

ARTICLE NUMBER	MATERIAL PREFERENCE	HOLE TOLERANCE	DIAMETER	Mild Steel <20Rc (1018, 1020)		High-Alloy Steel 20-40Rc (5015, 8620)		Tool Steel 30+ Rc (A2, D3)		Grey Cast Iron (Class 20, Class 30)		Nodular Cast Iron		Aluminum up to 9% Si		Aluminum above 9% Si		Stainless Steel Series 300 (303, 304, 316, 17-4ph)		Stainless Steel Series 400 (403, 410, 416, 430)		High Temp Nickel Based Alloy		Brass		Plastic		
				SFM	IPR	SFM	IPR	SFM	IPR	SFM	IPR	SFM	IPR	SFM	IPR	SFM	IPR	SFM	IPR	SFM	IPR	SFM	IPR	SFM	IPR	SFM	IPR	SFM
MICRO DRILLS																												
ART #12604 HSS MICRO DRILL	1. STEEL 2. CAST IRON 3. ALUMINUM 4. NI ALLOYS	H9	0.1-0.3	5	0.0001	3	0.0001	-	-	8	0.0001	3	0.0001	15	0.000	18	0.0001	-	-	-	-	3	0.0001	-	-	-	-	
			0.3-0.5	10	0.0002	7	0.0001	-	-	10	0.0002	7	0.0001	25	0.0002	25	0.0002	-	-	-	-	7	0.0001	-	-	-	-	
			0.5-0.8	20	0.0004	10	0.0002	-	-	25	0.0004	10	0.0002	50	0.0004	25	0.0004	-	-	-	-	10	0.0002	-	-	-	-	
			0.8-1.1	30	0.0005	17	0.0003	-	-	30	0.0005	20	0.0003	65	0.0006	50	0.0006	-	-	-	-	20	0.0003	-	-	-	-	
			1.1-3.175	45	0.0010	23	0.0006	-	-	50	0.0010	25	0.0005	130	0.0012	85	0.0012	-	-	-	-	25	0.0006	-	-	-	-	
MICRO DRILLS																												
ART #50620 ART #50695 ART #50699 ART #51200 ART #56030 CARBIDE MICRO DRILL	1. STEEL 2. CAST IRON 3. ALUMINUM 4. STAINLESS (400 SERIES) 5. NI ALLOYS	H9	0.05-0.1	10	0.0001	10	0.0001	10	0.0001	7	0.0001	7	0.0001	15	0.0001	15	0.0001	-	-	5	0.0001	3	0.0001	-	-	-	-	
			0.1-0.3	10	0.0001	10	0.0001	10	0.0001	7	0.0001	7	0.0001	35	0.0001	30	0.0001	-	-	5	0.0001	5	0.0001	-	-	-	-	
			0.3-0.5	30	0.0001	20	0.0001	15	0.0001	10	0.0001	15	0.0001	50	0.0002	50	0.0002	-	-	10	0.0001	10	0.0002	-	-	-	-	
			0.5-0.8	50	0.0004	30	0.0002	20	0.0002	20	0.0002	17	0.0002	100	0.0004	85	0.0004	-	-	15	0.0002	15	0.0003	-	-	-	-	
			0.8-1.1	65	0.0005	50	0.0003	35	0.0002	40	0.0002	25	0.0002	165	0.0005	130	0.0005	-	-	25	0.0002	25	0.0004	-	-	-	-	
			1.1-1.5	100	0.0007	65	0.0004	50	0.0003	60	0.0003	40	0.0003	230	0.0007	200	0.0007	-	-	40	0.0003	30	0.0006	-	-	-	-	
1.5-2.0	100	0.0008	65	0.0005	50	0.0004	65	0.0004	40	0.0004	265	0.0008	230	0.0008	-	-	40	0.0004	35	0.0007	-	-	-	-				
TWIST DRILLS																												
ART #50820 SPICUT	1. ALUMINUM 2. STEEL 3. CAST IRON	H7-H9	0.3-4.0	165	0.0004	65	0.0004	35	0.0003	165	0.0010	100	0.0004	200	0.0008	100	0.0010	-	-	-	-	-	-	-	-	-		
			4.1-8.0	200	0.0020	130	0.0020	120	0.0015	250	0.0030	150	0.0020	300	0.0040	200	0.0040	-	-	-	-	-	-	-	-			
			8.1-12.0	230	0.0040	165	0.0040	130	0.0030	280	0.0050	200	0.0040	350	0.0060	300	0.0060	-	-	-	-	-	-	-	-			
			12.1-14.0	265	0.0060	165	0.0060	130	0.0050	330	0.0090	200	0.0060	400	0.0100	330	0.0100	-	-	-	-	-	-	-	-			
TWIST DRILLS																												
ART #50830 POSCUT	1. ALUMINUM 2. STEEL 3. STAINLESS	H9	0.3-4.0	165	0.0004	65	0.0004	30	0.0003	-	-	-	-	200	0.0008	-	-	30	0.0005	65	0.0004	-	-	-	-			
			4.1-8.0	200	0.0020	130	0.0020	120	0.0015	-	-	-	-	300	0.0040	-	-	50	0.0015	100	0.0015	-	-	-	-			
			8.1-12.0	230	0.0040	165	0.0040	130	0.0030	-	-	-	-	350	0.0060	-	-	100	0.0030	130	0.0030	-	-	-	-			
			12.1-16.0	265	0.0060	165	0.0060	130	0.0050	-	-	-	-	400	0.0100	-	-	100	0.0050	130	0.0050	-	-	-	-			
			16.1-20.0	265	0.0100	165	0.0080	130	0.0070	-	-	-	-	400	0.0160	-	-	100	0.0060	130	0.0060	-	-	-	-			
TWIST DRILLS																												
ART #50838 SPIREC	1. BRASS 2. PLASTIC 3. ALUMINUM 4. STAINLESS	H9	0.3-0.5	-	-	-	-	-	-	-	-	-	-	65	0.0002	35	0.0002	10	0.0001	10	0.0001	-	-	100	0.0005	65	0.0005	
			0.5-1.0	-	-	-	-	-	-	-	-	-	-	-	165	0.0004	100	0.0004	20	0.000	225	0.0002	-	-	200	0.0010	100	0.0010
			1.0-2.0	-	-	-	-	-	-	-	-	-	-	-	265	0.0008	165	0.0010	40	0.0003	65	0.0004	-	-	400	0.0020	130	0.0020
			2.0-4.0	-	-	-	-	-	-	-	-	-	-	-	300	0.0020	230	0.0020	85	0.0006	100	0.0008	-	-	400	0.0040	130	0.0040
			4.0-6.0	-	-	-	-	-	-	-	-	-	-	-	330	0.0040	300	0.0040	100	0.0010	115	0.0015	-	-	400	0.0060	130	0.0050
DRILL REAMERS																												
ART #50840 ASYCUT	1. ALUMINUM 2. STEEL 3. STAINLESS (400 SERIES)	H7-H9	2.0-4.0	230	0.0008	100	0.0004	80	0.0003	-	-	-	-	265	0.0010	165	0.0010	-	-	65	0.0003	-	-	-	-			
			4.1-8.0	230	0.0020	130	0.0010	100	0.0010	-	-	-	-	365	0.0040	230	0.0030	-	-	100	0.0008	-	-	-	-			
			8.1-12.0	265	0.0040	165	0.0030	100	0.0020	-	-	-	-	400	0.0070	265	0.0050	-	-	100	0.0020	-	-	-	-			
			12.1-14.0	265	0.0050	165	0.0040	130	0.0035	-	-	-	-	430	0.0090	300	0.0070	-	-	100	0.0035	-	-	-	-			
DRILL REAMERS																												
ART #55654 ART #55338 TRICUT	1. CAST IRON 2. NI ALLOYS 3. STEEL	H7-H9	1.0-4.0	200	0.0010	165	0.0004	100	0.0004	200	0.0010	165	0.0010	-	-	-	-	-	-	-	-	100	0.0010	-	-			
			4.1-8.0	265	0.0030	200	0.0030	165	0.0015	265	0.0040	230	0.0030	-	-	-	-	-	-	-	-	130	0.0030	-	-			
			8.1-12.0	300	0.0060	230	0.0050	200	0.0035	300	0.0080	265	0.0050	-	-	-	-	-	-	-	-	130	0.0050	-	-			
			12.1-14.0	330	0.0100	265	0.0080	200	0.0050	300	0.0160	265	0.0090	-	-	-	-	-	-	-	-	130	0.0080	-	-			
HIGH PERFORMANCE COOLANT THROUGH																												
ART #50938 ART #50940 ART #50942 PHOENIX	1. STEEL 2. STAINLESS 3. CAST IRON 4. ALUMINUM 5. NI ALLOYS	H9	1.0-2.4	330	0.0040	280	0.0040	265	0.0030	430	0.0040	330	0.0040	430	0.0040	600	0.0040	165	0.0020	165	0.0020	100	0.0004	-	-			
			2.5-5.0	430	0.0080	400	0.0060	430	0.0060	530	0.0080	460	0.0080	530	0.0080	730	0.0080	265	0.0050	330	0.0040	165	0.0015	-	-			
			5.1-8.0	460	0.0120	430	0.0100	460	0.0100	560	0.0120	495	0.0120	560	0.0120	760	0.0120	300	0.0090	400	0.0080	200	0.0040	-	-			
			8.1-12.7	500	0.0150	460	0.0150	500	0.0150	600	0.0160	530	0.016	600	0.0160	825	0.0180	330	0.0140	430	0.0120	230	0.0100	-	-			
HIGH PERFORMANCE COOLANT THROUGH																												
ART #52100 ART #52200 QUADRO PLUS	1. ALUMINUM	H6-H7	3.0-4.0	-	-	-	-	-	-	-	-	-	-	750	0.0020	825	0.0020	-	-	-	-	-	-	-	-			
			4.1-8.0	-	-	-	-	-	-	-	-	-	-	750	0.0040	825	0.0040	-	-	-	-	-	-	-				
			8.1-12.0	-	-	-	-	-	-	-	-	-	-	750	0.0080	825	0.0080	-	-	-	-	-	-	-				
			12.1-16.0	-	-	-	-	-	-	-	-	-	-	750	0.0120	825	0.0120	-	-	-	-	-	-	-				
			16.1-20.0	-	-	-	-	-	-	-	-	-	-	750	0.0200	825	0.0160	-	-	-	-	-	-					
HIGH PERFORMANCE COOLANT THROUGH																												
ART #52150 QUADRO 15 PLUS	1. CAST IRON 2. STEEL 3. STAINLESS (400 SERIES) 4. BRASS	H6-H7	4.0-7.0	330	0.0040	330	0.0050	230	0.0040	730	0.0080	560	0.0050	-	-	-	-	-	-	200	0.0030	-	-	430	0.0040			
			7.1-10.0	430	0.0100	365	0.0100	265	0.0080	795	0.0140	600	0.0120	-	-	-	-	-	-	230	0.0050	-	-	465	0.0080			
			10.1-13.0	465	0.0150	400	0.0150	300	0.0140	860	0.0210	620	0.0180	-	-	-	-	-	-	265	0.0100	-	-	500	0.0120			
			13.1-16.0	500	0.0200	430	0.0200	330	0.0170	925	0.0300	660	0.0250	-	-	-	-	-	-	265	0.0140	-	-	530	0.0180			
			16.1-20.0	530	0.0270	465	0.0220	365	0.0220	925	0.0350	700	0.0300	-	-	-	-	-	-	265	0.0180	-	-	560	0.0240			

Note: Recommended speeds and feeds under optimal conditions.
 Note: All cutting data without guarantee.