracy and tool life, use the Kennametal hydraulic chuck recommended for cylindrical tool shanks.
- Range of insert styles for use in most workpiece materials.

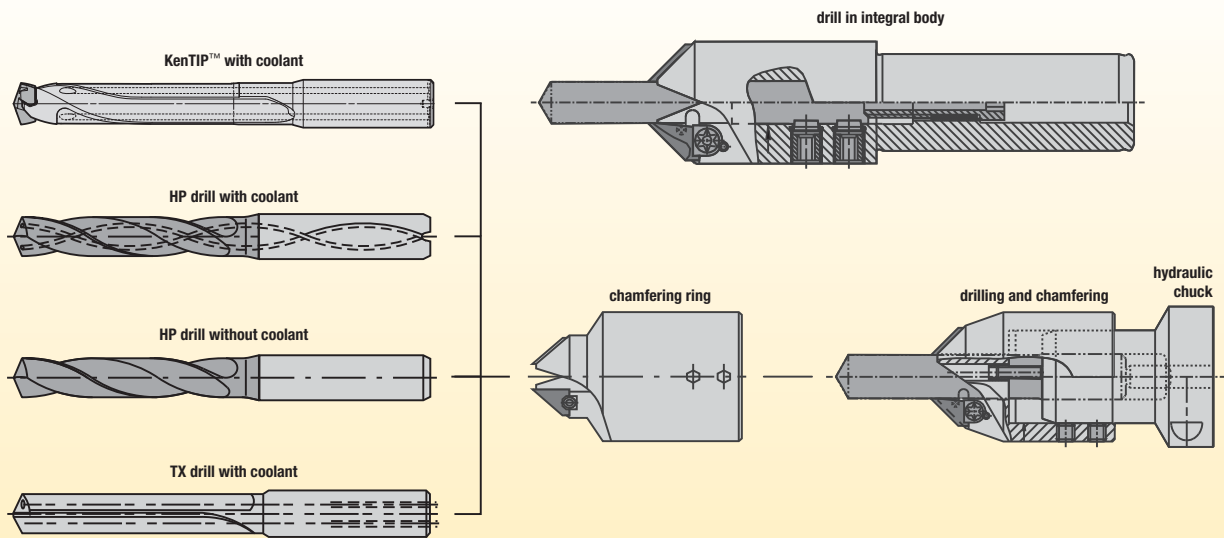
**Reduce the number of tool changes and cycle time by combining drilling and countersinking into one operation.**



### **Customization**

- Length variations available as engineered solutions.



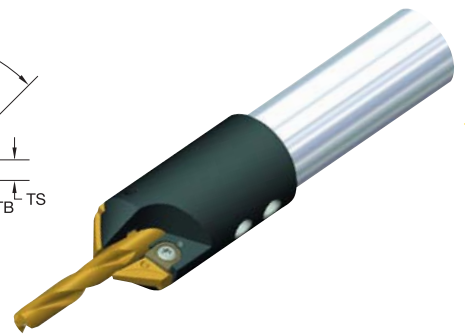
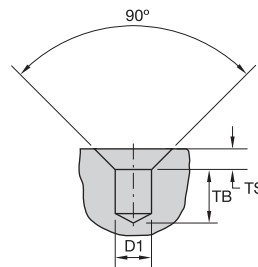
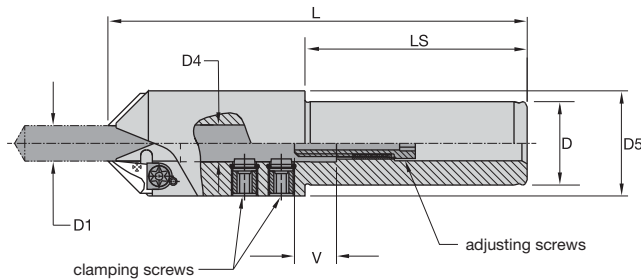


The SEFAS combination drilling system may be used in most workpiece materials. The design and flexibility of the system can be used with a wide variety of solid carbide drills.

Three types of SEFAS chamfering tools are offered: (1) integral bodies with a compact design that provides additional workpiece and work-holding clearance; (2) chamfering rings that may be mounted to Kennametal hydraulic chucks for optimal drill performance and increased productivity; and (3) high-performance HSK bodies (available as customized solutions) for new machine spindles and high-output applications.



- Drill body shipped with all screws, clamps, and wrenches.
- Order the inserts and drills separately.
- Two chamfer inserts required per body.



■ Round Shank • For Use with Inch Drills • Inch



catalog number	D1	D1 max	D	D4	D5	L	LS	V	gage insert	insert clamp	Torx wrench	drill clamp screw	adjusting screw
SEF156187RSS075	0.1560	.188	.75	.19	.94	4.06	2.00	.71	3.42805..	360.550	170.024	360.650	360.516
SEF218250RSS075	>0.1880	.250	.75	.25	.97	4.13	2.00	.71	3.42805..	360.550	170.024	360.651	360.510
SEF265312RSS075	>0.2500	.313	.75	.31	1.03	4.31	2.00	.71	3.42805..	360.550	170.024	360.652	360.510
SEF328375RSS075	>0.3130	.375	.75	.38	1.16	4.63	2.00	.67	3.42805..	360.550	170.024	360.653	360.510
SEF390437RSS100	>0.3750	.438	1.00	.44	1.47	5.75	3.00	.75	3.42807..	360.551	170.025	360.654	360.513
SEF453500RSS100	>0.4380	.500	1.00	.50	1.53	5.88	3.00	.83	3.42807..	360.551	170.025	360.655	360.513
SEF500562RSS100	>0.5000	.563	1.00	.56	1.59	6.06	3.00	.63	3.42807..	360.551	170.025	360.656	360.511
SEF562625RSS125	>0.5630	.625	1.25	.63	1.66	6.44	3.25	.75	3.42807..	360.551	170.025	360.657	360.511
SEF625687RSS125 *	>0.6250	.688	1.25	.69	1.81	6.50	3.25	.59	3.42807..	360.551	170.025	360.658	360.511
SEF687750RSS125	>0.6880	.750	1.25	.75	1.88	6.56	3.25	.67	3.42807..	360.551	170.025	360.659	360.511
SEF750812RSS125	>0.7500	.813	1.25	.81	1.94	6.63	3.25	.67	3.42807..	360.551	170.025	360.679	360.511
SEF812875RSS150	>0.8130	.875	1.50	.88	2.09	7.25	3.75	.63	3.42807..	360.551	170.025	360.680	360.511
SEF875937RSS150 *	>0.8750	.938	1.50	.94	2.16	7.38	3.75	.71	3.42807..	360.551	170.025	360.681	360.511
SEF9371010RSS150	>0.9380	1.010	1.50	1.00	2.25	7.50	3.75	.71	3.42807..	360.551	170.025	360.682	360.511

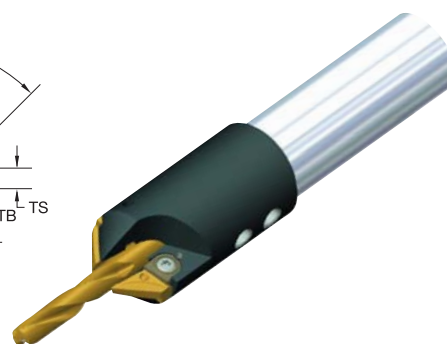
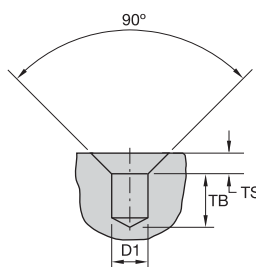
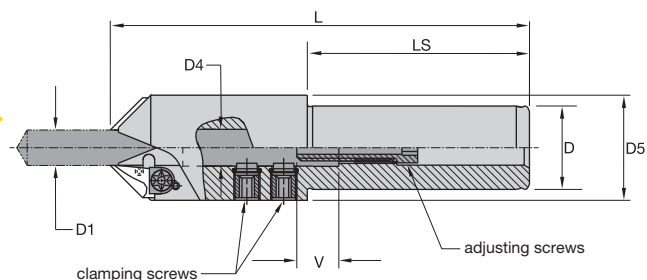
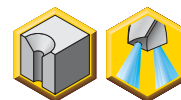
NOTE: \*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ Achievable Drilling (TB) and Sink Depths (TS)

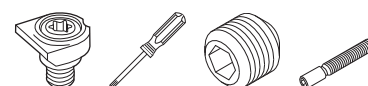
drill diameter D1	K210, K254, K284		K211, K222, K255, K285, K411		K212, K256		unalloyed and low-alloy steel, unalloyed and alloy steel, and cast iron, high-alloy steel and stainless steel		
	TB <sub>min</sub>	TB <sub>max</sub>	TB <sub>min</sub>	TB <sub>max</sub>	TB <sub>min</sub>	TB <sub>max</sub>	TS <sub>100</sub>	TS <sub>80</sub>	TS <sub>max</sub>
.156-.188	.236	.866	.472	1.102	.866	1.102	.047	.071	.098
>.188-.250	.354	1.024	.709	1.378	1.220	1.890	.059	.087	.118
>.250-.266	.433	1.102	.906	1.575	1.654	2.323	.079	.118	.157
>.266-.313	.433	1.102	.906	1.575	1.654	2.323	.098	.157	.197
>.313-.375	.512	1.142	1.063	1.693	1.929	2.559	.118	.197	.236
>.375-.438	.551	1.260	1.142	1.850	2.008	2.717	.138	.197	.276
>.438-.500	.591	1.378	1.220	2.008	2.205	2.992	.157	.236	.315
>.500-.563	.827	1.417	1.496	2.087	2.717	3.307	.157	.236	.315
>.563-.625	.866	1.575	1.575	2.283	3.071	3.780	.157	.236	.315
>.625-.688	1.299	1.850	2.087	2.638	3.740	4.291	.157	.236	.315
>.688-.750	1.378	2.008	2.126	2.756	4.055	4.685	.157	.236	.315
>.750-.813	1.552	2.181	2.260	2.890	4.386	5.016	.157	.236	.315
>.813-.875	1.702	2.293	2.726	3.317	4.694	5.285	.157	.236	.315
>.875-.938	1.735	2.404	2.876	3.546	4.884	5.554	.157	.236	.315
>.938-1.010	1.846	2.515	3.067	3.736	5.193	5.862	.157	.236	.315

NOTE: TS<sub>100</sub>: maximum sink depths at which the full feed values can be maintained during chamfering and sinking.  
 TS<sub>80</sub>: maximum sink depths that can be achieved without chipbreak cycles and at a 20% feed reduction.  
 TS<sub>max</sub>: maximum sink depths that can be achieved without chipbreak cycles and at a 50% feed reduction.

- Drill body shipped with all screws, clamps, and wrenches.
- Order the inserts and drills separately.
- Two chamfer inserts required per body.



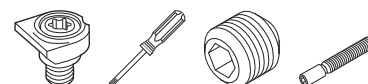
■ Round Shank • For Use with Metric Drills • Metric



catalog number	D1	D1 max	D	D4	D5	L	LS	V	gage insert	insert clamp	Torx wrench	drill clamp screw	adjusting screw
SEF040060RSS075M	4,000	6,0	19,1	6,0	24,0	103,1	50,8	18,0	3.42805..	360.550	170.024	360.630	360.510
SEF060080RSS075M	>6,000	8,0	19,1	8,0	26,0	109,5	50,8	18,0	3.42805..	360.550	170.024	360.634	360.510
SEF080100RSS100M	>8,000	10,0	25,4	10,0	29,0	143,0	76,2	17,0	3.42805..	360.550	170.024	360.631	360.510
SEF100120RSS125M	>10,000	12,0	31,8	12,0	38,0	155,7	82,6	21,0	3.42807..	360.551	170.025	360.635	360.513
SEF120140RSS125M	>12,000	14,0	31,8	14,0	40,0	160,3	82,6	16,0	3.42807..	360.551	170.025	360.636	360.511
SEF140160RSS125M	>14,000	16,0	31,8	16,0	41,5	163,6	82,6	19,0	3.42807..	360.551	170.025	360.632	360.511
SEF160180RSS125M	>16,000	18,0	31,8	18,0	47,0	166,4	82,6	15,0	3.42807..	360.551	170.025	360.633	360.511
SEF180200RSS125M *	>18,000	20,0	31,8	20,0	49,0	170,0	82,6	17,0	3.42807..	360.551	170.025	360.637	360.511

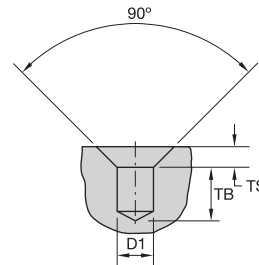
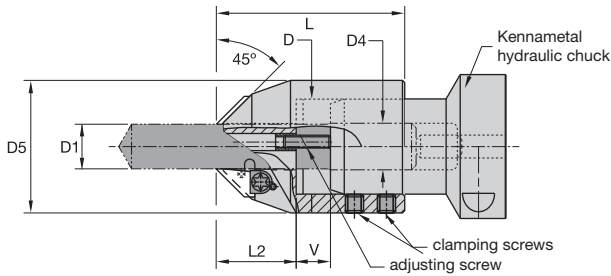
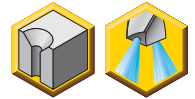
NOTE: \*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ 2° Whistle Notch (WN) Shank • For Use with Metric Drills • Metric



catalog number	D1	D1 max	D	D4	D5	L	LS	V	gage insert	insert clamp	Torx wrench	drill clamp screw	adjusting screw
3.37060R720	4,000	6,0	20,0	6,0	24,0	102,0	52,0	18,0	3.42805..	360.550	170.024	360.630	360.510
3.37080R720	>6,000	8,0	20,0	8,0	26,0	108,0	52,0	18,0	3.42805..	360.550	170.024	360.634	360.510
3.37100R720	>8,000	10,0	20,0	10,0	29,0	122,0	52,0	17,0	3.42805..	360.550	170.024	360.631	360.510
3.37120R732	>10,000	12,0	32,0	12,0	38,0	133,0	62,0	21,0	3.42807..	360.551	170.025	360.635	360.513
3.37140R732	>12,000	14,0	32,0	14,0	40,0	137,0	62,0	16,0	3.42807..	360.551	170.025	360.636	360.511
3.37160R732	>14,000	16,0	32,0	16,0	41,5	141,0	62,0	19,0	3.42807..	360.551	170.025	360.632	360.511
3.37180R732	>16,000	18,0	32,0	18,0	47,0	144,0	62,0	15,0	3.42807..	360.551	170.025	360.633	360.511

- Drill body shipped with all screws, clamps, and wrenches.
- Order the inserts and drills separately.
- Use only with hydraulic chucks.



Combination Tools

■ Chamfer Rings • For Use with Metric Kennametal Hydraulic Chucks • For Use with Inch or Metric Drills

catalog number	D1	D1 max	D	D4	D5	L	L2	V						
									gage insert	insert clamp	Torx wrench	drill clamp screw	adjusting screw	adjusting screw
3.37526R006	4,000	6,0	25,70	6,00	38,00	49,50	21,00	5,00	3.42805..	360.550	170.024	190.195	—	192.057
3.37528R008	>6,000	8,0	27,70	8,00	40,00	50,00	21,00	6,00	3.42805..	360.550	170.024	190.195	190.371	—
3.37530R010	>8,000	10,0	29,70	10,00	41,50	56,50	22,00	8,00	3.42805..	360.550	170.024	190.195	193.113	—
3.37532R012	>10,000	12,0	31,60	12,00	48,00	68,00	29,00	12,00	3.42807..	360.551	170.025	190.076	193.114	—
3.37534R014	>12,000	14,0	33,60	14,00	50,00	70,50	29,00	12,00	3.42807..	360.551	170.025	190.076	193.114	—
3.37538R016	>14,000	16,0	37,60	16,00	54,00	78,00	32,00	12,00	3.42807..	360.551	170.025	190.076	193.115	—
3.37540R018	>16,000	18,0	39,60	18,00	56,00	80,50	34,00	15,00	3.42807..	360.551	170.025	190.076	193.116	—
3.37542R020	>18,000	20,0	41,60	20,00	58,00	82,50	35,00	15,00	3.42807..	360.551	170.025	190.076	193.116	—

■ Achievable Drilling (TB) and Sink Depths (TS)

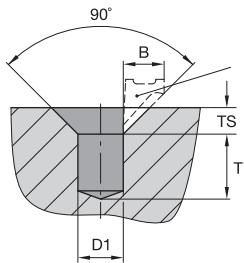
drill diameter D1	B210, B221, B224, B254, B284, B291, B707, B966, B976		B211, B222, B225, B285, B292, B411, B708, B977		B212, B256, B709, B978		B269		unalloyed and low-alloy steel; unalloyed and alloy steel, and cast iron, high-alloy steel and stainless steel		
	TB <sub>min</sub>	TB <sub>max</sub>	TB <sub>min</sub>	TB <sub>max</sub>	TB <sub>min</sub>	TB <sub>max</sub>	TB <sub>min</sub>	TB <sub>max</sub>	TS <sub>100</sub>	TS <sub>80</sub>	TS <sub>max</sub>
4,0–4,7	4	17	12	29	20	36	45	62	1,2	1,8	2,5
>4,7–6,0	4	20	20	35	27	43	63	80	1,5	2,2	3,0
>6,0–7,0	11	24	23	40	32	49	71	88	2	3,0	4,0
>7,0–8,0	11	28	23	40	42	59	85	102	2,5	4,0	5,0
>8,0–10,0	13	29	27	43	46	62	109	125	2,5	4,0	5,0
>10,0–12,0	15	35	31	51	54	74	131	151	3,5	5,0	7,0
>12,0–14,0	21	36	38	53	69	84	160	175	4,0	6,0	8,0
>14,0–16,0	22	40	40	58	78	96	184	202	4,0	6,0	8,0
>16,0–18,0	31	45	51	65	93	107	213	227	4,0	6,0	8,0
>18,0–20,0	34	50	56	72	103	119	237	253	4,0	6,0	8,0

(continued)

(Achievable Drilling (TB) and Sink Depths (TS) — continued)

drill diameter D1	K210, K254, K284		K211, K222, K255, K285, K411		K212, K256		unalloyed and low-alloy steel, unalloyed and alloy steel, and cast iron, high-alloy steel and stainless steel		
	TB <sub>min</sub>	TB <sub>max</sub>	TB <sub>min</sub>	TB <sub>max</sub>	TB <sub>min</sub>	TB <sub>max</sub>	TS <sub>100</sub>	TS <sub>80</sub>	TS <sub>max</sub>
.156-.250	not applicable (drill shank diameter > chamfer ring inside diameter), not applicable (metric ring and hydraulic chuck are not interchangeable)								
>.250-.313	not applicable (drill shank diameter > chamfer ring inside diameter), not applicable (metric ring and hydraulic chuck are not interchangeable)								
>.313-.375	.748	1.339	1.229	1.890	2.165	2.756	.098	.157	.197
>.375-.500	not applicable (drill shank diameter > chamfer ring inside diameter), not applicable (metric ring and hydraulic chuck are not interchangeable)								
>.500-.563	not applicable (drill shank diameter > chamfer ring inside diameter), not applicable (metric ring and hydraulic chuck are not interchangeable)								
>.563-.625	.906	1.732	1.614	2.441	3.110	3.937	.157	.236	.315
>.625-.709	not applicable (metric ring and hydraulic chuck are not interchangeable)								
>.709-.750	1.142	2.087	1.890	2.835	3.819	4.764	.157	.236	.315

NOTE: TS<sub>100</sub>: maximum sink depths at which the full feed values can be maintained during chamfering and sinking.  
TS<sub>80</sub>: maximum sink depths that can be achieved without chipbreak cycles and at a 20% feed reduction.  
TS<sub>max</sub>: maximum sink depths that can be achieved without chipbreak cycles and at a 50% feed reduction.  
When using SEFAS with GOdrill™, please contact your Kennametal Representative for application support.

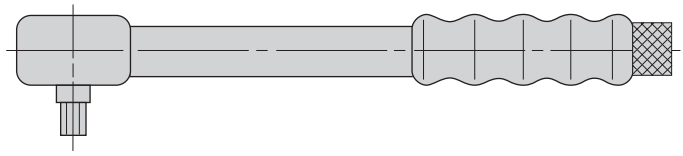


■ Achievable Drilling (T) and Sink Depths (TS) with KenTIP Tool Bodies

D1		drilling depths (T) with SEFAS compact tools						drilling depths (T) with SEFAS chamfer rings						sink depths (TS)		
		3x		5x		8x		3x		5x		8x		TS <sub>100</sub>	TS <sub>80</sub>	TS <sub>max</sub>
mm	in	T	T <sub>max</sub>	T	T <sub>max</sub>	T	T <sub>max</sub>	T	T <sub>max</sub>	T	T <sub>max</sub>	T	T <sub>max</sub>	TS <sub>100</sub>	TS <sub>80</sub>	TS <sub>max</sub>
8,00-8,49	.3125-.3343	11	19	21	37	47	63	11	22	22	40	48	66	2,5	4,0	5,0
8,50-8,99	.3346-.3539	12	21	24	40	51	67	12	24	25	43	52	70	2,5	4,0	5,0
9,00-9,49	.3543-.3736	12	23	27	43	56	72	12	26	28	46	57	75	2,5	4,0	5,0
9,50-9,99	.3740-.3933	13	25	31	47	61	77	13	28	32	50	62	80	2,5	4,0	5,0
10,00-10,49	.3937-.4130	13	26	28	49	60	81	13	28	29	51	61	83	3,5	5,0	7,0
10,50-10,99	.4134-.4327	14	28	31	52	64	85	14	30	32	54	65	87	3,5	5,0	7,0
11,00-11,49	.4331-.4524	14	30	34	55	69	90	14	32	35	57	70	92	3,5	5,0	7,0
11,50-11,99	.4528-.4720	15	32	37	58	73	94	15	34	38	60	74	96	3,5	5,0	7,0
12,00-12,49	.4724-.4917	15	30	41	56	79	94	15	32	36	58	74	96	4,0	6,0	8,0
12,50-12,99	.4921-.5114	17	32	44	59	83	98	16	34	39	61	78	100	4,0	6,0	8,0
13,00-13,49	.5118-.5311	19	34	47	62	88	103	16	36	42	64	83	105	4,0	6,0	8,0
13,50-13,99	.5315-.5508	21	36	51	66	93	108	17	38	46	68	88	110	4,0	6,0	8,0
14,00-14,49	.5512-.5705	19	37	50	68	94	112	18	40	49	71	93	115	4,0	6,0	8,0
14,50-14,99	.5709-.5902	21	39	53	71	98	116	20	42	52	74	97	119	4,0	6,0	8,0
15,00-15,99	.5906-.6295	25	43	59	77	107	125	24	46	58	80	106	128	4,0	6,0	8,0
16,00-16,99	.6299-.6689	29	47	65	83	117	135	28	50	64	85	115	136	4,0	6,0	8,0
17,00-17,99	.6693-.7083	35	49	73	87	127	141	30	54	68	92	122	146	4,0	6,0	8,0
18,00-18,99	.7087-.7476	36	52	76	92	133	149	33	57	73	97	130	154	4,0	6,0	8,0
19,00-19,99	.7480-.7870	40	56	82	98	142	158	37	61	79	103	139	163	4,0	6,0	8,0

NOTE: TS<sub>100</sub>: maximum sink depths at which the full feed values can be maintained during chamfering and sinking.  
TS<sub>80</sub>: maximum sink depths that can be achieved without chipbreak cycles and at a 20% feed reduction.  
TS<sub>max</sub>: maximum sink depths that can be achieved without chipbreak cycles and at a 50% feed reduction.  
T: minimum drilling depth that can be achieved due to the protruded length of the drill.  
T<sub>max</sub>: maximum drilling depth that can be achieved due to the protruded length of the drill.



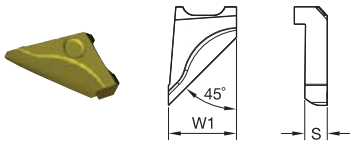

**■ Torque Wrench • Metric**

drill diameter D1	torque wrench	tightening torque Nm	SW	drill clamp screw	wrench adapter
4,0–6,0	170.190	7	3	360.630	170.240
>6,0–8,0	170.190	8	3	360.635	170.240
>8,0–10,0	170.190	10	4	360.631	170.232
>10,0–12,0	170.190	15	4	360.635	170.232
>12,0–14,0	170.190	20	5	360.636	170.233
>14,0–16,0	170.190	30	5	360.632	170.233
>16,0–18,0	170.190	45	6	360.633	170.234
>18,0–20,0	170.190	45	6	360.637	170.234


**■ Torque Wrench • Inch**

drill diameter D1	torque wrench	tightening torque ft. lbs.	SW	drill clamp screw	wrench adapter
.156–.188	170.190	5.2	3	360.650	170.240
>.188–.250	170.190	5.9	3	360.651	170.240
>.250–.313	170.190	5.9	3	360.652	170.240
>.313–.375	170.190	7.4	4	360.653	170.232
>.375–.438	170.190	11.1	4	360.654	170.232
>.438–.500	170.190	11.1	4	360.655	170.232
>.500–.563	170.190	14.8	5	360.656	170.233
>.563–.625	170.190	22.1	5	360.657	170.233
>.625–.688	170.190	33.2	6	360.658	170.234
>.688–.750	170.190	33.2	6	360.659	170.234
>.750–.813	170.190	35.4	6	360.679	170.234
>.813–.875	170.190	44.3	8	360.680	170.229
>.875–.938	170.190	47.9	8	360.681	170.229
>.938–1.010	170.190	51.6	8	360.682	170.229



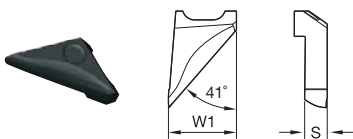


● first choice  
○ alternate choice

P	●			
M				
K	●	●		
N			●	●
S				
H				

■ SEFAS Chamfering Inserts for Solid Carbide Drills • 45°

catalog number	angle	S		W1		CS5	KC7215	KMF
		mm	in	mm	in			
3.42805R001	45	2,83	.111	8,00	.315	●	●	●
3.42807R001	45	3,98	.157	12,00	.472	●	●	●

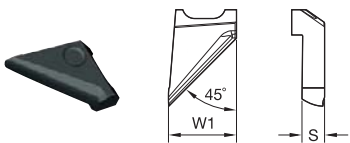


● first choice  
○ alternate choice

P				
M				
K	●			
N			●	
S				
H				

■ SEFAS Chamfering Inserts for Solid Carbide Drills • 41°

catalog number	angle	S		W1		KC7215
		mm	in	mm	in	
3.42805R081	41	2,83	.111	8,00	.315	●
3.42807R081	41	3,98	.157	12,00	.472	●



● first choice  
○ alternate choice

P	●				●
M			●		
K	●	●	●		
N				●	●
S					
H					

■ SEFAS Chamfering Inserts for KentTIP™ Drills • 45°

catalog number	angle	S		W1		CS5	KC7015	KC7215	KC7315	KMF
		mm	in	mm	in					
3.42805R001	45	2,83	.111	8,00	.315	●	-	-	-	●
3.42805R021	45	2,83	.111	8,00	.315	-	●	-	-	-
3.42807R001	45	3,98	.157	12,00	.472	●	-	●	-	●
3.42807R021	45	3,98	.157	12,00	.472	-	●	-	-	-