

Advanced Engineering

MINIATURE

ADVANCED  
**TH60+**  
NANO-PVD COATING

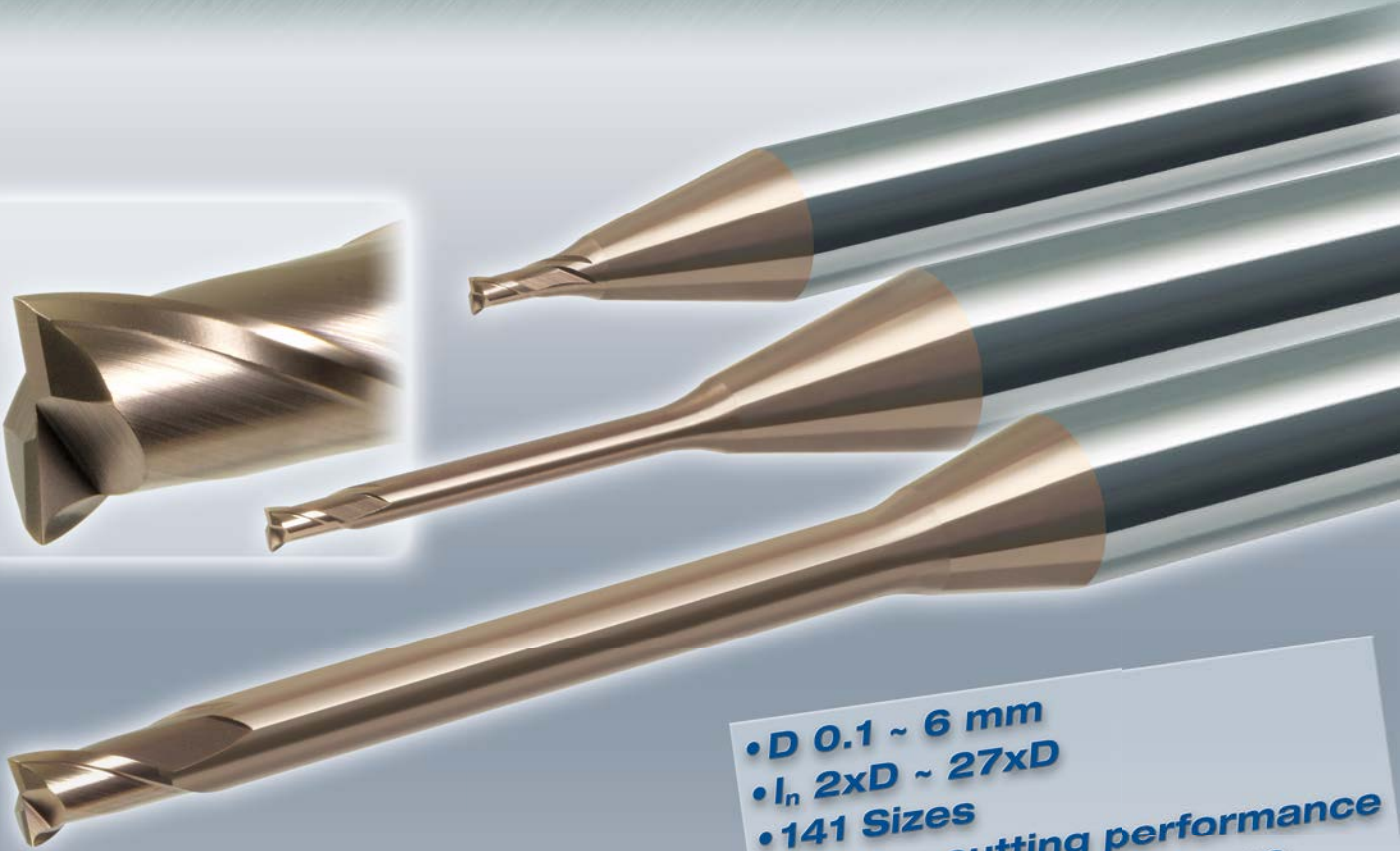
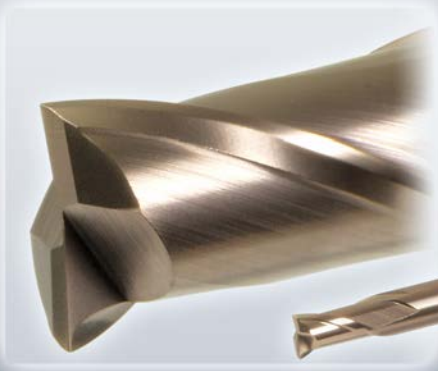
MMC Hitachi Tool

No. 438

EPDSE

# Epoch Deep Square **Evolution**

For Higher Efficiency & Higher Precision Deep Milling  
Micro Grain Solid Carbide End Mill



- D 0.1 ~ 6 mm
- $l_n$  2xD ~ 27xD
- 141 Sizes
- Higher cutting performance
- Compound neck shape

MINIATURE  
Carbide End Mills - Nano PVD Coated

MMC Hitachi Tool Engineering Europe GmbH  
[www.high-speed-cutting.com](http://www.high-speed-cutting.com)

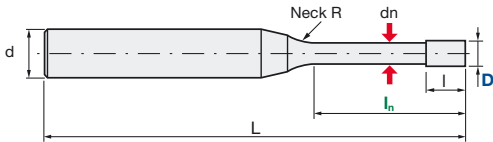


## Ultra Micro Grain Solid Carbide End Mill

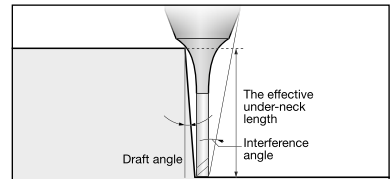
### EPDSE-ATH | Epoch Deep Square Evolution ATH



A (D0.1–D5.0)



Helix angle	30°
D 0.1 – 0.5	0/-0.007 mm
D 0.6 – 0.9	0/-0.010 mm
D 1.0 – 6.0	0/-0.015 mm
D	h5



Size										Actual Effective Length in Incline angles				
ID Code	Item Code	Z	D	In	l	dn	L	d	Neck R	0.5°	1°	1.5°	2°	3°
EP1074	EPDSE-2001-0.3-ATH	2	0.1	0.3	0.15	0.08	45	4	1	0.46	0.49	0.51	0.53	0.58
EP1075	EPDSE-2001-0.5-ATH			0.5						0.67	0.71	0.74	0.76	0.82
EP1076	EPDSE-2001-1-ATH			1						1.2	1.25	1.29	1.33	1.39
EP1077	EPDSE-2002-0.5-ATH			0.5						0.7	0.73	0.76	0.78	0.83
EP1078	EPDSE-2002-1-ATH		1	1.22	1.27	1.31	1.34	1.42						
EP1079	EPDSE-2002-1.5-ATH		1.5	1.74	1.8	1.85	1.89	2.08						
EP1080	EPDSE-2002-2-ATH		2	2.26	2.32	2.38	2.47	2.74						
EP1081	EPDSE-2002-3-ATH		3	3.29	3.37	3.5	3.67	4.07						
EP1082	EPDSE-2003-1-ATH		1	1.32	1.39	1.45	1.51	1.62	2					
EP1083	EPDSE-2003-1.5-ATH		1.5	1.85	1.93	2.01	2.08	2.21						
EP1084	EPDSE-2003-2-ATH		2	2.37	2.47	2.56	2.64	2.78						
EP1085	EPDSE-2003-2.5-ATH		2.5	2.89	3.01	3.11	3.2	3.41						
EP1086	EPDSE-2003-3-ATH		3	3.42	3.54	3.65	3.75	4.07						
EP1087	EPDSE-2004-1-ATH		1	1.32	1.39	1.45	1.51	1.62						
EP1088	EPDSE-2004-1.5-ATH		1.5	1.85	1.93	2.01	2.08	2.21						
EP1089	EPDSE-2004-2-ATH		2	2.37	2.47	2.56	2.64	2.78						
EP1090	EPDSE-2004-2.5-ATH	2.5	2.89	3.01	3.11	3.2	3.41	50						
EP1091	EPDSE-2004-3-ATH	3	3.42	3.54	3.65	3.75	4.07							
EP1092	EPDSE-2004-3.5-ATH	3.5	3.94	4.08	4.19	4.29	4.73							
EP1093	EPDSE-2004-4-ATH	4	4.46	4.61	4.73	4.87	5.4							
EP1094	EPDSE-2004-5-ATH	5	5.49	5.66	5.79	6.06	6.72							
EP1095	EPDSE-2004-6-ATH	6	6.53	6.71	6.92	7.26	8.05							
EP1096	EPDSE-2004-8-ATH	8	8.59	8.8	9.2	9.65	10.71							
EP1097	EPDSE-2004-10-ATH	10	10.64	10.97	11.48	12.05	13.36							
EP1098	EPDSE-2005-1-ATH	1	1.32	1.39	1.45	1.51	1.62		4					
EP1099	EPDSE-2005-1.5-ATH	1.5	1.85	1.93	2.01	2.08	2.21							
EP1100	EPDSE-2005-2-ATH	2	2.37	2.47	2.56	2.64	2.78							
EP1101	EPDSE-2005-2.5-ATH	2.5	2.89	3.01	3.11	3.2	3.41							
EP1102	EPDSE-2005-3-ATH	3	3.42	3.54	3.65	3.75	4.07							
EP1103	EPDSE-2005-4-ATH	4	4.46	4.61	4.73	4.87	5.4							
EP1104	EPDSE-2005-5-ATH	5	5.49	5.66	5.79	6.06	6.72							
EP1105	EPDSE-2005-6-ATH	6	6.53	6.71	6.92	7.26	8.05							
EP1106	EPDSE-2005-8-ATH	8	8.59	8.8	9.2	9.65	10.71							
EP1107	EPDSE-2005-10-ATH	10	10.64	10.97	11.48	12.05	13.36							
EP1108	EPDSE-2006-2-ATH	2	2.54	2.7	2.84	2.96	3.19	0.57						
EP1109	EPDSE-2006-3-ATH	3	3.6	3.8	3.96	4.11	4.37							
EP1110	EPDSE-2006-4-ATH	4	4.66	4.89	5.07	5.24	5.53							
EP1111	EPDSE-2006-5-ATH	5	5.71	5.96	6.17	6.35	6.72							
EP1112	EPDSE-2006-6-ATH	6	6.76	7.04	7.26	7.45	8.05							
EP1113	EPDSE-2006-7-ATH	7	7.81	8.1	8.34	8.55	9.38							
EP1114	EPDSE-2006-8-ATH	8	8.85	9.17	9.42	9.65	10.71							
EP1115	EPDSE-2006-9-ATH	9	9.89	10.22	10.49	10.85	12.03							
EP1116	EPDSE-2006-10-ATH	10	10.93	11.28	11.56	12.05	13.36							



# Ultra Micro Grain Solid Carbide End Mill

## EPDSE-ATH | Epoch Deep Square Evolution ATH

ID Code	Item Code	Z	Size							Actual Effective Length in Incline angles					
			D	I <sub>n</sub>	l	dn	L	d	Neck R	0.5°	1°	1.5°	2°	3°	
EP1117	EPDSE-2007-2-ATH	2	0.7	2	1.05	0.67	50	4	4	2.54	2.7	2.84	2.96	3.19	
EP1118	EPDSE-2007-4-ATH			4						4.66	4.89	5.07	5.24	5.53	
EP1119	EPDSE-2007-6-ATH			6						6.76	7.04	7.26	7.45	8.05	
EP1120	EPDSE-2007-8-ATH			8						8.85	9.17	9.42	9.65	10.71	
EP1121	EPDSE-2007-10-ATH			10						10.93	11.28	11.56	12.05	13.36	
EP1122	EPDSE-2008-4-ATH		0.8	4	1.2	0.77				50	4.66	4.89	5.07	5.24	5.53
EP1123	EPDSE-2008-6-ATH			6							6.76	7.04	7.26	7.45	8.05
EP1124	EPDSE-2008-8-ATH			8							8.85	9.17	9.42	9.65	10.71
EP1125	EPDSE-2008-10-ATH			10							10.93	11.28	11.56	12.05	13.36
EP1126	EPDSE-2008-12-ATH			12							13	13.38	13.76	14.44	16.02
EP1127	EPDSE-2009-6-ATH		0.9	6	1.35	0.86	50				6.79	7.06	7.28	7.47	8.08
EP1128	EPDSE-2009-8-ATH			8							8.87	9.18	9.43	9.68	10.74
EP1129	EPDSE-2009-10-ATH			10							10.95	11.3	11.57	12.07	13.39
EP1130	EPDSE-2009-12-ATH			12							13.02	13.4	13.79	14.47	16.05
EP1131	EPDSE-2010-2-ATH			2							2.58	2.73	2.86	2.98	3.21
EP1132	EPDSE-2010-3-ATH		3	3.64	3.82	3.99				4.13	4.39				
EP1133	EPDSE-2010-4-ATH		4	4.69	4.91	5.09				5.26	5.54				
EP1134	EPDSE-2010-5-ATH		5	5.74	5.99	6.19				6.37	6.76				
EP1135	EPDSE-2010-6-ATH		6	6.79	7.06	7.28				7.47	8.08				
EP1136	EPDSE-2010-7-ATH		7	7.83	8.12	8.36				8.56	9.41				
EP1137	EPDSE-2010-8-ATH		8	8.87	9.18	9.43	9.68			10.74					
EP1138	EPDSE-2010-9-ATH		9	9.91	10.24	10.5	10.88			12.07					
EP1139	EPDSE-2010-10-ATH		10	10.95	11.3	11.57	12.07			13.39					
EP1140	EPDSE-2010-12-ATH		12	13.02	13.4	13.79	14.47			16.05					
EP1141	EPDSE-2010-14-ATH		14	15.09	15.49	16.07	16.86			18.7					
EP1142	EPDSE-2010-16-ATH		16	17.15	17.58	18.35	19.25			21.36					
EP1143	EPDSE-2010-20-ATH		20	21.26	21.89	22.91	24.04			26.66					
EP1144	EPDSE-2010-25-ATH		25	26.39	27.33	28.61	30.02			x					
EP1145	EPDSE-2012-6-ATH		6	6.81	7.08	7.29	7.48			8.11					
EP1146	EPDSE-2012-8-ATH		8	8.9	9.2	9.45	9.71			10.77					
EP1147	EPDSE-2012-10-ATH		10	10.97	11.31	11.58	12.1			13.42					
EP1148	EPDSE-2012-12-ATH		12	13.04	13.41	13.82	14.49			16.08					
EP1149	EPDSE-2012-16-ATH		16	17.16	17.59	18.38	19.28			21.39					
EP1150	EPDSE-2014-6-ATH	6	6.84	7.09	7.31	7.5	8.15								
EP1151	EPDSE-2014-12-ATH	12	13.06	13.43	13.84	14.52	16.11								
EP1152	EPDSE-2015-4-ATH	4	4.75	4.95	5.13	5.29	5.57								
EP1153	EPDSE-2015-6-ATH	6	6.84	7.09	7.31	7.5	8.15								
EP1154	EPDSE-2015-8-ATH	8	8.92	9.22	9.46	9.74	10.8								
EP1155	EPDSE-2015-10-ATH	10	10.99	11.33	11.59	12.13	13.45								
EP1156	EPDSE-2015-12-ATH	12	13.06	13.43	13.84	14.52	16.11								
EP1157	EPDSE-2015-14-ATH	14	15.12	15.52	16.12	16.92	18.76								
EP1158	EPDSE-2015-16-ATH	16	17.18	17.6	18.4	19.31	21.42								
EP1159	EPDSE-2015-18-ATH	18	19.24	19.76	20.69	21.7	x								
EP1160	EPDSE-2015-20-ATH	20	21.29	21.94	22.97	24.1	x								
EP1161	EPDSE-2015-25-ATH	25	26.42	27.39	28.67	30.08	x								
EP1162	EPDSE-2015-30-ATH	30	31.53	32.83	34.37	x	x								
EP1163	EPDSE-2015-35-ATH	35	36.64	38.28	40.07	x	x								
EP1164	EPDSE-2015-40-ATH	40	41.85	43.73	45.78	x	x								
EP1165	EPDSE-2016-6-ATH	6	6.84	7.09	7.31	7.5	8.15								
EP1166	EPDSE-2016-8-ATH	8	8.92	9.22	9.46	9.74	10.8								
EP1167	EPDSE-2018-6-ATH	6	6.86	7.11	7.32	7.51	8.18								
EP1168	EPDSE-2018-8-ATH	8	8.94	9.23	9.47	9.76	10.83								
EP1169	EPDSE-2020-4-ATH	4	4.8	5	5.17	5.32	5.59								
EP1170	EPDSE-2020-6-ATH	6	6.88	7.13	7.34	7.52	8.21								
EP1171	EPDSE-2020-8-ATH	8	8.96	9.25	9.49	9.79	10.86								
EP1172	EPDSE-2020-10-ATH	10	11.03	11.35	11.62	12.19	13.52								
EP1173	EPDSE-2020-12-ATH	12	13.1	13.45	13.9	14.58	16.17								
EP1174	EPDSE-2020-14-ATH	14	15.16	15.54	16.18	16.97	18.83								
EP1175	EPDSE-2020-16-ATH	16	17.21	17.63	18.46	19.37	x								



## Ultra Micro Grain Solid Carbide End Mill

### EPDSE-ATH | Epoch Deep Square Evolution ATH

ID Code	Item Code	Z	Size							Actual Effective Length in Incline angles					
			D	I <sub>n</sub>	l	dn	L	d	Neck R	0.5°	1°	1.5°	2°	3°	
EP1176	EPDSE-2020-18-ATH	2	2	18	3	1.92	60	4	4	19.27	19.81	20.74	21.76	x	
EP1177	EPDSE-2020-20-ATH			20						21.32	21.99	23.02	24.15	x	
EP1178	EPDSE-2020-25-ATH			25						26.44	27.44	28.72	x	x	
EP1179	EPDSE-2020-30-ATH			30						31.55	32.88	34.42	x	x	
EP1180	EPDSE-2020-35-ATH			35						36.69	38.33	x	x	x	
EP1181	EPDSE-2020-40-ATH			40						41.9	43.78	x	x	x	
EP1182	EPDSE-2020-50-ATH		50	52.33	54.67	x	x	x							
EP1183	EPDSE-2025-8-ATH		2.5	3.75	8	2.4	50	6		9	9.28	9.51	9.85	10.93	
EP1184	EPDSE-2025-12-ATH				12					13.13	13.48	13.95	14.64	x	
EP1185	EPDSE-2025-16-ATH				16					17.25	17.68	18.51	19.42	x	
EP1186	EPDSE-2025-20-ATH				20					21.35	22.04	23.07	x	x	
EP1187	EPDSE-2025-30-ATH				30					31.58	32.94	x	x	x	
EP1188	EPDSE-2025-40-ATH				40					41.95	x	x	x	x	
EP1189	EPDSE-2025-50-ATH		50	52.38	x	x	x	x							
EP1190	EPDSE-2030-8-ATH		3	4.5	8	2.88	55	4		9.04	9.31	9.54	9.91	10.99	
EP1191	EPDSE-2030-12-ATH				12					13.16	13.5	14	14.69	16.3	
EP1192	EPDSE-2030-16-ATH				16					17.28	17.73	18.57	19.48	21.61	
EP1193	EPDSE-2030-20-ATH				20					21.38	22.09	23.13	24.26	26.91	
EP1194	EPDSE-2030-25-ATH				25					26.49	27.54	28.83	30.25	x	
EP1195	EPDSE-2030-30-ATH				30					31.6	32.99	34.53	36.23	x	
EP1196	EPDSE-2030-40-ATH		40	42	43.88	45.94	x	x							
EP1197	EPDSE-2030-50-ATH		50	52.43	54.78	x	x	x							
EP1198	EPDSE-2040-12-ATH		4	6	12	3.85	60	6		13.21	13.54	14.08	14.78	16.39	
EP1199	EPDSE-2040-16-ATH				16					17.32	17.81	18.65	19.56	x	
EP1200	EPDSE-2040-20-ATH	20			21.42				22.17	23.21	24.35	x			
EP1201	EPDSE-2040-25-ATH	25			26.53				27.62	28.91	x	x			
EP1202	EPDSE-2040-30-ATH	30			31.65				33.06	34.61	x	x			
EP1203	EPDSE-2040-35-ATH	35			36.86				38.51	x	x	x			
EP1204	EPDSE-2040-40-ATH	40	42.08	43.96	x	x	x								
EP1205	EPDSE-2040-50-ATH	50	52.5	54.85	x	x	x								
EP1206	EPDSE-2050-20-ATH	5	7.5	20	4.85	70	6	21.42	22.17	x	x	x			
EP1207	EPDSE-2050-25-ATH			25				26.53	27.62	x	x	x			
EP1208	EPDSE-2050-30-ATH			30				31.65	x	x	x	x			
EP1209	EPDSE-2050-40-ATH			40				42.08	x	x	x	x			
EP1210	EPDSE-2050-50-ATH			50				52.5	x	x	x	x			
EP1211	EPDSE-2060-20-ATH			6				9	20	5.85	70	-	x	x	x
EP1212	EPDSE-2060-30-ATH	30	x		x	x	x		x						
EP1213	EPDSE-2060-40-ATH	40	x		x	x	x		x						
EP1214	EPDSE-2060-50-ATH	50	x		x	x	x		x						

Always up to date: Please check our P50 QuickFinder



[www.mmc-hitachitool-eu.com/quickfinder](http://www.mmc-hitachitool-eu.com/quickfinder)

**Product Range**

Solid Carbide End Mills



Indexable Milling Tools



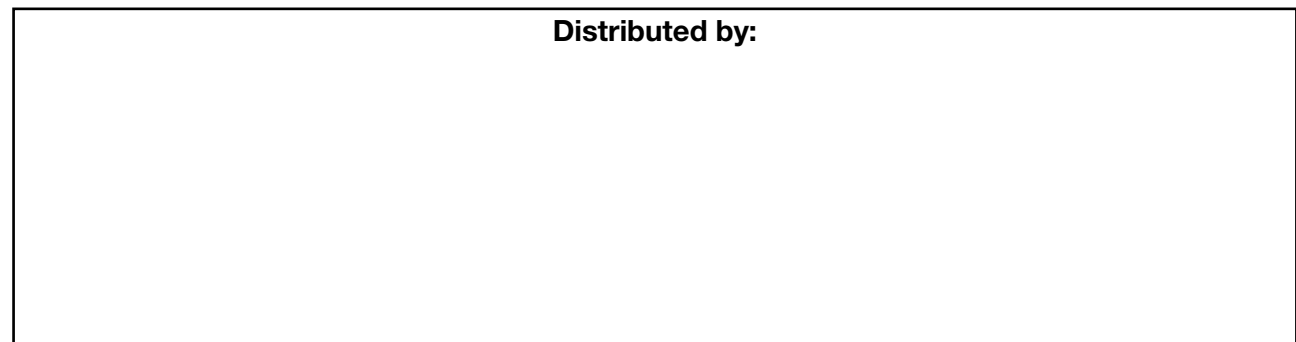
WHNSB Drills



Milling Chucks



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