Multi-Material, Coolant Fed, Long Length Drills Technical Information

- RedLine Hole Shot High Performance Drills are designed to give optimal performance in a wide range of materials. Our 142° point is designed to reduce thrust and our flute design stabilizes our drills for better positioning and for a more accurate hole.
- All shanks are manufactured to h6 tolerance, suitable for use in shrink-fit holders.
- Multi-Material, Coolant-Fed, High Performance Drills found on pages 271-274.

Multi-Material, Solid Carbide, Coolant Fed, Long Length Speeds & Feeds

Material	Grades	SFM	Tool Diameter (IPR) 1/8 (.1250)	1/4 (.2500)	3/8 (.3750)	1/2 (.5000)	5/8 (.6250)	3/4 (.7500)
P - Steels								
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, 01	170-225	.0019-.0031	.0038-.0063	.0050-.0088	.0063-.0100	.0088-.0120	.0100-.0140
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	530-595	.0038-.0063	.0063-.0088	.0088-.0110	.0100-.0125	.0110-.0150	.0120-.0170
Medium Carbon	1040-1095, 1140-1151, 1330-1345 1520-1572, 4023-4063, 4120-4161. 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	280-375	.0038-.0063	.0063-.0088	.0088-.0110	.0100-.0125	.0110-.0150	.0120-.0170
M - Stainless Steels								
Austenitic	301-304L, 310, 316L, 321, 347	185-280	.0038-.0063	.0063-.0088	.0088-.0110	.0100-.0125	.0110-.0150	.0120-.0170
Martensitic	403, 410, 416, 420, 430, 431, 440	280-350	.0030-.0050	.0055-.0080	.0070-.0100	.0080-.0110	.0100-.0140	.0110-.0150
Precipitation Hardening	12/8, 15/5, 17/4, AM-350/355/363, PH13-8MO, PH14-8/MO	125-190	.0019-.0031	.0038-.0063	.0050-.0088	.0063-.010	.0088-.0120	.0100-.0140
K - Cast Irons								
Ductile	A536, J434, 60-40-18	475-590	.0038-.0063	.0063-.0088	.0088-.0110	.0100-.0125	.0110-.0150	.0120-.0170
Gray	A48, A436, A319, Class 20, G4000	530-590	.0038-.0063	.0063-.0088	.0088-.0110	.0100-.0125	.0110-.0150	.0120-.0170
Malleable	A220, A602, J158	250-320	.0038-.0063	.0063-.0088	.0088-.0110	.0100-.0125	.0110-.0150	.0120-.0170
N - Non-Ferrous								
Aluminum Alloys	2014, 2024, 6061, 7075	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aluminum High Silicon	A380, A390	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brass/Bronze	Aluminum Bronze, Low Silicon Bronze	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Composites	G-10, Fiberglass, Graphite, Graphite Epoxy, Plastics	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Copper		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Magnesium		N/A	N/A	N/A	N/A	N/A	N/A	N/A
S - High Temp Alloys								
Cobalt Base	Stellite, HS-21, Haynes 25/188, X40, L605	50	.0010	.0025	.0040	.0050	.0060	.0075
Iron Base	Incoloy 800-802, Multmet N-155, Timkin 16-25-6, Carpenter 22-b3	95	.0010	.0025	.0040	.0050	.0060	.0075
Nickel Base	Inconel 625/718, Inco 700, 713C, 718, Monel 400-401, 404, K401, Rene, Rene 41 & 95 Hastelloy, Waspoloy, Udimet 500 & 700	120	.0010	.0025	.0040	.0050	.0060	.0075
Titanium	Commercially Pure, 6Al-4V, ASTM 1/2/3, 6Al-25N-4Zr-2Mo-Si, Ti-8Al-1Mo, Ti-8Al-4Mo	180	.0010	.0025	.0040	.0050	.0060	.0075

NOTE: Speeds and Feeds listed are estimated and will vary by application.

Coolant Pressure Requirements