Super Drive

CUTTING TOOLS

Profile

JK Files & Engineering Limited, a subsidiary of Raymond Ltd enjoys leadership position as the world's largest manufacturer of steel files with a share of over 25% of global capacity in 2020, with a presence in over 55 countries. The company is the market leader in the files segment in India with a market share of over 60% by sales volume in fiscal 2021.

With trusted relationships that are built over the past seven decades, JK Files & Engineering has earned a repute as a manufacturer offering expansive and versatile range of custom made files and tools as per BS, FS, ISI and DIN standards or as specified by customers. The company also has a strong presence in the Asian, African and Latin American regions and is the largest brand in the African market with a market share of over 50% by volume in steel files in 2020. In addition, it is amongst the leading players in the drills segment in India.

Our organization is backed by four ISO 9001-2015 certified plants strategically located at Ratnagiri & Chiplun in Maharashtra and Vapi in Gujarat. All plants are equipped with in- house rolling mills that ensure premium quality as well as easy product availability with wide spread of SKU's in the market. Our strong commitment to quality has helped us build an enviable reputation even in technologically advanced markets like Europe, USA and UK.

We export files and drills to Europe, Latin America, Africa, North America and Asia-Pacific under our own brand as well as white labelled products.

The brand 'JK' extends its rich legacy of technological know-how and expertise in manufacturing files and drills to quality products in Hand tools and Power tools categories. The expansive portfolio includes a wide variety of handheld electric powered and non-powered tools such as Marble Cutter, Angle grinder, Impact Drill, Electric Drill, Cut-Off Saw, Pliers, Wrenches, Hammers, Spanners, Screw Drivers, Iron Jack Planes, Hole Saw, Hand Hack Saw Blades, TCT Circular Saw, Sockets etc. Our objective is to simplify laborious tasks carried out by professionals such as carpenters, masons, plumbers, electricians, metal fabricators and MRO industry with high degree of efficiency and superior quality.

Building resilience through a resilient supply chain ably supported by local warehouses aligned to strong dealer distributor model. Our pan-India distribution network consists of over 730 active distributors with a retail reach of over 150,000 outlets spanning over 600 towns in India.

We Welcome you to the world of JK Superdrive

JK Super Drive | JK MAINI PRECISION TECHNOLOGY
A Raymond GROUP COMPANY
(Formerly known as JKFEL Tools & Technologies Limited)

Quality Policy

We shall provide products and services that meets our Customers' requirements on time, every time.

We shall provide all possible assistance to our Customers wherever required to get benefits from the use of our products.

We shall continually improve our processes to understand changing customer needs of QUALITY, COST and DELIVERY which is vital for our continued growth and success.

We will continually improve the effectiveness and compliance of our QUALITY MANAGEMENT SYSTEM with the involvement of employees at all levels.

We are committed to ensure safety of all our facilities.

Parag Khare

Chief Business Officer
T&H Business

JK MAINI

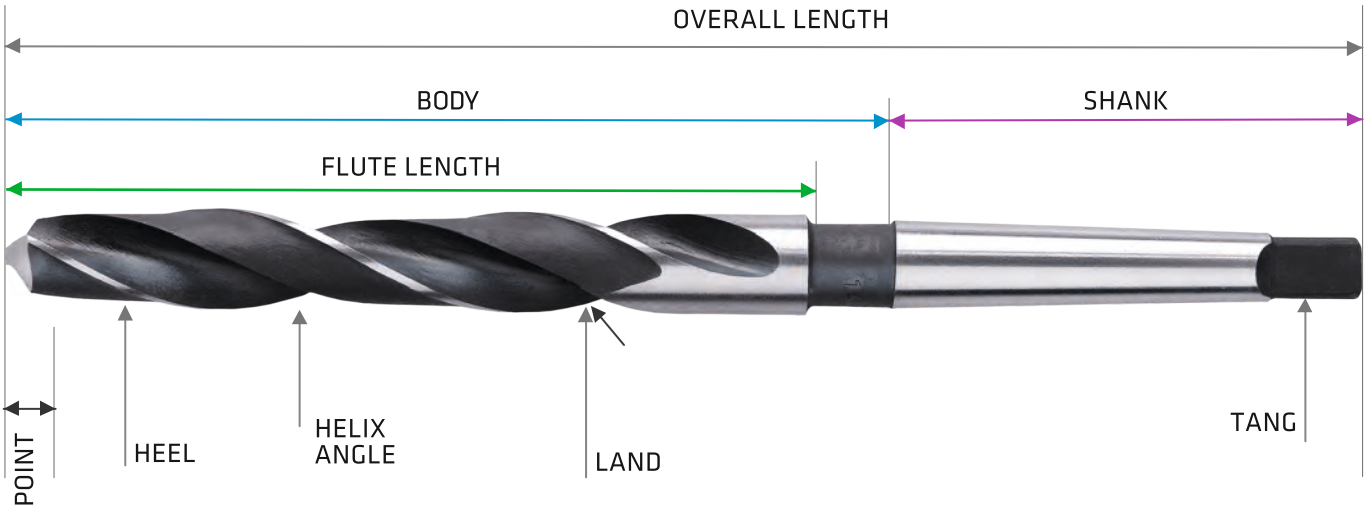
PRECISION TECHNOLOGY

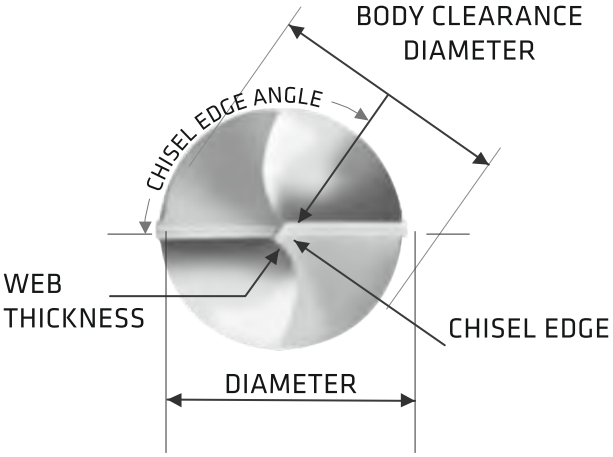
A Raymond GROUP COMPANY

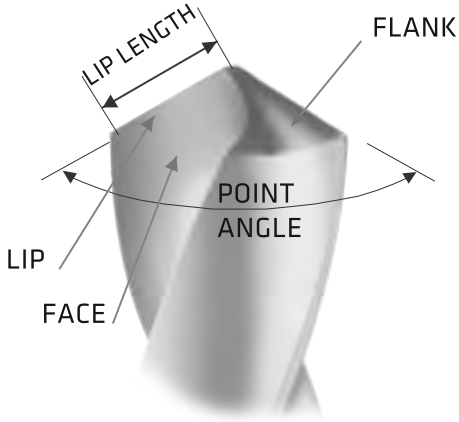
(Formerly known as JKFEL Tools & Technologies Limited)

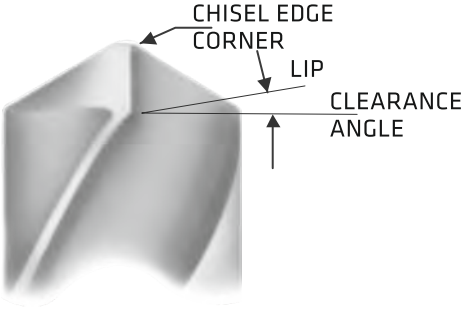
HSS TWIST DRILLS

TWIST DRILL NOMENCLATURE





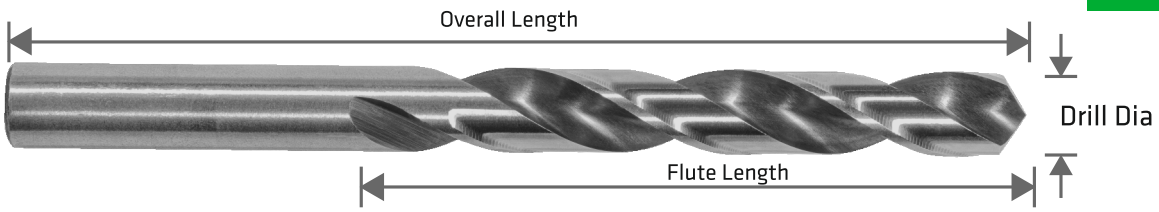




PARALLEL SHANK DRILLS

GROUND FLUTE JOBBER SERIES

IS 5101/DIN 338. BS 328/150



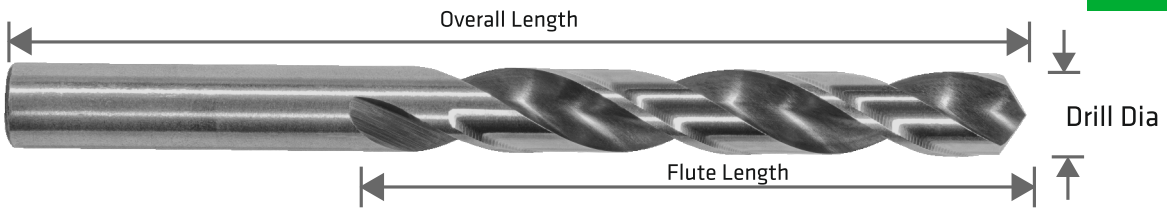
Size-Diameter		Length mm			Size-Diameter		Length mm			Size-Diameter		Length mm		
mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall
0.50			6	22	2.06		46	24	49	3.57	9/64	28	39	70
0.55			7	24	2.08		45	24	49	3.60			39	70
0.60			7	24	2.10			24	49	3.66		27	39	70
0.65			8	26	2.18		44	27	53	3.70			39	70
0.70			9	28	2.20			27	53	3.73		26	39	70
0.75	1/32		9	28	2.26		43	27	53	3.80		25	43	75
0.80			10	30	2.30			27	53	3.86		24	43	75
0.85			10	30	2.37		42	30	57	3.90			43	75
0.90			11	32	2.38	3/32		30	57	3.91		23	43	75
0.95			11	32	2.40			30	57	3.97	5/32		43	75
1.00			12	34	2.44		41	30	57	3.99		22	43	75
1.02			12	34	2.49		40	30	57	4.00			43	75
1.04			12	34	2.50			30	57	4.04		21	43	75
1.07			14	36	2.53		39	30	57	4.09		20	43	75
1.09		57	14	36	2.58		38	30	57	4.10			43	75
1.10			14	36	2.60			30	57	4.20			43	75
1.18		56	14	36	2.64		37	30	57	4.22		19	43	75
1.19	3/64		16	38	2.70			33	61	4.30		18	47	80
1.20			16	38	2.71		36	33	61	4.37	11/64		47	80
1.30			16	38	2.78	7/64		33	61	4.39		17	47	80
1.32		55	16	38	2.79		35	33	61	4.40			47	80
1.40		54	18	40	2.80			33	61	4.50		16	47	80
1.50			18	40	2.82		34	33	61	4.57		15	47	80
1.51		53	20	43	2.87		33	33	61	4.60			47	80
1.59	1/16		20	43	2.90			33	61	4.62		14	47	80
1.60			20	43	2.95		32	33	61	4.70		13	47	80
1.61		52	20	43	3.00			33	61	4.76	3/16		52	86
1.70		51	20	43	3.05		31	36	65	4.80		12	52	86
1.78		50	22	46	3.10			36	65	4.85		11	52	86
1.80			22	46	3.17	1/8		36	65	4.90			52	86
1.85		49	22	46	3.20			36	65	4.92		10	52	86
1.90			22	46	3.26		30	36	65	4.98		9	52	86
1.93		48	24	49	3.30			36	65	5.00			52	86
1.98	5/64		24	49	3.40			39	70	5.06		8	52	86
1.99		47	24	49	3.45		29	39	70	5.10			52	86
2.00			24	49	3.50			39	70	5.11		7	52	86

Size-Diameter		Length mm			Size-Diameter		Length mm			Size-Diameter		Length mm		
mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall
5.16	13/64		52	8	7.8			75	117	10.90			94	142
5.18		6	52	86	7.9			75	117	11.00			94	142
5.20			52	86	7.94	5/16		75	117	11.10			94	142
5.22		5	52	86	8			75	117	11.11	7/16		94	142
5.30			52	86	8.03		O	75	117	11.20			94	142
5.31		4	57	93	8.1			75	117	11.30			94	142
5.40			57	9	8.2		P	75	117	11.40			94	142
5.41		3	57	93	8.3			75	117	11.50			94	142
5.50			57	93	8.33	21/64		75	117	11.51	29/64		94	142
5.56	7/32		57	93	8.4			75	117	11.60			94	142
5.60			57	93	8.43		Q	75	117	11.70			94	142
5.61		2	57	93	8.5			75	117	11.80			94	142
5.70			57	93	8.6			81	125	11.90			101	151
5.79			57	93	8.61		R	81	125	11.91	15/32		101	151
5.80			57	93	8.7			81	125	12.00			101	151
5.90			57	93	8.73	11/32		81	125	12.10			101	151
5.94		A	57	93	8.80			81	125	12.20			101	151
5.95			57	93	8.84		S	81	125	12.30	31/64		101	151
6.00	15/64		57	93	8.90			81	125	12.40			101	151
6.04		B	63	101	9.00			81	125	12.50			101	151
6.10			63	101	9.09		T	81	125	12.60			101	151
6.15		C	63	101	9.10			81	125	12.70	1/2		101	151
6.2			63	101	9.13	23/64		81	125	12.80			101	151
6.25		D	63	101	9.20			81	125	12.90			101	151
6.3			63	101	9.30			81	125	13.00			101	151
6.35	1/4	E	63	101	9.34		U	81	125	13.10	33/64		101	151
6.4			63	101	9.40			81	125	13.20			101	151
6.5			63	101	9.50			81	125	13.30			108	160
6.53		F	63	101	9.52	3/8		87	133	13.40			108	160
6.6			63	101	9.58		V	87	133	13.49	17/32		108	160
6.63		G	63	101	9.60			87	133	13.50			108	160
6.7			63	101	9.70			87	133	13.60			108	160
6.75	17/64	H	69	109	9.80		W	87	133	13.70			108	160
6.8			69	109	9.90			87	133	13.80			108	160
6.9			69	109	9.92	25/64		87	133	13.89	35/64		108	160
7			69	109	10.00			87	133	14.00			108	160
7.03			69	109	10.08		X	87	133	14.25			114	169
7.1			69	109	10.10			87	133	14.29	9/16		114	169
7.14	9/32	K	69	109	10.20			87	133	14.50			114	169
7.2			69	109	10.26		V	87	133	14.68	37/64		114	169
7.3			69	109	10.30			87	133	14.75			114	169
7.37		L	69	109	10.32	13/32		87	133	15.00			114	169
7.4			69	109	10.40			87	133	15.08	19/32		120	178
7.49		M	69	109	10.49		Z	87	133	15.25			120	178
7.5			69	109	10.50			87	133	15.48	39/64		120	178
7.54	19/64		75	117	10.60			87	133	15.50			120	178
7.6			75	117	10.70			94	142	15.75			120	178
7.67		N	75	117	10.72	27/64		94	142	15.87	5/8		120	178
7.7			75	117	10.80			94	142	16.00			120	178

PARALLEL SHANK DRILLS

ROLL FORGED JOBBER SERIES

IS 5101/DIN 338. BS 328/150



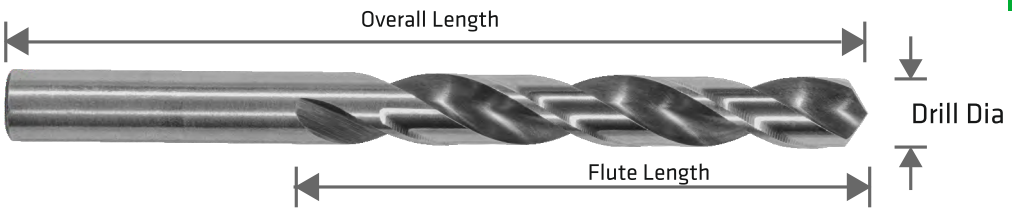
Size-Diameter		Length mm			Size-Diameter		Length mm			Size-Diameter		Length mm		
mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall
2.78	7/64		33	61	4.39		17	47	80	6.04		B	63	101
2.79		35	33	61	4.40			47	80	6.10			63	101
2.80			33	61	4.50		16	47	80	6.15		C	63	101
2.82		34	33	61	4.57		15	47	80	6.2			63	101
2.87		33	33	61	4.60			47	80	6.25		D	63	101
2.90			33	61	4.62		14	47	80	6.3			63	101
2.95		32	33	61	4.70		13	47	80	6.35	1/4	E	63	101
3.00			33	61	4.76	3/16		52	86	6.4			63	101
3.05		31	36	65	4.80		12	52	86	6.5			63	101
3.10			36	65	4.85		11	52	86	6.53		F	63	101
3.17	1/8		36	65	4.90			52	86	6.6			63	101
3.20			36	65	4.92		10	52	86	6.63		G	63	101
3.26		30	36	65	4.98		9	52	86	6.7			63	101
3.30			36	65	5.00			52	86	6.75	17/64	H	69	109
3.40			39	70	5.06		8	52	86	6.8			69	109
3.45		29	39	70	5.10			52	86	6.9			69	109
3.50			39	70	5.11		7	52	86	7			69	109
3.57	9/64	28	39	70	5.16	13/64		52	8	7.03			69	109
3.60			39	70	5.18		6	52	86	7.1			69	109
3.66		27	39	70	5.20			52	86	7.14	9/32	K	69	109
3.70			39	70	5.22		5	52	86	7.2			69	109
3.73		26	39	70	5.30			52	86	7.3			69	109
3.80		25	43	75	5.31		4	57	93	7.37		L	69	109
3.86		24	43	75	5.40			57	9	7.4			69	109
3.90			43	75	5.41		3	57	93	7.49		M	69	109
3.91		23	43	75	5.50			57	93	7.5			69	109
3.97	5/32		43	75	5.56	7/32		57	93	7.54	19/64		75	117
3.99		22	43	75	5.60			57	93	7.6			75	117
4.00			43	75	5.61		2	57	93	7.67		N	75	117
4.04		21	43	75	5.70			57	93	7.7			75	117
4.09		20	43	75	5.79			57	93	7.8			75	117
4.10			43	75	5.80			57	93	7.9			75	117
4.20			43	75	5.90			57	93	7.94	5/16		75	117
4.22		19	43	75	5.94		A	57	93	8			75	117
4.30		18	47	80	5.95	15/64		57	93	8.03		O	75	117
4.37	11/64		47	80	6.00			57	93	8.2		P	75	117

Size-Diameter		Length mm			Size-Diameter		Length mm			Size-Diameter		Length mm		
mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall
8.1			75	117	10.10			87	133	12.50			101	151
8.3			75	117	10.20			87	133	12.60			101	151
8.33	21/64		75	117	10.26		V	87	133	12.70	1/2		101	151
8.4			75	117	10.30			87	133	12.80			101	151
8.43		Q	75	117	10.32	13/32		87	133	12.90			101	151
8.5			75	117	10.40			87	133	13.00			101	151
8.6			81	125	10.49		Z	87	133	13.10	33/64		101	151
8.61		R	81	125	10.50			87	133	13.20			101	151
8.7			81	125	10.60			87	133	13.30			108	160
8.73	11/32		81	125	10.70			94	142	13.40			108	160
8.80			81	125	10.72	27/64		94	142	13.49	17/32		108	160
8.84		S	81	125	10.80			94	142	13.50			108	160
8.90			81	125	10.90			94	142	13.60			108	160
9.00			81	125	11.00			94	142	13.70			108	160
9.09		T	81	125	11.10			94	142	13.80			108	160
9.10			81	125	11.11	7/16		94	142	13.89	35/64		108	160
9.13	23/64		81	125	11.20			94	142	13.90			108	160
9.20			81	125	11.30			94	142	14.00			108	160
9.30			81	125	11.40			94	142	14.25			114	169
9.34		U	81	125	11.50			94	142	14.29	9/16		114	169
9.40			81	125	11.51	29/64		94	142	14.50			114	169
9.50			81	125	11.60			94	142	14.68	37/64		114	169
9.52	3/8		87	133	11.70			94	142	14.75			114	169
9.58		V	87	133	11.80			94	142	15.00			114	169
9.60			87	133	11.90			101	151	15.08	19/32		120	178
9.70			87	133	11.91	15/32		101	151	15.25			120	178
9.80		W	87	133	12.00			101	151	15.48	39/64		120	178
9.90			87	133	12.10			101	151	15.50			120	178
9.92	25/64		87	133	12.20			101	151	15.75			120	178
10.00			87	133	12.30	31/64		101	151	15.87	5/8		120	178
10.08		X	87	133	12.40			101	151	16.00			120	178

PARALLEL SHANK DRILLS

STUB SERIES

IS 5100/DIN: 1897/
BS: 328/1.5.0.



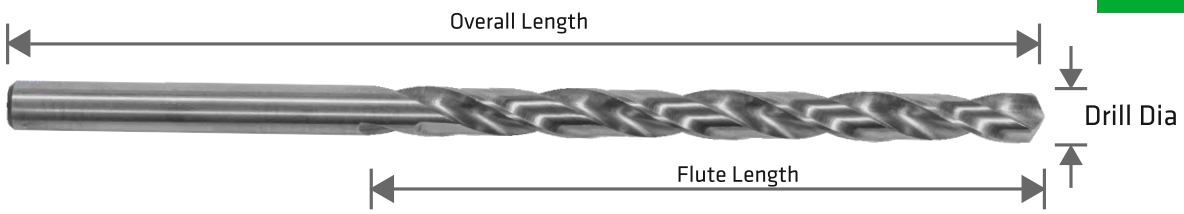
Size-Diameter		Length mm			Size-Diameter		Length mm			Size-Diameter		Length mm		
mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall
1.00				26	5.95	15/64		28	66	10.80			47	95
1.19	3/64		8	30	6.00			28	66	11.00			47	95
1.20			8	30	6.20			31	70	11.11	7/16		47	95
1.50			9	32	6.35	1/4		31	70	11.20			47	95
1.59	1/16		10	34	6.50			31	70	11.50			47	95
1.80			11	36	6.75	17/64		34	74	11.51	29/64		47	95
1.98	5/64		12	38	6.80			34	74	11.80			47	95
2.00			12	38	7.00			34	74	11.91	15/32		51	102
2.20			13	40	7.14	9/32		34	74	12.00			51	102
2.38	3/32		14	43	7.20			34	74	12.20			51	102
2.50			14	43	7.50			34	74	12.30	31/64		51	102
2.78	7/64		16	46	7.54	19/64		37	79	12.50			51	102
2.80			16	46	7.80			37	79	12.70	1/2		51	102
3.00			16	46	7.94	5/16		37	79	12.80			51	102
3.17	1/8		18	49	8.00			37	79	13.00			51	102
3.20			18	49	8.20			37	79	13.20			51	102
3.50			20	52	8.33	21/64		37	79	13.49	17/32		54	107
3.57	9/64		20	52	8.50			37	79	13.50			54	107
3.80			22	55	8.73	11/32		40	84	13.80			54	107
3.97	5/32		22	55	8.80			40	84	14.00			54	107
4.00			22	55	9.00			40	84	14.25			56	111
4.20			22	55	9.13	23/64		40	84	14.29	9/16		56	111
4.37	11/64		24	58	9.20			40	84	14.50			56	111
4.50			24	58	9.50			40	84	14.75			56	111
4.76	3/16		26	62	9.52	3/8		43	89	15.00			56	111
4.80			26	62	9.80			43	89	15.08	19/32		58	115
5.00			26	62	9.92	25/64		43	89	15.25			58	115
5.16	13/64		26	62	10.00			43	89	15.50			58	115
5.20			26	62	10.20			43	89	15.75			58	115
5.50			28	66	10.32	13/32		43	89	15.87	5/8		58	115
5.56	7/32		28	66	10.50			43	89	16.00			58	115
5.80			28	66	10.72	27/64		47	95	16.25			60	119

Size-Diameter			Length mm		Size-Diameter			Length mm		Size-Diameter			Length mm	
mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall	mm	inch	dg/lg	flute	overall
16.50			60	119	22.50			72	146	30.50			87	174
16.67	21/32		60	119	22.75			72	146	30.96	1.7/32		87	174
16.75			60	119	23.00			72	146	31.00			87	174
17.00			60	119	23.02	29/32		72	146	31.50			87	174
17.25			62	123	23.25			72	146	31.75	1.1/4		90	180
17.46	11/16		62	123	23.50			72	146	32.00			90	180
17.50			62	123	23.75			75	151	32.50			90	180
17.75			62	123	23.81	15/16		75	151	32.54	1.9/32		90	180
18.00			62	123	24.00			75	151	33.00			90	180
18.25			64	127	24.25			75	151	33.34	1.5/16		90	180
18.26	23/32		64	127	24.50			75	151	33.50			90	180
18.50			64	127	24.61	31/32		75	151	34.00			93	186
18.75			64	127	24.75			75	151	34.13	1.11/32		93	186
19.00			64	127	25.00			75	151	34.50			93	186
19.05	3/4		66	131	25.25			78	156	34.92	1.3/8		93	186
19.25			66	131	25.40			78	156	35.00			93	186
19.50			66	131	25.50			78	156	35.50			93	186
19.75			66	131	26.00			78	156	35.72	1.13/32		96	193
19.84	25/32		66	131	26.19	1.1/32		78	156	36.00			96	193
20.00			66	131	26.50			78	156	36.50			96	193
20.25			68	136	26.99	1.1/16		81	162	36.51	1.7 /16		96	193
20.50			68	136	27.00			81	162	37.00			96	193
20.64	13/16		68	136	27.50			81	162	37.31	1.15/32		96	193
20.75			70	141	27.78	1.3/32		81	162	37.50			96	193
21.00			70	141	28.00			81	162	38.00			100	200
21.25			70	141	28.50			84	168	38.10	1.1/2		100	200
21.43	27/32		70	141	28.57	1.1/8		84	168	38.50			100	200
21.50			70	141	29.00			84	168	39.00			100	200
21.75			70	141	29.37	1.5/32		84	168	39.50			100	200
22.00			70	141	29.50			84	168	40.00			100	200
22.22	7/8		70	141	30.00			84	168					
22.25			70	141	30.16	1.3/16		87	174					

PARALLEL SHANK DRILLS

LONG SERIES

IS 5102/DIN: 340/ BS: 328/1.5.0.



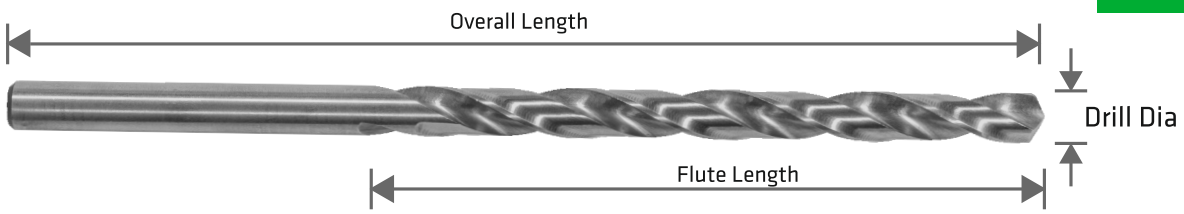
Size-Diameter		Length mm		Size-Diameter		Length mm		Size-Diameter		Length mm	
mm	inch	flute	overall	mm	inch	flute	overall	mm	inch	flute	overall
1.00		33	56	3.90		78	119	6.75	17/64	102	156
1.10		37	60	3.97	5/32	78	119	6.80		102	156
1.19	3/64	41	65	4.00		78	119	6.90		102	156
1.20		41	65	4.10		78	119	7.00		102	156
1.30		41	65	4.20		78	119	7.10		102	156
1.40		45	70	4.30		82	126	7.14	9/32	102	156
1.50		45	70	4.37	11/64	82	126	7.20		102	156
1.59	1/16	50	76	4.40		82	126	7.30		102	156
1.60		50	76	4.50		82	126	7.40		102	156
1.70		50	76	4.60		82	126	7.50		102	156
1.80		53	80	4.70		82	126	7.54	19/64	109	165
1.90		53	80	4.76	3/16	87	132	7.60		109	165
1.98	5/64	56	85	4.80		87	132	7.70		109	165
2.00		56	85	4.90		87	132	7.80		109	165
2.10		56	85	5.00		87	132	7.90		109	165
2.20		59	90	5.10		87	132	7.94		109	165
2.30		59	90	5.16	13/64	87	132	8.00		109	165
2.38	3/32	62	95	5.20		87	132	8.10		109	165
2.40		62	95	5.30		87	132	8.20		109	165
2.50		62	95	5.40		91	139	8.30		109	165
2.60		62	95	5.50		91	139	8.33	21/64	109	165
2.70		66	100	5.56	7/32	91	139	8.40		109	165
2.78	7/64	66	100	5.60		91	139	8.50		109	165
2.80		66	100	5.70		91	139	8.60		115	175
2.90		66	100	5.80		91	139	8.70		115	175
3.00		66	100	5.90		91	139	8.73	11/32	115	175
3.10		69	106	5.95	15/64	91	139	8.80		115	175
3.17	1/8	69	106	6.00		91	139	9.00		115	175
3.20		69	106	6.10		97	148	9.13	23/64	115	175
3.30		69	106	6.20		97	148	9.20		115	175
3.40		73	112	6.30		97	148	9.50		115	175
3.50		73	112	6.35	1/4	97	148	9.52	3/8	121	184
3.57	9/64	73	112	6.40		97	148	9.80		121	184
3.60		73	112	6.50		97	148	9.92	25/64	121	184
3.70		73	112	6.60		97	148	10.00		121	184
3.80		78	119	6.70		97	148	10.20		121	184

Size-Diameter		Length mm		Size-Diameter		Length mm		Size-Diameter		Length mm	
mm	inch	flute	overall	mm	inch	flute	overall	mm	inch	flute	overall
10.32	13/32	121	184	17.50		158	241	24.61	31/32	185	282
10.50		121	184	17.75		158	241	24.75		185	282
10.72	27/64	128	195	17.86	45/64	158	241	25.00	63/64	185	282
10.80		128	195	18.00		158	241	25.25		190	290
11.00		128	195	18.25		162	247	25.40		190	290
11.11	7/16	128	195	18.26	23/32	162	247	25.50		190	290
11.20		128	195	18.50		162	247	25.75		190	290
11.50		128	195	18.65	47/64	162	247	25.80	1.1/64	190	290
11.51	29/64	128	195	18.75		162	247	26.00		190	290
11.80		128	195	19.00		162	247	26.19	1.1/32	190	290
11.91	15/32	134	205	19.05	3/4	166	254	26.25		190	290
12.00		134	205	19.25		166	254	26.50		190	290
12.20		134	205	19.45	49/64	166	254	26.59	1.3/64	195	298
12.30	31/64	134	205	19.50		166	254	26.75		195	298
12.50		134	205	19.75	25/32	166	254	26.99	1.1/16	195	298
12.70	1/2	134	205	19.84		166	254	27.00		195	298
12.80		134	205	20.00		166	254	27.25		195	298
13.00		134	205	20.24	51/64	171	261	27.38	1.5/64	195	298
13.10	33/64	134	205	20.25		171	261	27.50		195	298
13.20		134	205	20.50		171	261	27.75		195	298
13.49	17/32	140	214	20.64	13/16	171	261	27.78	1.3/32	195	298
13.50		140	214	20.75		171	261	28.00		195	298
13.80		140	214	21.00		171	261	28.18	/64	201	307
13.89	35/64	140	214	21.03	53/64	171	261	28.25		201	307
14.00		140	214	21.25		176	268	28.50		201	307
14.25		144	220	21.43	27/32	176	268	28.57	1.1/8	201	307
14.29	9/16	144	220	21.50		176	268	28.75		201	307
14.50		144	220	21.75		176	268	28.97	1.9/64	201	307
14.68	37/64	144	220	21.83	55/64	176	268	29.00		201	307
14.75		144	220	22.00		176	268	29.25		201	307
15.00		144	220	22.22	7/8	176	268	29.37	1.5/32	201	307
15.08	19/32	149	227	22.25		176	268	29.50		201	307
15.25		149	227	22.50		180	275	29.75		201	307
15.50		149	227	22.62	57/64	180	275	29.77	1.11/64	201	307
15.75		149	227	22.75		180	275	30.00		201	307
15.87	5/8	149	227	23.00		180	275	30.16	1.3/16	207	316
16.00		149	227	23.02	29/32	180	275	30.25		207	316
16.25		154	235	23.25		180	275	30.50		207	316
16.27	41/65	154	235	23.42	59/64	180	275	30.56	1.13/64	207	316
16.50		154	235	23.50		180	275	30.75		207	316
16.67	21/32	154	235	23.75		185	282	30.96	/32	207	316
16.75		154	235	23.81	15/16	185	282	31.00		207	316
17.00		154	235	24.00		185	282	31.25		207	316
17.07	43/64	158	241	24.21	61/64	185	282	31.35	1.15/64	207	316
17.25		158	241	24.25		185	282	31.50		207	316
17.46	11/16	158	241	24.50		185	282				

PARALLEL SHANK DRILLS

EXTRA LONG SERIES

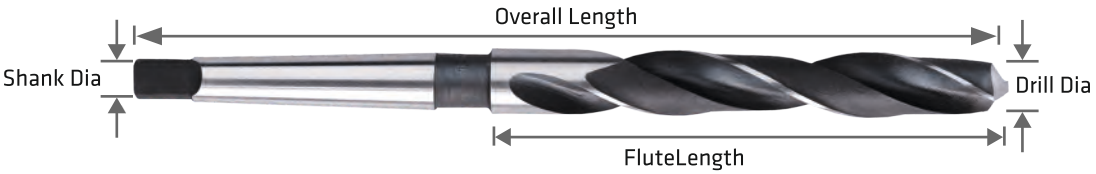
IS 7823/DIN: 1869/BS: 328/1.5.0.



Size		Overall Length in mm												
mm	inch	150	175	200	225	250	MOQ	275	300	325	350	375	400	MOQ
3.00		✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
3.17	1/8	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
3.50	9/64	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
3.97	5/32	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
4.00		✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
4.50	11/64	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
4.76	3/16	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
5.00		✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
5.50	13/64	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
5.56	7/32	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
6.00	15/64			✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
6.35	1/4			✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
6.50				✓	✓	✓	50	✓	✓	✓	✓	✓	✓	30
7.00	17/64			✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
7.14	9/32			✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
7.50	19/64			✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
7.94	5/16			✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
8.00				✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
8.50	21/64			✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
8.73	11/32			✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
9.00				✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
9.50	23/64			✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
9.52	3/8			✓	✓	✓	30	✓	✓	✓	✓	✓	✓	20
10.00	25/64			✓	✓	✓	20	✓	✓	✓	✓	✓	✓	15
10.32	13/32			✓	✓	✓	20	✓	✓	✓	✓	✓	✓	15
10.50				✓	✓	✓	20	✓	✓	✓	✓	✓	✓	15
11.00	27/64					✓	20	✓	✓	✓	✓	✓	✓	15
11.11	7/16					✓	20	✓	✓	✓	✓	✓	✓	15
11.50	29/64					✓	20	✓	✓	✓	✓	✓	✓	15
11.91	15/32					✓	20	✓	✓	✓	✓	✓	✓	15
12.00						✓	20	✓	✓	✓	✓	✓	✓	15
12.50	31/64					✓	20	✓	✓	✓	✓	✓	✓	15
12.70	1/2					✓	20	✓	✓	✓	✓	✓	✓	15

STANDARD LENGTH
IS: 5103 / DIN: 345 /
BS: 328 / ISO: 235

TAPER SHANK DRILLS

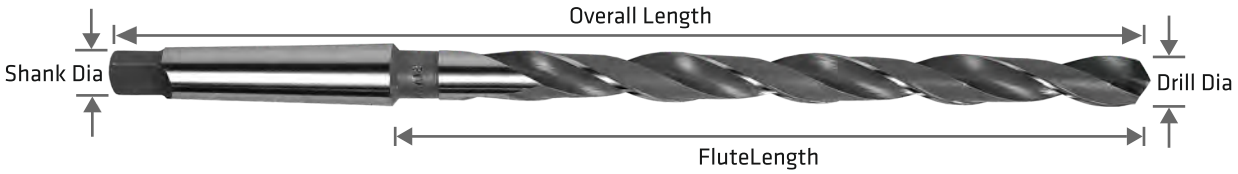


Diameter		Length mm			Diameter		Length mm			Diameter		Length mm		
mm	inch	flute	overall	MT Shank No	mm	inch	flute	overall	MT Shank No	mm	inch	flute	overall	MT Shank No
3.00		33	114	MT 1	11.11	7/16	94	175	MT 1	19.25		140	238	MT 2
3.17	1/8	36	117	MT 1	11.20		94	175	MT 1	19.45	49/64	140	238	MT 2
3.20		36	117	MT 1	11.50		94	175	MT 1	19.50		140	238	MT 2
3.50		39	120	MT 1	11.51	29/64	94	175	MT 1	19.75		140	238	MT 2
3.57	9/64	39	120	MT 1	11.80		94	175	MT 1	19.84	25/32	140	238	MT 2
3.80		43	124	MT 1	11.91	15/32	101	175	MT 1	20.00		140	238	MT 2
3.97	5/32	43	124	MT 1	12.00		101	182	MT 1	20.24	51/64	145	243	MT 2
4.00		43	124	MT 1	12.20		101	182	MT 1	20.25		145	243	MT 2
4.20		43	124	MT 1	12.30	31/64	101	182	MT 1	20.50		145	243	MT 2
4.37	11/64	47	128	MT 1	12.50		101	182	MT 1	20.64	13/16	145	243	MT 2
4.50		47	128	MT 1	12.70	1/2	101	182	MT 1	20.75		145	243	MT 2
4.76	3/16	52	133	MT 1	12.80		101	182	MT 1	21.00		145	243	MT 2
4.80		52	133	MT 1	13.00		101	182	MT 1	21.03	53/64	145	248	MT 2
5.00		52	133	MT 1	13.10	33/64	101	182	MT 1	21.25		150	248	MT 2
5.16	13/64	52	133	MT 1	13.20		101	189	MT 1	21.43	27/32	150	248	MT 2
5.20		52	133	MT 1	13.49	17/32	108	189	MT 1	21.50		150	248	MT 2
5.50		57	138	MT 1	13.50		108	189	MT 1	21.75		150	248	MT 2
5.56	7/32	57	138	MT 1	13.80		108	189	MT 1	21.83	55/64	150	248	MT 2
5.80		57	138	MT 1	13.89	35/64	108	189	MT 1	22.00		150	248	MT 2
5.95	15/64	57	138	MT 1	14.00		108	189	MT 1	22.22	7/8	150	248	MT 2
6.00		57	138	MT 1						22.25		150	248	MT 2
6.20		63	144	MT 1	14.25		114	212	MT 2	22.50		155	253	MT 2
6.35	1/4	63	144	MT 1	14.39	9/16	114	212	MT 2	22.62	57/64	155	253	MT 2
6.50		63	144	MT 1	14.50		114	212	MT 2					
6.75	17/64	69	150	MT 1	14.68	37/64	114	212	MT 2	22.75		155	253	MT 3
6.80		69	150	MT 1	14.75		114	212	MT 2	23.00		155	253	MT 3
7.00		69	150	MT 1	15.00		114	212	MT 2	23.02	29/32	155	253	MT 3
7.14	9/32	69	150	MT 1	15.08	19/32	120	218	MT 2	23.25		155	276	MT 3
7.20		69	150	MT 1	15.25		120	218	MT 2	23.42	59/64	155	276	MT 3
7.50		69	150	MT 1	15.48		120	218	MT 2	23.50		155	276	MT 3
7.54	19/64	75	156	MT 1	15.50	39/64	120	218	MT 2	23.75		160	281	MT 3
7.80		75	156	MT 1	15.75		120	218	MT 2	23.81	15/16	160	281	MT 3
7.94	5/16	75	156	MT 1	15.87	5/8	120	218	MT 2	24.00		160	281	MT 3
8.00		75	156	MT 1	16.00		120	218	MT 2	24.21	61/64	160	281	MT 3
8.20		75	156	MT 1	16.25		125	223	MT 2	24.25		160	281	MT 3
8.33	21/64	75	156	MT 1	16.27	41/64	125	223	MT 2	24.50		160	281	MT 3
8.50		75	156	MT 1	16.50		125	223	MT 2	25.61	31/32	160	281	MT 3
8.73	11/32	81	162	MT 1	16.75	21/32	125	223	MT 2	24.75		160	281	MT 3
8.80		81	162	MT 1	17.00		125	223	MT 2	25.00	63/64	160	281	MT 3
9.00		81	162	MT 1	17.07	43/64	125	223	MT 2	25.25		160	281	MT 3
9.13	23/64	81	162	MT 1	17.25		130	223	MT 2	25.40	1	165	281	MT 3
9.20		81	162	MT 1	17.46	11/16	130	223	MT 2	25.50		165	286	MT 3
9.50		81	162	MT 1	17.50		130	223	MT 2	25.75		165	286	MT 3
9.52	3/8	87	168	MT 1	17.75		130	223	MT 2	25.80	1.1/64	165	286	MT 3
9.80		87	168	MT 1	17.86	46/64	130	228	MT 2	26.00		165	286	MT 3
9.92	25/64	87	168	MT 1	18.00		130	228	MT 2	26.19	1.1/32	165	286	MT 3
10.00		87	168	MT 1	18.25		130	228	MT 2	26.25		165	286	MT 3
10.20		87	168	MT 1	18.26	23/32	135	233	MT 2	26.50		165	286	MT 3
10.32	13/32	87	168	MT 1	18.50		135	233	MT 2	26.59	1.3/64	170	286	MT 3
10.50		87	168	MT 1	18.65	47/64	135	233	MT 2	26.75		170	291	MT 3
10.72	27/64	94	175	MT 1	18.75		135	233	MT 2	26.99	1.1/16	170	291	MT 3
10.80		94	175	MT 1	19.00		135	233	MT 2	27.00		170	291	MT 3
11.00		94	175	MT 1	19.05	3/4	140	238	MT 2	27.25	1.5/64	170	291	MT 3

Diameter		Length mm			Diameter		Length mm			Diameter		Length mm		
mm	inch	flute	overall	MT Shank No	mm	inch	flute	overall	MT Shank No	mm	inch	flute	overall	MT Shank No
27.38		170	291	MT3	41·67	1·41/64	205	354	MT4	60.32	2.3/8	240	427	MT5
27.50		170	291	MT3	42.00		205	354	MT4	60.50		240	427	MT5
27.75		170	291	MT3	42.07	1.21/32	205	354	MT4	61.00		240	427	MT5
27.78	1.3/32	170	291	MT3	42.47	1.43/64	205	354	MT4	61.12	2.13/32	240	427	MT5
28.00		170	291	MT3	42.50		205	354	MT4	61.50		240	427	MT5
28.18	9/64	175	296	MT3	42.86	1.11/16	210	359	MT4	61.91	2.7/16	240	427	MT5
28.25		175	296	MT3	43.00		210	359	MT4	62.00		240	427	MT5
28.50		175	296	MT3	43.26	1.45/64	210	359	MT4	62.50		240	427	MT5
28.57	1.1/8	175	296	MT3	43.50		210	359	MT4	61.71	2.15/32	240	427	MT5
28.75		175	296	MT3	43.66	1.23/32	210	359	MT4	63.00		240	427	MT5
28.97	1.9/64	175	296	MT3	44.00		210	359	MT4	63.50	2.1/2	245	432	MT5
29.00		175	296	MT3	44.05	1.47/64	210	359	MT4	64.00		245	432	MT5
29.25		175	296	MT3	44.45	1.3/4	210	359	MT4	64.29	2.17/32	245	432	MT5
29.37	1.5/32	175	296	MT3	44.50		210	359	MT4	65.00		245	432	MT5
29.50		175	296	MT3	44.85	1.49/64	210	359	MT4	65.09	2.9/16	245	432	MT5
29.75		175	296	MT3	45.00		210	359	MT4	65.88	2.19/32	245	432	MT5
29.77	1.11/64	175	296	MT3	45.24	1.25/32	215	364	MT4	66.00		245	432	MT5
30.00		180	301	MT3	45.50		215	364	MT4	66.67	2.5/8	245	432	MT5
30.16	1.3/16	180	301	MT3	45.64	1.51/64	215	364	MT4	68.00		250	437	MT5
30.25		180	301	MT3	46.00		215	364	MT4	68.26	2.11/16	250	437	MT5
30.50		180	301	MT3	46.04	1.13/16	215	364	MT4	69.00		250	437	MT5
30.56	1.13/64	180	301	MT3	46.43	1.53/64	215	364	MT4	69.85	2.3/4	250	437	MT5
30.75		180	301	MT3	46.50		215	364	MT4	70.00		250	437	MT5
30.96	1.7/32	180	301	MT3	46.83	1.27/32	215	364	MT4	71.00		250	437	MT5
31.00		180	301	MT3	47.00		215	364	MT4	71.44	2.13/16	255	442	MT5
31.25		180	301	MT3	47.23	1.55/64	215	364	MT4	72.00		255	442	MT5
31.35	1.15/64	180	301	MT3	47.50		215	364	MT4	73.00		255	442	MT5
31.50		180	301	MT3	47.62	1.7/8	220	369	MT4	73.02	2.7/8	255	442	MT5
31.75	1.1/4	185	306	MT3	48.00		220	369	MT4	74.00		255	442	MT5
					48.02	1.57/64	220	369	MT4	74.61	2.15/16	255	442	MT5
32.00		185	334	MT4	48.42	1.29/32	220	369	MT4	75.00		255	442	MT5
32.15	1.17/64	185	334	MT4	48.50		220	369	MT4	76.00		260	447	MT5
32.50		185	334	MT4	48.82	1.59/64	220	369	MT4	76.20	3	260	447	MT5
32.54	1.9/32	185	334	MT4	49.00		220	369	MT4					
32.94	1.19/64	185	334	MT4	49.21	1.15/16	220	369	MT4	77.00		260	514	MT6
33.00		185	334	MT4	49.50		220	369	MT4	77.79	3.1/16	260	514	MT6
33.34	1.5/16	185	334	MT4	49.61	1.61/64	220	369	MT4	78.00		260	514	MT6
33.50		185	334	MT4	50.00		220	369	MT4	79.00		260	514	MT6
33.73	1.21/64	190	339	MT4	50.01	1.31/32	225	374	MT4	79.37	3.1/8	260	514	MT6
34.00		190	339	MT4	50.40	1.63/64	225	374	MT4	80.00		260	514	MT6
34.13	1.11/32	190	339	MT4	50.50		225	374	MT4	80.96	3.3/16	265	519	MT6
34.50		190	339	MT4	50.80	2	225	374	MT4	81.00		265	519	MT6
34.53	1.23/64	190	339	MT4						82.00		265	519	MT6
34.92	1.3/8	190	339	MT4	51.00		225	412	MT5	82.55	3.1/4	265	519	MT6
35.00		190	339	MT4	51.50		225	412	MT5	83.00		265	519	MT6
35.32	1.25/64	190	339	MT4	51.59	2.1/32	225	412	MT5	84.00		265	519	MT6
35.50		190	339	MT4	52.00		225	412	MT5	84.14	3.5/16	265	519	MT6
35.72	1.13/32	195	344	MT4	52.39	2.1/16	225	412	MT5	85.00		265	519	MT6
36.00		195	344	MT4	52.50		225	412	MT5	85.72	3.3/8	270	524	MT6
36.12	1.27/64	195	344	MT4	53.00		225	412	MT5	86.00		270	524	MT6
36.50		195	344	MT4	53.18	2.3/32	230	417	MT5	87.00		270	524	MT6
36.51	17./16	195	344	MT4	53.50		230	417	MT5	87.31	3.7/16	270	524	MT6
36.91	1.29/64	195	344	MT4	53.97	2.1/8	230	417	MT5	88.00		270	524	MT6
37.00		195	344	MT4	54.00		230	417	MT5	88.90	3.1/2	270	524	MT6
37.31	1.15/32	195	344	MT4	54.50		230	417	MT5	89.00		270	524	MT6
37.70		195	344	MT4	54.77	2.5/32	230	417	MT5	90.00		270	524	MT6
37.70	1.31/64	200	349	MT4	55.00		230	417	MT5	90.49	3.9/16	275	529	MT6
38.00		200	349	MT4	55.50		230	417	MT5	91.00		275	529	MT6
38.10	1.1/2	200	349	MT4	55.56	2.3/16	230	417	MT5	92.00		275	529	MT6
38.50	1.33/64	200	349	MT4	56.00		230	417	MT5	92.07	3.5/8	275	529	MT6
38.89	1.17/32	200	349	MT4	56.36	2.7/32	230	417	MT5	93.00		275	529	MT6
39.00		200	349	MT4	56.50		230	417	MT5	93.66	3.11/16	275	529	MT6
39.29	1.35/64	200	349	MT4	57.00		235	422	MT5	94.00		275	529	MT6
39.50		200	349	MT4	57.15	2.1/4	235	422	MT5	95.00		275	529	MT6
39.69	1.9/16	200	349	MT4	57.50		235	422	MT5	95.25	3.3/4	280	534	MT6
40.00		200	349	MT4	57.94	2.9/32	235	422	MT5	96.00		280	534	MT6
40.08	1.37/64	205	354	MT4	58.00		235	422	MT5	96.84	3.13/16	280	534	MT6
40.48	1.19/32	205	354	MT4	58.50		235	422	MT5	97.00		280	534	MT6
40.50		205	354	MT4	58.74	2.5/16	235	422	MT5	98.00		280	534	MT6
40.88	1.39/64	205	354	MT4	59.00		235	422	MT5	98.20	3.7/8	280	534	MT6
41.00		205	354	MT4	59.50		235	422	MT5	99.00		280	534	MT6
41.27	1.5/8	205	354	MT4	59.53	2.11/32	235	422	MT5	100.00		280	534	MT6
41.50		205	354	MT4	60.00		235	422	MT5	100.01	3.15/16	285	534	MT6

LONG SERIES

TAPER SHANK DRILLS



Diameter		Length mm			Diameter		Length mm			Diameter		Length mm		
mm	inch	flute	overall	MT Shank	mm	inch	flute	overall	MT Shank No	mm	inch	flute	overall	MT Shank No
5.00		74	155	MT 1	11.20		125	206	MT 1	17.46	11/16	165	263	MT 2
5.16	13/64	74	155	MT 1	11.50		125	206	MT 1	17.50		165	263	MT 2
5.20		74	155	MT 1	11.51	29/64	125	206	MT 1	17.75		165	263	MT 2
5.50		80	161	MT 1	11.80		125	206	MT 1	17.86	45/64	165	263	MT 2
5.56	7/32	80	161	MT 1	11.91	15/32	134	215	MT 1	18.00		165	263	MT 2
5.80		80	161	MT 1	12.00		134	215	MT 1	18.25		171	269	MT 2
5.95	15/64	80	161	MT 1	12.20		134	215	MT 1	18.26	23/32	171	269	MT 2
6.00		80	161	MT 1	12.30	31/64	134	215	MT 1	18.50		171	269	MT 2
6.20		86	167	MT 1	12.50		134	215	MT 1	18.65	47/64	171	269	MT 2
6.35	1/4	86	167	MT 1	12.70	1/2	134	215	MT 1	18.75		171	269	MT 2
6.50		86	167	MT 1	12.80		134	215	MT 1	19.00		171	269	MT 2
6.75	17/64	93	174	MT 1	13.00		134	215	MT 1	19.05	3/4	177	275	MT 2
6.80		93	174	MT 1	13.10	33/64	134	215	MT 1	19.25		177	275	MT 2
7.00		93	174	MT 1	13.20		134	215	MT 1	19.45	49/64	177	275	MT 2
7.14	9/32	93	174	MT 1	13.49	17/32	142	223	MT 1	19.50		177	275	MT 2
7.20		93	174	MT 1	13.50		142	223	MT 1	19.75		177	275	MT 2
7.50		93	174	MT 1	13.80		142	223	MT 1	19.84	25/32	177	275	MT 2
7.54	19/64	100	181	MT 1	13.89	35/64	142	223	MT 1	20.00		177	275	MT 2
7.80		100	181	MT 1	14.00		142	223	MT 1	20.24	51/64	184	282	MT 2
7.94	5/16	100	181	MT 1						20.25		184	282	MT 2
8.00		100	181	MT 1	14.25		147	245	MT 2	20.50		184	282	MT 2
8.20		100	181	MT 1	14.29	9/16	147	245	MT 2	20.64	13/16	184	282	MT 2
8.33	21/64	100	181	MT 1	14.50		147	245	MT 2	20.75		184	282	MT 2
8.50		100	181	MT 1	14.68	37/64	147	245	MT 2	21.00		184	282	MT 2
8.73	11/32	107	188	MT 1	14.75		147	245	MT 2	21.03	53/64	184	282	MT 2
8.80		107	188	MT 1	15.00		147	245	MT 2	21.25		191	289	MT 2
9.00		107	188	MT 1	15.08	19/32	153	251	MT 2	21.43	27/32	191	289	MT 2
9.13	23/64	107	188	MT 1	15.25		153	251	MT 2	21.50		191	289	MT 2
9.20		107	188	MT 1	15.48	39/64	153	251	MT 2	21.75		191	289	MT 2
9.50		107	188	MT 1	15.50		153	251	MT 2	21.83	55/64	191	289	MT 2
9.52	3/8	116	197	MT 1	15.75		153	251	MT 2	22.00		198	289	MT 2
9.80		116	197	MT 1	15.87	5/8	153	251	MT 2	22.22	7/8	198	289	MT 2
9.92	25/64	116	197	MT 1	16.00		153	251	MT 2	22.25		198	289	MT 2
10.00		116	197	MT 1	16.25		159	257	MT 2	22.50		198	296	MT 2
10.20		116	197	MT 1	16.27	41/64	159	257	MT 2	22.62	57/64	198	296	MT 2
10.32	13/32	116	197	MT 1	16.50		159	257	MT 2	22.75		198	296	MT 2
10.50		116	197	MT 1	16.67	21/32	159	257	MT 2	23.00		198	296	MT 2
10.72	27/64	125	206	MT 1	16.75		159	257	MT 2	23.02	29/32	198	296	MT 2
10.80		125	206	MT 1	17.00		159	257	MT 2					
11.00		125	206	MT 1	17.07	43/64	165	263	MT 2	23.25		206	319	MT 3
11.11	7/16	125	206	MT 1	17.25		165	263	MT 2	23.42	59/64	206	319	MT 3

Diameter		Length mm			Diameter		Length mm			Diameter		Length mm		
mm	inch	flute	overall	MT Shank No	mm	inch	flute	overall	MT Shank No	mm	inch	flute	overall	MT Shank No
23.50		206	319	MT 3	28.00		230	343	MT 3	33.34	1.5/16	257	397	MT 4
23.75		206	327	MT 3	28.25		230	351	MT 3	33.50		257	397	MT 4
23.81	15/16	206	327	MT 3	28.50		230	351	MT 3	34.00		257	406	MT 4
24.00		206	327	MT 3	28.57	1.1/8	230	351	MT 3	34.13	1.11/32	257	406	MT 4
24.21	61/64	206	327	MT 3	28.75		230	351	MT 3	34.50		257	406	MT 4
24.25		206	327	MT 3	29.00		230	351	MT 3	34.92	1.3/8	267	406	MT 4
24.50		206	327	MT 3	29.25		230	351	MT 3	35.00		267	406	MT 4
24.61	31/32	214	327	MT 3	29.37	1.5/32	230	351	MT 3	35.50		267	406	MT 4
24.75		214	327	MT 3	29.50		239	351	MT 3	35.72	1.13/32	267	416	MT 4
25.00	63/64	214	327	MT 3	29.75		239	351	MT 3	36.00		267	416	MT 4
25.25		214	335	MT 3	30.00		239	351	MT 3	36.50		267	416	MT 4
25.40		214	335	MT 3	30.16	1.3/16	239	360	MT 3	36.51	1.7/16	267	416	MT 4
25.50		214	335	MT 3	30.25		239	360	MT 3	37.00		277	416	MT 4
25.75		214	335	MT 3	30.50		239	360	MT 3	37.31	1.15/32	277	416	MT 4
26.00		214	335	MT 3	30.75		239	360	MT 3	37.50		277	416	MT 4
26.19	1.1/32	222	335	MT 3	30.96	1.7/32	239	360	MT 3	38.00		277	426	MT 4
26.25		222	335	MT 3	31.00		248	360	MT 3	38.10	1.1/2	277	426	MT 4
26.50		222	335	MT 3	31.25		248	360	MT 3	38.50		277	426	MT 4
26.75		222	343	MT 3	31.50		248	360	MT 3	38.89	1.17/32	277	426	MT 4
26.99	1.1/16	222	343	MT 3	31.75	1.1/4	248	369	MT 3	39.00		277	426	MT 4
27.00		222	343	MT 3						39.50		287	426	MT 4
27.25		222	343	MT 3	32.00		248	397	MT 4	39.69	1.9/16	287	426	MT 4
27.50		222	343	MT 3	32.50		248	397	MT 4	40.00		287	426	MT 4
27.75		230	343	MT 3	32.54	1.9/32	248	397	MT 4	40.48	1.19/32	287	436	MT 4
27.78	1.3/32	230	343	MT 3	33.00		257	397	MT 4	40.50		287	436	MT 4

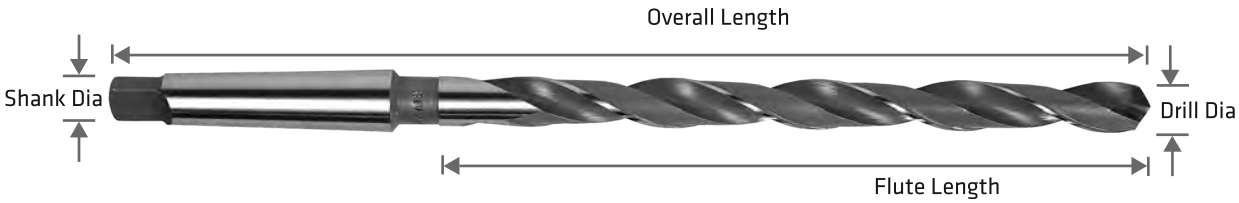
MOQ:- 1) MT1 / MT2- Shank - 10 Nos 2) MT3 Shank - 5 Nos 3) MT4 Shank - 3 Nos

4) MT5 Shank - 3 Nos 5) MT6 Shank - 1 No

EXTRA LONG SERIES

IS 8305-1976/ DIN: 341

TAPER SHANK DRILLS



Size		Overall Length in mm											
mm	inch	200	225	250	MOQ	275	300	325	MOQ	350	375	400	MOQ
3.00	1/8	✓	✓	✓	50	✓	✓		30				
3.50		✓	✓	✓	50	✓	✓		30				
4.00	5/32	✓	✓	✓	50	✓	✓	✓	30				
4.50		✓	✓	✓	50	✓	✓	✓	30				
5.00	3/16	✓	✓	✓	50	✓	✓	✓	30				
5.50		✓	✓	✓	50	✓	✓	✓	30				
6.00		✓	✓	✓	40	✓	✓	✓	25				
6.35	1/4	✓	✓	✓	40	✓	✓	✓	25				
6.50		✓	✓	✓	40	✓	✓	✓	25				
7.00		✓	✓	✓	40	✓	✓	✓	25				
7.50		✓	✓	✓	40	✓	✓	✓	25				
7.94	5/16	✓	✓	✓	40	✓	✓	✓	25				
8.00		✓	✓	✓	40	✓	✓	✓	25				
8.50		✓	✓	✓	40	✓	✓	✓	25				
9.00		✓	✓	✓	40	✓	✓	✓	25				
9.50		✓	✓	✓	40	✓	✓	✓	25				
9.52	3/8	✓	✓	✓	40	✓	✓	✓	25				
10.00		✓	✓	✓	30	✓	✓	✓	25	✓	✓	✓	10
10.50		✓	✓	✓	30	✓	✓	✓	25	✓	✓	✓	10
11.00		✓	✓	✓	30	✓	✓	✓	25	✓	✓	✓	10
11.11	7/16	✓	✓	✓	30	✓	✓	✓	25	✓	✓	✓	10
11.50		✓	✓	✓	30	✓	✓	✓	25	✓	✓	✓	10
12.00			✓	✓	30	✓	✓	✓	25	✓	✓	✓	10
12.50			✓	✓	30	✓	✓	✓	25	✓	✓	✓	10
12.70	1/2		✓	✓	30	✓	✓	✓	25	✓	✓	✓	10
13.00				✓	30	✓	✓	✓	25	✓	✓	✓	10
13.50				✓	30	✓	✓	✓	25	✓	✓	✓	10
14.00				✓	30	✓	✓	✓	25	✓	✓	✓	10
14.29	9/16			✓	25	✓	✓	✓	20	✓	✓	✓	10
14.50				✓	25	✓	✓	✓	20	✓	✓	✓	10
15.00				✓	25	✓	✓	✓	20	✓	✓	✓	10
15.50				✓	25	✓	✓	✓	20	✓	✓	✓	10
15.87	5/8			✓	25	✓	✓	✓	20	✓	✓	✓	10
16.00				✓	25	✓	✓	✓	20	✓	✓	✓	10
16.50				✓	25	✓	✓	✓	20	✓	✓	✓	10
17.00				✓	25	✓	✓	✓	20	✓	✓	✓	10
17.45	11/16						✓	✓	20	✓	✓	✓	10
17.50							✓	✓	20	✓	✓	✓	10
18.00							✓	✓	20	✓	✓	✓	10

Size		Overall Length in mm											
mm	inch	200	225	250	MOQ	275	300	325	MOQ	350	375	400	MOQ
18.50							✓	✓	20	✓	✓	✓	5
19.00							✓	✓	20	✓	✓	✓	5
19.05	3/4						✓	✓	20	✓	✓	✓	5
19.50							✓	✓	20	✓	✓	✓	5
20.00							✓	✓	15	✓	✓	✓	5
20.50							✓	✓	15	✓	✓	✓	5
20.64							✓	✓	15	✓	✓	✓	5
21.00							✓	✓	15	✓	✓	✓	5
22.00	13/16						✓	✓	15	✓	✓	✓	5
21.50							✓	✓	15	✓	✓	✓	5
22.00							✓	✓	15	✓	✓	✓	5
22.22	7/8						✓	✓	15	✓	✓	✓	5
22.50							✓	✓	15	✓	✓	✓	5
23.00							✓	✓	15	✓	✓	✓	5
23.50							✓	✓	10	✓	✓	✓	5
24.00							✓	✓	10	✓	✓	✓	5
24.50							✓	✓	10	✓	✓	✓	5
25.00							✓	✓	10	✓	✓	✓	5
25.40								✓	10	✓	✓	✓	5
25.50										✓	✓	✓	5
26.00										✓	✓	✓	5
26.50										✓	✓	✓	5
26.99										✓	✓	✓	5
27.00										✓	✓	✓	5
27.50										✓	✓	✓	5
28.50										✓	✓	✓	5
28.57										✓	✓	✓	5
29.00										✓	✓	✓	5
29.50										✓	✓	✓	5
30.00										✓	✓	✓	5
30.16										✓	✓	✓	5
31.00										✓	✓	✓	5
31.75										✓	✓	✓	5
32.00										✓	✓	✓	5
33.00												✓	5
33.34												✓	5
34.00												✓	5
34.92												✓	5
35.00												✓	5
36.00												✓	5
36.51												✓	5
37.00												✓	5
38.00												✓	5
38.10												✓	5
39.00												✓	5
40.00												✓	5

CENTRE DRILLS

DIN: 333 / 85:328

HSS CENTRE DRILLS

TYPE 'A' AS PER IS-6708/1977					
Pilot Dia	Body Dia	Overall Length mm		Pilot Length mm	
mm k12	mm h9	Max.	Min.	Max.	Min.
1.00	3.15	33.5	29.5	1.9	1.3
1.25	3.15	33.5	29.5	2.2	1.6
1.60	4.00	37.5	33.5	2.8	2.0
2.00	5.00	42	38	3.3	2.5
2.50	6.30	47	43	4.1	3.1
3.15	8.00	52	48	4.9	3.9
4.00	10.00	59	53	6.2	5.0
5.00	12.50	66	60	7.5	6.3

TYPE 'B' AS PER IS-6709/1977					
1.60	6.30	47	43	2.8	2.0
2.00	8.00	52	48	3.3	2.5
2.50	10.00	59	53	4.1	3.1
3.15	11.20	63	57	4.9	3.9
4.00	14.00	70	64	6.2	5.0

AS PER B.S. 328 (PART 2)						
Size Pilot	Dia	Body Dia	Pilot Length mmOAL			Tolerance on
	Inch	Inch	Max.	Min.	Inch.	Overall Length
BS1	3/64	1/8	5/64	1/16	1.1/2	± 1/32
BS2	1/16	3/16	3/32	5/64	1.3/4	± 1/33
BS3	3/32	1/4	5/32	1/8	2	±1/16
BS4	1/8	5/16	3/16	5/32	2.1/4	± 1/16
BS5	3/16	7/16	9/32	1/4	2.1/2	±3/32

SILVER & DEMING DRILLS

RANGE

METRIC - 10mm - 25mm

IMPERIAL - 3/8 - 1"

These drills have reduced shank and are used for drilling holes larger than the capacity of 1/4" or 3/8" or 1/2" drill chuck.
These drills are used light to medium duty drilling applications.

DOUBLE ENDED DRILLS

RANGE

METRIC - 3mm - 8mm

IMPERIAL - 1/8 - 5/16"

These drills have flutes and split points on both ends and have a solid center shank for chucking. They will drill double number of holes than a single end drill for only a fraction more in cost. They reduce change over time, inventory and overall cost.

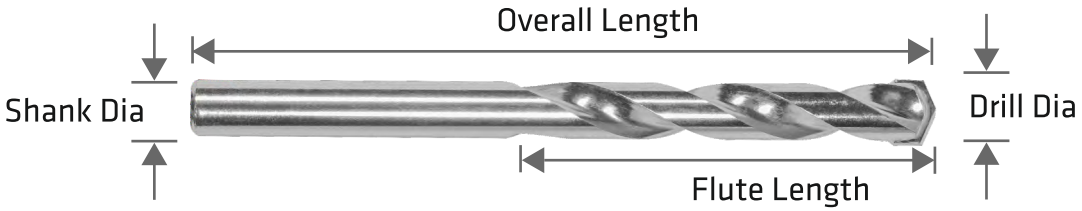
SQUARE TOOL BIT

Sq. Size Inch	Sq. Size Inch	Sq. Size Inch	Sq. Size Inch
3/16X3	5 X 75	1/2X4	12 X 100
3/16X4	5 X 100	1/2X6	12 X 150
3/16X6	5 X 150	1/2 X8	12 X 200
1/4X3	6 X 75	5/8X4	16 X 100
1/4X4	6 X 100	5/8X6	16 X 150
1/4X6	6 X 150	5/8X8	16 X 200
5/16X3	8 X75	3/4X4	
5/16X4	8X100	3/4X6	
5/16X6	8 X150	3/4X 8	
3/8X3	10 X 75		20 X 100
3/8X4	10 X 100		20 X 150
3/8X6	10 X 150		20 X200
3/8X8	10 X 200	1X6	25 X 150
1/2X3	12 X 75	1X8	25 X 200

Available in -

KT-0(M2) **KT-5(M35)** **KT-8(M42)** **KT-10(T42)**

MASONRY DRILLS
NORMAL/PREMIUM/SUPER GRANIT



Diameter		Flute Length	Overall Length
mm	inch	mm	mm
3.00	1/8	33	67
4.00	5/32	40	78
5.00	3/16	45	88
5.50	7/32	50	88
6.00	15/64	54	102
6.50	1/4	54	102
7.00	9/32	55	108
8.00	5/16	64	118
9.00	11/32	78	135
10.00	3/8	78	135
11.00	7/16	82	148
12.00	15/32	85	152
13.00	1/2	85	152

USEFUL TIPS FOR DRILLING

• Use the shortest drill possible for the specific application Longer drills are:

1. More costly
2. Break easier and
3. Drill bellmouthed holes.

• Avoid the tendency to over speed and under feed. Excessive speed causes

1. Premature outer corner drill wear
2. Material work hardening
3. Long, stringy chips
4. Reduced drill life and
5. Increased cost per hole.

• Optimising feed rate:

1. Helps break up chips
2. Reduces premature outer corner drill wear
3. Reduces material work hardening
4. Extends drill life and
5. Reduces cost per hole.

• Use split point drills for drilling alloy materials; benefits include:

1. Start at the point of contact (self-centering)
2. Drill with less torque and thrust and
3. Break up chips.

• A hole of three drill diameters or deeper should be considered a deep hole. Therefore, you should peck drill just enough to prevent chips from packing in the flutes, because chip clogging is the major cause of drill breakage.

• When drilling harder materials (i.e. above HRC 35):

1. Reduce speeds and feeds to prevent points from burning and drilling breakage.
2. Use cobalt drills as their higher hardness and heavy-duty construction are designed for drilling harder-materials .

• Use steam tempered. The black oxide surface laser holds the coolants and lubricates to the surface of the drill retarding material build-up. This treatment also improves toughness.

• You should decrease speeds and feeds as follows:

Speed and feed Reduction (Based upon hole depth)		
Holes Depth To Diameter Ratio (times drill diameter)	Speed Reduction	Feed Reduction
3	10%	10%
4	20%	10%
5	30%	20%
6	35-40%	20%

• Use coolant whenever possible, this will keep the drill cooler. Chip welding and breakage are also reduced. Coolant helps the drill to last and will give the drill a better chance of operating without failing.

• Chips should be short and broken up.

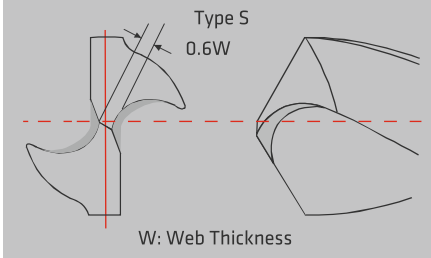
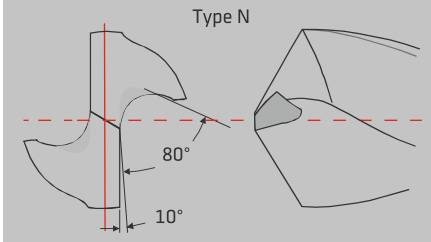
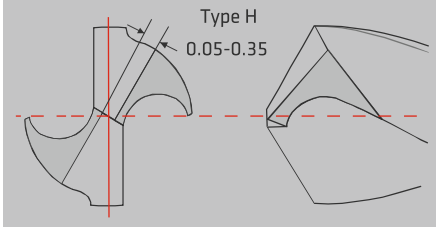
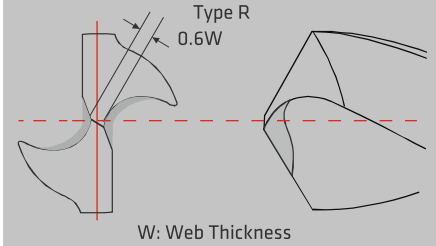
• Keep drills sharp! Sharp drills perform better and last longer. Sharp drills also increase productivity and have a reduced tendency to break.

• Chuck drill on shank area only, not in the flute area

TROUBLE SHOOTING AND REMEDIES

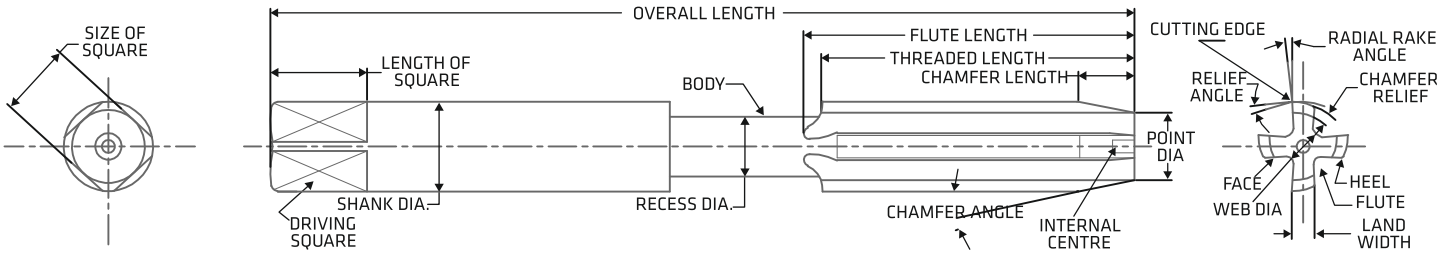
PROBLEMS	REASONS	REMEDIES
1. Oversize Hole	1. Unequal Lip Angles 2. Unequal Lip Lengths	Regrind the Drill point to correct lip angle with proper relief, maintaining lip lengths equal
2. Buckling of the Drill	Drill deflects Axially	Use correct guide bush
3. Drill Chattering	1. Hard, Tough work piece 2. Torsional deflection of the Drill	Increase Torsional stiffness by replacing thicker web drill. Reduce drill length and shorten flute length
4. Drill breaking	1. Fixture not rigid 2. Web thickness more 3. Speed 6 Feed not proper	1. Use rigid fixture. 2. Web thinning to be implemented. 3. Use proper speeds 6 Feed saccording to work material.
5. Drill breaking in deep hole drilling.	1. Chips blocking in flutes 2. Back taper no uniform 3. Drill finished on CD	1. Use wood pecking system 2. Before using check uniform back taper and concentricity.
6. Drill Rubbing at relief	1. No proper relief on point 2. No uniform back taper	1. Regrind point with proper point geometry 2. Check uniform back taper, at no point negative back taper should occur on drill dia
7. Excessive Heat generation while drilling	1. Coolant insufficient 2. Proper coolant not used 3. Work piece is hard	1. Use proer coolant flow 2. Use proper coolant 3. Select drill with correct geometry for the material

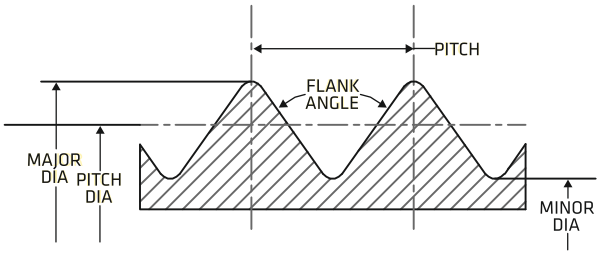
WEB THICKNESS

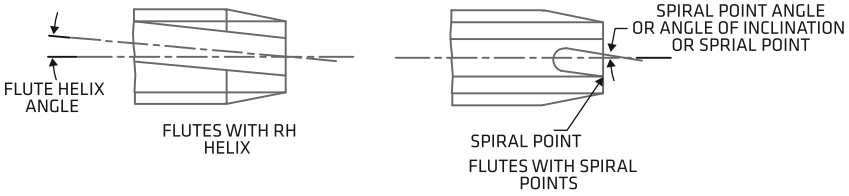
	Effects	Application
	• For general purpose • Easy thinning process	• General material • La matiere generale • Material General
	• Maintains strength of the point • Excellent cooling effect • Good chip discharge	• Same as type S • For deep-hole drilling
	• Large decrease in thrust • Minimized skidding or walking of the drill point when starting a hole • When specially designed heavy web drill	• For deep-hole drilling • Automotive crankshaft • Materials of poor Machinability such as stainless steel and heat resistant alloys. (not heavy cutting)
	• Decreases thrust and prevents chipping of cutting edges.	• For heavy cutting • Used mainly for rails and manganese steel

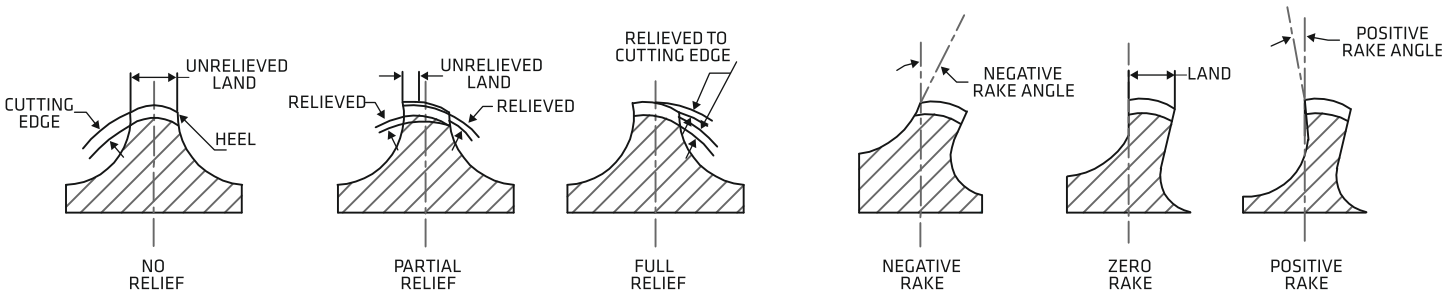
HSS GROUND THREAD TAPS

HSS Tap Nomenclature





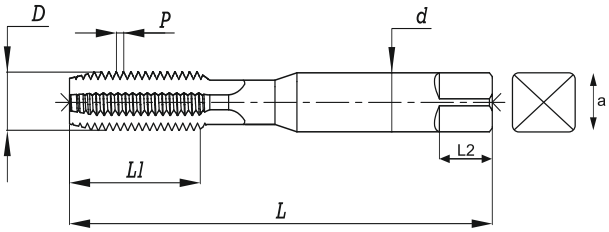




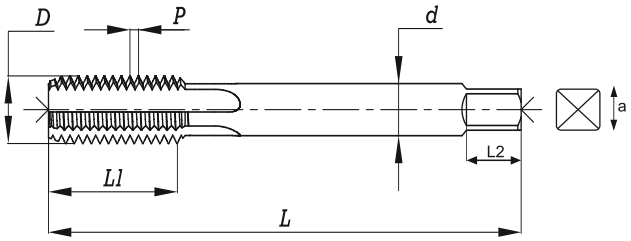
HSS HAND TAPS

Metric Coarse Pitch

IS 6175 Part 2 / Part 3 : ISO 529 : BS 949 Part 1:



M3 - M10



M12 - M30

6H

60°

(All Dimensions in mm)

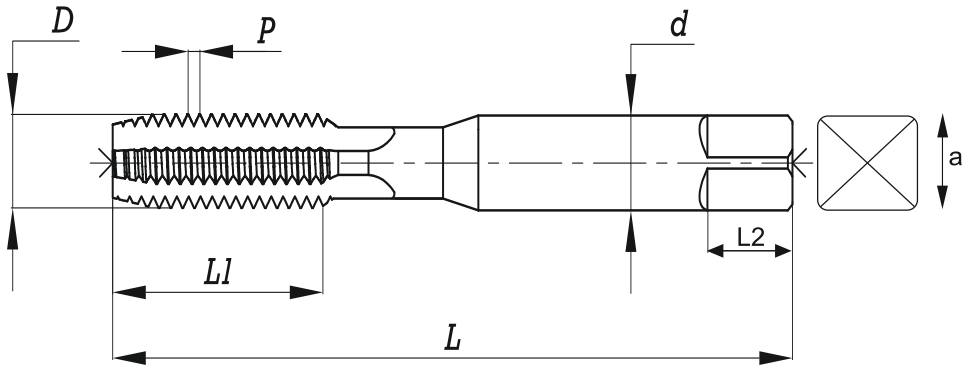
Nominal Diameter (D)	Pitch (P)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
M3	0.50	11.0	48.0	3.15	2.50	5
M3.5	0.60	13.0	50.0	3.55	2.80	5
M4	0.70	13.0	53.0	4.00	3.15	6
M4.5	0.75	13.0	53.0	4.50	3.55	6
M5	0.80	16.0	58.0	5.00	4.00	7
M6	1.00	19.0	66.0	6.30	5.00	8
M7	1.00	19.0	66.0	7.10	5.60	8
M8	1.25	22.0	72.0	8.00	6.30	9
M9	1.25	22.0	72.0	9.00	7.10	10
M10	1.50	24.0	80.0	10.00	8.00	11
M12	1.75	29	89	9.00	7.10	10
M14	2.00	30	95	11.20	9.00	12
M16	2.00	32	102	12.50	10.00	13
M18	2.50	37	112	14.00	11.20	14
M20	2.50	37	112	14.00	11.20	14
M22	2.50	38	118	16.00	12.50	16
M24	3.00	45	130	18.00	14.00	18
M25	3.00	45	130	20.00	16.00	20
M27	3.00	45	135	20.00	16.00	20
M30	3.50	48	138	20.00	16.00	20

These taps are supplied in set of three - Taper, Second & Bottoming non-serial with thread Tolerance 6H.

Metric Fine Pitch

IS 6175 Part 2 : ISO 529 :
BS 949 Part 1:

HSS HAND TAPS



6H

60°

(All Dimensions in mm)

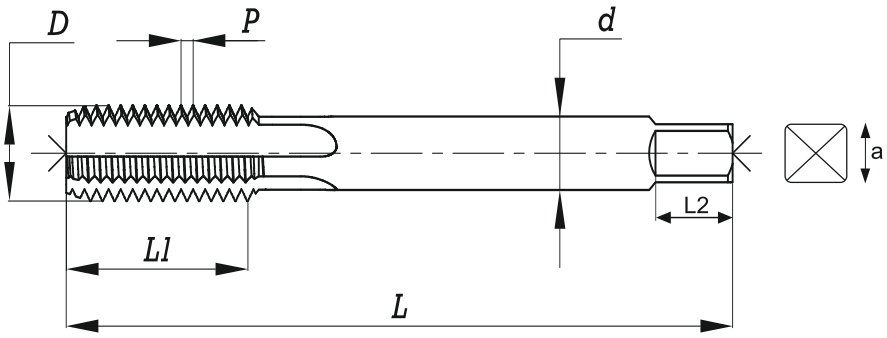
Nominal Diameter (D)	Pitch (P)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
M35	0.35	11	48	3.15	2.50	5
M3.5	0.35	13	50	3.55	2.80	5
M4.5	0.50	13	53	4.00	3.15	6
M5	0.50	13	53	4.50	3.55	6
M5.5	0.50	16	58	5.00	4.00	7
M6	0.50	17	62	5.60	4.50	7
M7	0.75	19	66	6.30	5.00	8
M8	0.75	19	66	7.10	5.60	8
M8	0.75	16	66	8.00	6.30	9
M9	1.00	19	69	8.00	6.30	9
M9	0.75	16	66	9.00	7.10	10
M9	1.00	19	69	9.00	7.10	10
M10	0.75	17	73	10.00	8.00	11
M10	1.00	20	76	10.00	8.00	11
M10	1.25	20	76	10.00	8.00	11

These taps are supplied in set of two - Taper & Bottoming non-serial with thread Tolerance 6H.

HSS HAND TAPS

Metric Fine Pitch

BS 949 Part 1 : IS 6175 Part 3 : ISO 529 :



6H

60°

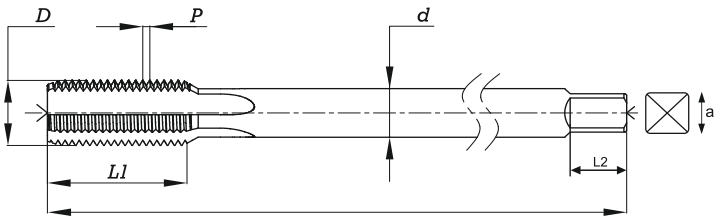
(All Dimensions in mm)

Nominal Diameter (D)	Pitch (P)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
M12	1.00	20	80	9.00	7.10	10
M12	1.25	24	84	9.00	7.10	10
M12	1.50	29	89	9.00	7.10	10
M14	1.00	22	87	11.20	9.00	12
M14	1.25	25	90	11.20	9.00	12
M14	1.50	30	95	11.20	9.00	12
M15	1.00	22	87	11.20	9.00	12
M15	1.50	30	95	11.20	9.00	12
M16	1.00	22	92	12.50	10.00	13
M16	1.50	32	102	12.50	10.00	13
M17	1.00	22	92	12.50	10.00	13
M17	1.50	32	102	12.50	10.00	13
M18	1.00	22	97	14.00	11.20	14
M18	1.50	29	104	14.00	11.20	14
M18	2.00	37	112	14.00	11.20	14
M20	1.00	27	102	14.00	11.20	14
M20	1.50	29	104	14.00	11.20	14
M20	2.00	37	112	14.00	11.20	14
M22	1.00	29	109	16.00	12.50	16
M22	1.50	33	113	16.00	12.50	16
M22	2.00	38	118	16.00	12.50	16
M24	1.00	29	114	18.00	14.00	18
M24	1.50	35	120	18.00	14.00	18
M24	2.00	35	120	18.00	14.00	18
M25	1.00	29	114	18.00	14.00	18
M25	1.50	35	120	18.00	14.00	18
M25	2.00	35	120	18.00	14.00	18
M26	1.50	35	120	18.00	14.00	18
M27	1.00	30	120	20.00	16.00	20
M27	1.50	37	127	20.00	16.00	20
M27	2.00	37	127	20.00	16.00	20
M28	1.00	30	120	20.00	16.00	20
M28	1.50	37	127	20.00	16.00	20
M28	2.00	37	127	20.00	16.00	20
M30	1.00	30	120	20.00	16.00	20
M30	1.50	37	127	20.00	16.00	20
M30	2.00	37	127	20.00	16.00	20
M30	3.00	48	138	20.00	16.00	20

Coarse / Fine

IS 6175 Part 4 : ISO 2283 : BS 949 Part 1:

HSS LONG SHANK MACHINE TAPS



6H | 60° | C-FORM

Metric Coarse Pitch

(All Dimensions in mm)

Nominal Diameter (D)	Pitch (P)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
M3	0.50	11	66	2.24	1.80	4
M3.5	0.60	13	68	2.50	2.00	4
M4	0.70	13	73	3.15	2.50	5
M4.5	0.75	13	73	3.55	2.80	5
M5	0.80	16	79	4.00	3.15	6
M6	1.00	19	89	4.50	3.55	6
M8	1.25	22	97	6.30	5.00	8
M10	1.50	24	108	8.00	6.30	9
M12	1.75	29	119	9.00	7.10	10
M14	2.00	30	127	11.20	9.00	12
M16	2.00	32	137	12.50	10.00	13
M18	2.50	37	149	14.00	11.20	14
M20	2.50	37	149	14.00	11.20	14
M22	2.50	38	158	16.00	12.50	16
M24	3.00	45	172	18.00	14.00	18
M27	3.00	45	180	20.00	16.00	20
M30	3.50	48	183	20.00	16.00	20

Metric Fine Pitch

(All Dimensions in mm)

Nominal Diameter (D)	Pitch (P)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
M3	0.35	17	66	2.24	1.80	4
M4	0.50	13	73	3.15	2.50	5
M5	0.50	16	76	4.00	3.15	6
M6	0.75	19	89	4.50	3.55	6
M8	1.00	19	97	6.30	5.00	8
M10	1.00	20	108	8.00	6.30	9
M10	1.25	20	108	8.00	6.30	9
M12	1.25	24	119	9.00	7.10	10
M12	1.50	29	119	9.00	7.10	10
M16	1.50	32	137	12.50	10.00	13
M20	1.50	29	142	14.00	11.20	14
M20	2.00	37	149	14.00	11.20	14
M24	1.50	35	172	18.00	14.00	18
M24	2.00	35	172	18.00	14.00	18
M30	1.50	37	172	20.00	16.00	20
M30	2.00	37	172	20.00	16.00	20

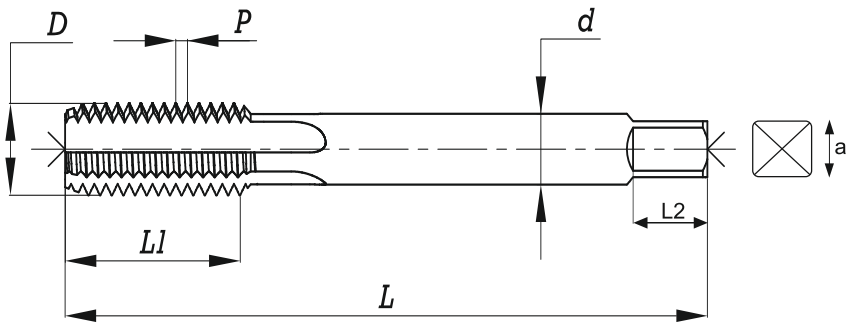
Type A - 5 Deg : Taper angle with long taper lead
Type B - 10 Deg : Taper angle with spiral point
Type C - 20 Deg : Taper angle with short taper lead
Type D - 10 Deg : Taper angle without spiral point

These taps are supplied with tolerance class 6H.

Sizes above M24 are not covered by;
IS 6175 Part 4:2001,ISO 2283:1972 and BS 949 Part 1:1992

HSS HAND TAPS - BSW

BSW / BSF
BS 949 Part 1:



ZONE-3 | 55°

(All Dimensions in mm)

Nominal Diameter (D)	Thread per inch	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
1/8	40	11	48	3.15	2.50	5
3/16	24	16	58	5.00	4.00	7
1/4	20	19	66	6.30	5.00	8
5/16	18	22	72	8.00	6.30	9
3/8	16	24	80	10.00	8.00	11
7/16	14	25	85	8.00	6.30	9
1/2	12	29	89	9.00	7.10	10
9/16	12	30	95	11.20	9.00	12
5/8	11	32	102	12.50	10.00	13
11/16	11	37	112	14.00	11.20	14
3/4	10	37	112	14.00	11.20	14
7/8	9	38	118	16.00	12.50	16
1	8	45	130	18.00	14.00	18

These taps are supplied in set of three - Taper, Second & Bottoming in non serial form with thread tolerance class 2 (Zone 3) unless otherwise specified.

HSS HAND TAPS - BSF

(All Dimensions in mm)

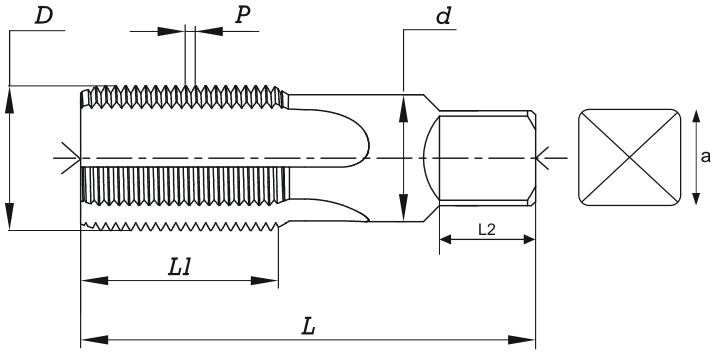
Nominal Diameter (D)	Thread per inch	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
3/16	32	16	58	5.00	4.00	7
1/4	26	19	66	6.30	5.00	8
5/16	22	22	72	8.00	6.30	9
3/8	20	24	80	10.00	8.00	11
7/16	18	25	85	8.00	6.30	9
1/2	16	29	89	9.00	7.10	10
9/16	16	30	95	11.20	9.00	12
5/8	14	32	102	12.50	10.00	13
11/16	14	37	112	14.00	11.20	14
3/4	12	37	112	14.00	11.20	14
7/8	11	38	118	16.00	12.50	16
1	10	45	130	18.00	14.00	18

These taps are supplied in set of three - Taper, Second & Bottoming in non serial form with thread tolerance class 2 (Zone 3) unless otherwise specified.

BSP / BSPT

BS 949 / BS 949 Part 1

HSS BRITISH PIPE THREADS- BSP



(All Dimensions in mm)

Nominal Size	Thread per inch	Basic major diameter of thread (D)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
						Size (a)	Length (L2)
1/8	28	0.383	3/4	2.1/8	0.318	0.238	5/16
1/4	19	0.518	1.1/16	2.7/16	0.429	0.322	7/16
3/8	19	0.656	1.1/16	2.9/16	0.542	0.406	1/2
1/2	14	0.825	1.3/8	3.1/8	0.687	0.515	5/8
5/8	14	0.902	1.3/8	3.3/16	0.800	0.600	1.1/16
3/4	14	1.041	1.3/8	3.1/4	0.906	0.679	1.1/16
7/8	14	1.189	1.9/16	3.1/2	1.093	0.812	3/4
1	11	1.309	1.3/4	3.3/4	1.125	0.843	1.3/16

These taps are usually supplied in set of two - Taper & Bottoming with thread tolerance class Zone 3.

HSS BRITISH PIPE THREADS- BSPT

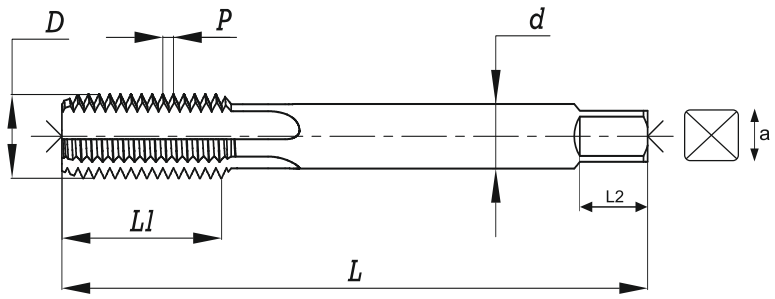
(All Dimensions in mm)

Nominal Size	Thread per inch	Basic or gauge dia of thread	Diameter		Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
			Large End	Small End (Before Chamfering)				Size (a)	Length (L2)
1/8	28	0.383	0.3986	0.3518	3/4	2.1/8	0.318	0.238	5/16
1/4	19	0.518	0.5336	0.4672	1.1/16	2.7/16	0.429	0.322	7/16
3/8	19	0.656	0.6716	0.6052	1.1/16	2.9/16	0.542	0.406	1/2
1/2	14	0.825	0.8484	0.7625	1.3/8	3.1/8	0.687	0.515	5/8
3/4	14	1.041	1.0644	0.9785	1.3/8	3.1/4	0.906	0.679	11/16
1	11	1.309	1.3402	1.2308	1.3/4	3.3/4	1.125	0.843	13/16

These taps are usually supplied in set of two - Rougher and Finisher in serial thread form.

HSS HAND TAPS - UNC

UNC / UNF
BS 949 Part 1



ZONE-3

60°

(All Dimensions in mm)

Nominal Diameter (D)	Thread per inch	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
1/4	20	19	66	6.30	5.00	8
5/16	18	22	72	8.00	6.30	9
3/8	16	24	80	10.00	8.00	11
7/16	14	25	85	8.00	6.30	9
1/2	13	29	89	9.00	7.10	10
9/16	12	30	95	11.20	9.00	12
5/8	11	32	102	12.50	10.00	13
3/4	10	37	112	14.00	11.20	14
7/8	9	38	118	16.00	12.50	16
1	8	45	130	18.00	14.00	18

These taps are supplied in set of three - Taper, Second & Bottoming in non serial form with thread tolerance class 2 (Zone 3) unless otherwise specified.

HSS HAND TAPS - UNF

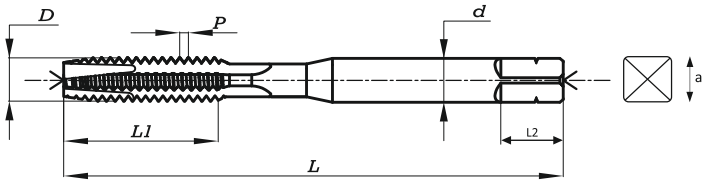
(All Dimensions in mm)

Nominal Diameter (D)	Thread per inch	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
1/4	28	19	66	6.30	5.00	8
5/16	24	19	69	8.00	6.30	9
3/8	24	20	76	10.00	8.00	11
7/16	20	22	82	8.00	6.30	9
1/2	20	24	84	9.00	7.10	10
9/16	18	25	90	11.20	9.00	12
5/8	18	25	95	12.50	10.00	13
3/4	16	29	104	14.00	11.20	14
7/8	14	33	113	16.00	12.50	16
1	12	35	120	18.00	14.00	18

These taps are supplied in set of three - Taper, Second & Bottoming in non serial form with thread tolerance class 2 (Zone 3) unless otherwise specified.

SPPT/ Spiral Flute
ISO 529

HSS SPIRAL POINT TAPS



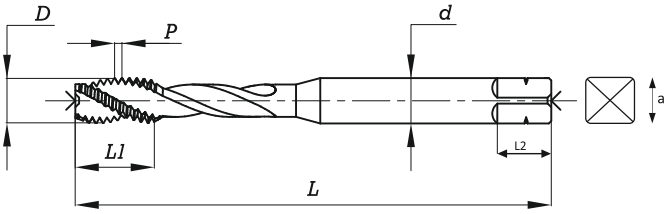
6H 60°

(All Dimensions in mm)

Nominal Diameter (D)	Pitch (P)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
M3	0.50	11	66	2.24	1.80	4
M3.5	0.60	13	68	2.50	2.00	4
M4	0.70	13	73	3.15	2.50	5
M4.5	0.75	13	73	3.55	2.80	5
M5	0.80	16	79	4.00	3.15	6
M6	1.00	19	89	4.50	3.55	6
M8	1.25	22	97	6.30	5.00	8
M10	1.50	24	108	8.00	6.30	9
M12	1.75	29	119	9.00	7.10	10
M14	2.00	30	127	11.20	9.00	12
M16	2.00	32	137	12.50	10.00	13
M18	2.50	37	149	14.00	11.20	14
M20	2.50	37	149	14.00	11.20	14
M22	2.50	38	158	16.00	12.50	16
M24	3.00	45	172	18.00	14.00	18

Coated Taps (TiN, TiCN & TiAlN) available on request.

HSS SPIRAL FLUTE TAPS



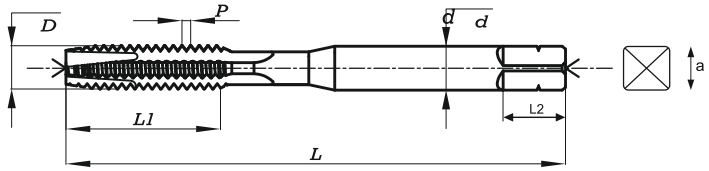
6H 60°

(All Dimensions in mm)

Nominal Diameter (D)	Pitch (P)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
M3	0.50	8	48	3.15	2.50	5
M3.5	0.60	9	50	3.55	2.80	5
M4	0.70	9	53	4.00	3.15	6
M4.5	0.75	9	53	4.50	3.55	6
M5	0.80	11	58	5.00	4.00	7
M6	1.00	13	66	6.30	5.00	8
M7	1.00	13	66	7.10	5.60	8
M8	1.25	15	72	8.00	6.30	9
M9	1.25	15	72	9.00	7.10	10
M10	1.50	17	80	10.00	8.00	11
M12	1.75	20	89	9.00	7.10	10
M14	2.00	21	95	11.20	9.00	12
M16	2.00	22	102	12.05	10.00	13
M18	2.5	25	125	14.00	11.00	14
M20	2.5	25	140	16.00	12.00	15

Coated Taps (TiN, TiCN & TiAlN) available on request.

HSSE SPIRAL POINT TAPS



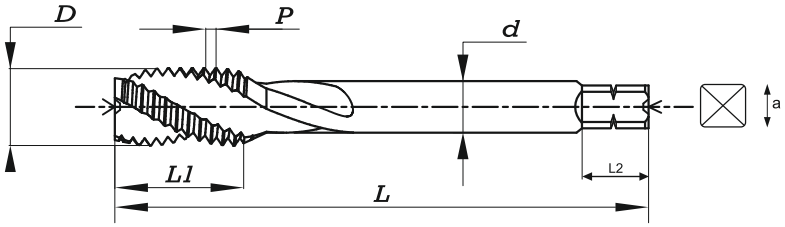
6H 60°

(All Dimensions in mm)

Nominal Diameter (D)	Pitch (P)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
M3	0.50	11	56	3.5	2.7	6
M3.5	0.60	12	56	4	3	6
M4	0.70	13	63	4.5	3.4	6
M4.5	0.75	16	70	6	4.9	8
M5	0.80	16	70	6	4.9	8
M6	1.00	19	80	6	4.9	8
M7	1.00	19	80	7	5.5	8
M8	1.25	22	90	8	6.2	9
M9	1.25	22	90	9	7	10
M10	1.50	24	100	10	8	11
M12	1.75	20	110.00	9.00	7.00	10.00
M14	2.00	21	110.00	11.00	9.00	12.00
M16	2.00	22	110.00	12.00	9.00	12.00
M18	2.5	34	125.00	14.00	11	14
M20	2.5	34	140.00	16.00	12	15

Coated Taps (TiN, TiCN & TiAIN) available on request.

HSSE SPIRAL FLUTE TAPS



6H 60°

(All Dimensions in mm)

Nominal Diameter (D)	Pitch (P)	Thread Length (L1)	Overall Length (L)	Shank diameter (d)	Square	
					Size (a)	Length (L2)
M3	0.50	8.00	56.00	2.20	-	-
M3.5	0.60	9.00	56.00	2.50	2.10	5.00
M4	0.70	9.00	63.00	2.80	2.10	5.00
M4.5	0.75	9.00	70.00	3.50	2.70	6.00
MS	0.80	11.00	70.00	3.50	2.70	6.00
M6	1.00	13.00	80.00	4.50	3.40	6.00
M7	1.00	13.00	80.00	5.50	4.30	7.00
M8	1.25	15.00	90.00	6.00	4.90	8.00
M9	1.25	15.00	90.00	7.00	5.50	8.00
M10	1.50	17.00	100.00	7.00	5.50	8.00
M11	1.50	18.00	100.00	8.00	6.20	9.00
M12	1.75	20.00	110.00	9.00	7.00	10.00
M14	2.00	21.00	110.00	11.00	9.00	12.00
M16	2.00	22.00	110.00	12.00	9.00	12.00
M18	2.5	25	125.00	14.00	11	14
M20	2.5	25	140.00	16.00	11	15

Coated Taps (TiN, TiCN & TiAIN) available on request.

Tapping Drill Sizes for Tapped Holes to Metric, British & American standards

TAP DRILL SIZE

Metric (Coarse Pitch)

TAP SIZE (Nominal Dia x Pitch)	DRILL DIA (mm)
M 1.0 x 0.20	0.80
M 1.1 x 0.25	0.85
M 1.2 x 0.25	0.95
M 1.4 x 0.30	1.02
M 1.6 x 0.35	1.09
M 1.7 x 0.35	1.35
M 1.8 x 0.35	1.45
M 2.0 x 0.40	1.60
M 2.2 x 0.45	1.75
M 2.5 x 0.45	2.10
M 3.0 x 0.50	2.50
M 3.5 x 0.60	2.90
M 4.0 x 0.70	3.30
M 4.5 x 0.75	3.80
M 5.0 x 0.80	4.20
M 6.0 x 1.00	5.00
M 7.0 x 1.00	6.00
M 8.0 x 1.25	6.80
M 9.0 x 1.25	7.80
M 10.0 x 1.50	8.50
M 11.0 x 1.50	9.50
M 12.0 x 1.75	10.30
M 14.0 x 2.00	12.00
M 16.0 x 2.00	14.00
M 18.0 x 2.50	15.50
M 20.0 x 2.50	17.50
M 22.0 x 2.50	19.50
M 24.0 x 3.00	21.00
M 27.0 x 3.00	24.00
M 30.0 x 3.50	26.50
M 33.0 x 3.50	29.50
M 36.0 x 4.00	32.00
M 39.0 x 4.00	35.00
M 42.0 x 4.50	37.50
M 48.0 x 5.00	43.00
M 52.0 x 5.00	47.00

Metric (Fine Pitch)

TAP SIZE (Nominal Dia x Pitch)	DRILL DIA (mm)
M 3 x 0.35	2.70
M 4 x 0.50	3.50
M 5 x 0.50	4.50
M 6 x 0.75	5.30
M 8 x 1.00	7.00
M 10 x 1.00	9.00
M 10 x 1.25	8.80
M 11 x 1.00	10.00
M 12 x 1.00	11.00
M 12 x 1.25	10.80
M 12 x 1.50	10.50
M 14 x 1.00	13.00
M 14 x 1.50	12.50
M 16 x 1.00	15.00
M 16 x 1.50	14.50
M 18 x 1.50	16.50
M 18 x 2.00	16.00
M 20 x 1.00	19.00
M 20 x 1.50	18.50
M 24 x 1.00	23.00
M 24 x 1.50	22.50
M 24 x 2.00	22.00

NOTE: • For Metric-Coarse & Fine: RECOMMENDED DRILL TAPS SIZES ABOVE ARE AS PER ISO 529 (IS 6175) 6H TOL.

TAP DRILL SIZE

Tapping Drill Sizes for Tapped Holes to Metric, British & American standards

British: Whitworth Coarse (BSW)

TAP SIZE (Nominal Dia x Pitch)	DRILL DIA (mm)
1/4" x 20	5.1
5/16" x 18	6.6
3/8" x 16	8.0
7/16" x 14	9.4
1/2" x 12	10.7
9/16" x 12	12.3
5/8" x 11	13.7
3/4" x 10	16.6
7/8" x 9	19.5
1" x 8	22.3

NOTE: • For BSW: RECOMMENDED DRILL TAPS SIZES ABOVE ARE AS PER BS 949 CLASS 2

American National Coarse (UNC)

TAP SIZE (Nominal Dia x Pitch)	DRILL DIA (mm)
No. 6 x 32	2.80
No. 8 x 32	3.40
No. 10 x 24	3.90
No. 12 x 24	4.50
1/4" x 20	5.10
5/16" x 18	6.60
3/8" x 16	8.00
7/16" x 14	9.40
1/2" x 13	10.90
9/16" x 12	12.20
5/8" x 11	13.60
3/4" x 10	16.60
7/8" x 9	19.60
1" x 8	22.30

American National Coarse (UNF)

TAP SIZE (Nominal Dia x Pitch)	DRILL DIA (mm)
No. 6 x 40	2.90
No. 8 x 36	3.50
No. 10 x 32	4.10
No. 12 x 28	4.60
1/4" x 28	5.50
5/16" x 24	6.90
3/8" x 24	8.50
7/16" x 20	9.90
1/2" x 20	11.50
9/16" x 18	12.90
5/8" x 18	14.50
3/4" x 16	17.50
7/8" x 14	20.50
1" x 12	23.30

NOTE: • For UNC & UNF: RECOMMENDED DRILL TAPS SIZES ABOVE ARE AS PER BS 949.

Tapping Trouble Shooting Chart

	Troubles	Factors	Countermeasures
Dimensional Error	Oversize Pitch Diameter	Tool conditions	• Obtain proper indexing angle for the flutes at the cutting edge • Grind proper indexing angle and chamfer angle • Avoid too narrow a width • Remove burns from reground edge
	Oversize Internal Diamter	Drill hole size	• Use minimum size drill hole • Avoid tapered hole • Use proper chamfered taps
		Galling	• Galling solutions 1 through 4 above can be applied to this specific problem
	Undersize Pitch Diameter	Incorrect tap Selection	• Use one oversize tap: 1) Use for cutting materials such as copper alloy, aluminium alloy, and cast iron 2) Use for cutting tubing which will have “spring back” action after tapping • Apply proper chamfer angle • Increase cutting angle
		Damage thread	• Use proper reverising speed to avoid damaging tapped thread the way out of the hole
		Left over chips	• Increase cutting performance to avoid any leftover chip in the hole • Remove leftover chip from the hole for gauge checking
	Undersize Internal Diamter	Drill hole size	• Use maximum drill size
Tool Life	Breakage	Incorrect tap Selection	• Use high speed steel taps • Avoid chip packig in the flutes or the bottom of the hole • Use spiral pointed or spiral fluted taps or roll taps • Apply correct surface treatment such as steam oxide or other coating
		Excessive Tapping Torque	• Use large drill size • Try to shorten thread length • Apply national fine pitch if applicable • Increase cutting angle • Apply a tap with more thread relief and reduced land width • Use spiral pointed or spiral fluted taps
		Operating conditions	• Reduce tapping speed • Avoid misalignment between tap and the hole and tapered hole • Use floating type of tapping holder • Use tapping holder with torque adjustment • Avoid hitting bottom of the hole with tap

Tapping Trouble Shooting Chart

	Troubles	Factors	Countermeasures
Surface Roughness	Tom or Rough Thread	Chamfer length too short	• Increase chamfer length
		Wrong cutting angle	• Apply proper cutting angle
		Galling	• Use thread relieved taps • Reduce land widths • Apply surface treatment such as steam oxide or chrome • Use proper cutting lubricant • Reduce tapping speed • Use larger drill size • Obtain proper alignment between tap and work
		Chip packing	• Use spiral pointed or spiral fluted taps • Use larger drill size
	Chattering on Tapped Thread	Tool free cutting	• Avoid too narrow land width • Reduce amount of thread relief
		Tool condition	• Reduce cutting angle • Do not grind bottom of the flute
Dimensional Error	Oversize Pitch Diameter	Incorrect Taps	• Use proper GH limits • Use longer chamfered taps
		Chip packing	• Use spiral point or spiral fluted taps • Reduce number of flutes to provide extra chip room • Use national fine pitch, if applicable • Use larger drill size • If tapping a blind hole, allow deeper hole where applicable or shorten the thread length of the parts • Use proper lubricants
		Galling	• Apply proper surface treatment such as steam oxide • Use proper cutting lubricant • Reduce tapping speed • Use proper cutting angle in accordance with material being tapped • Use larger drill size
		Operating conditions	• Apply proper tapping speed • Correct alignment of tap and drill hole • Free cutting either tap or workpiece • Use proper tapping speed to avoid tom or rough thread • Use lead screw tapper

Tapping Trouble Shooting Chart

	Troubles	Factors	Countermeasures
Tool Life	Breakage	Tool condition	• Do not grind the bottom of the threads • Avoid too narrow land width • Do not leave sections on the regound flutes which tapping wear still remains • Regrind tool more frequently
	Chipping	Incorrect tap selection	• Reduce cutting angle • Use different kind of high speed steel taps • Reduce hardness of taps • Increase chamfer length • Avoid chip packing in the flutes or the bottom of the hole by using spiral pointed or fluted taps
		Operating conditions	• Reduce tapping speed • Avoid misalignment between tap and hole • Avoid sudden reverse or return in blind hole tapping • Avoid galling • Use larger drill size
	Wear	Incorrect tap selection	• Apply specially designed taps for tapping heat treated materials • Change to a type of high speed steel material containing vanadium • Apply special surface treatment such as nitriding or Tin • Increase chamfer length
		Operating conditions	• Reduce tapping speed • Apply proper cutting lubricants • Avoid work hardened hole • Use larger drill size
		Tool condition	• Grind proper cutting angle • Avoid hardness reduction from grinding process

Enquiry form for Application Specific TAPS

Date: _____

Company: _____ Phone: _____ To: _____

Contact person: _____ Mobile: _____

Quantity: _____ ☐ Per Month ☐ Per Batch

THREADING DETAILS:

Tap Size _____ (Dia x Pitch)

Tolerance ☐ 6H ☐ 6G ☐ 7H ☐ OTHERS

Standard _____

TOOLS PRESENTLY USED:

Brand _____

Tools Material ☐ M2 ☐ M35 ☐ M42 ☐ OTHERS

Tap Size _____ (Dia x Pitch)

Type of Coating _____

COMPONENT DETAILS:

Component Material _____

Hardness _____

Tensile Strength _____

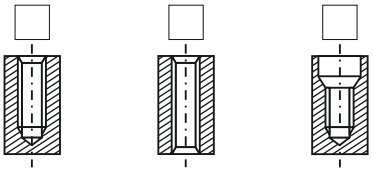
Chip Type ☐ Short ☐ Medium ☐ Long

PRE TAPING HOLE:

☐ Drilled ☐ Reamed

☐ Punched ☐ Cast

HOLE TYPE:



COOLANT:

☐ Oil ☐ Air / Dry

☐ Brush ☐ Others

☐ Water Soluble

MACHINING DETAILS:

OPERATION:

☐ Vertical ☐ Hand Tapping ☐ Angular

☐ Horizontal ☐ Machine Tapping

TYPE OF HOLDER:

☐ Rigid Type ☐ Collet Chuck

☐ Floating Type

COATING DETAILS:

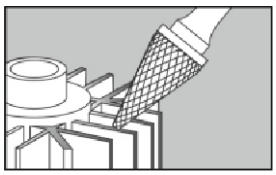
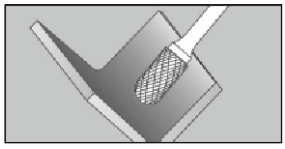
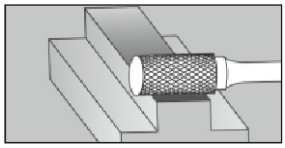
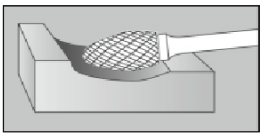
☐ Tin ☐ TiALN ☐ TICN ☐ Others

Additional notes:

All red and bold highlighted input fields are mandatory fields to design the special tool. The other input fields are optional.

CARBIDE ROTARY BURRS

Rotary Burr

SHAPE	DESCRIPTION HEAD DIA X HEAD LENGTH X OAL LENGTH X SHANK DIA	JK CODE		APPLICATIONS
		STANDARD	DELUXE	
CONICAL 	3MM X 8 MM X 38MM X 3MM	JKSDMA1	JKSDMA1D	
	6.3MM X 10.5 MM X 38MM X 3MM	JKSDMA2	JKSDMA2D	
	6MM X 19MM X 50MM X 6MM	JKSDA1	JKSDA1D	
	9.5MM X 20MM X 70MM X 6MM	JKSDA2	JKSDA2D	
	12.7MM X 25MM X 75MM X 6MM	JKSDA3	JKSDA3D	
	9.5MM X 9.5MM X 60MM X 6MM	JKSDA4	JKSDA4D	
	16MM X 13MM X 63MM X 6MM	JKSDA5	JKSDA5D	
	16MM X 16MM X 66MM X 6MM	JKSDA6	JKSDA6D	
CYLINDRICAL RADIUS END 	3MM X 16MM X 38MM X 3MM	JKSDMB1	JKSDMB1D	
	6.3MM X 12.7MM X 38MM X 3MM	JKSDMB2	JKSDMB2D	
	6MM X 20MM X 50MM X 6MM	JKSDB1	JKSDB1D	
	8MM X 19MM X 69MM X 6MM	JKSDB2	JKSDB2D	
	9.5MM X 19MM X 69MM X 6MM	JKSDB3	JKSDB3D	
	12.7MM X 19MM X 69MM X 6MM	JKSDB4	JKSDB4D	
	16MM X 25MM X 75MM X 6MM	JKSDB5	JKSDB5D	
	12.7MM X 25MM X 75MM X 6MM	JKSDB6	JKSDB6D	
CYLINDRICAL 	3MM X 16MIVI X 38MM X 3MM	JKSDMC1	JKSDMC1D	
	6.3MM X 6.3MM X 32MM X 3MM	JKSDMC2	JKSDMC2D	
	6.3MM X 12.7MM X 38MM X 3MM	JKSDMC3	JKSDMC3D	
	3.8MM X 14MM X 50MM X 6MM	JKSDC1	JKSDC1D	
	6MM X 20MM X 70MM X 6MM	JKSDC2	JKSDC2D	
	8MM X 19MM X 69MM X 6MM	JKSDC3	JKSDC3D	
	9.5MM X 19MM X 69MM X 6MM	JKSDC4	JKSDC4D	
	12.7MM X 19MM X 69MM X 6MM	JKSDC5	JKSDC5D	
	16MM X 25MM X 75MM X 6MM	JKSDC6	JKSDC6D	
	12.7MM X 14MM X 64MM X 6MM	JKSDC7	JKSDC7D	
	12.7MM X 25MM X 75MM X 6MM	JKSDC8	JKSDC8D	
FLAME 	6.3MM X 16MM X 56MM X 6MM	JKSDF1	JKSDF1D	
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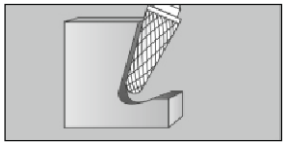
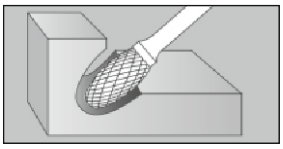
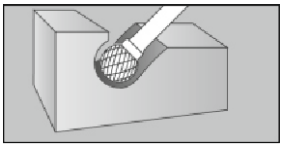
	9.5MM X 25MM X 75MM X 6MM	JKSDF3	JKSDF3D	
	12.7MM X 32MM X 82MM X 6MM	JKSDF4	JKSDF4D	
CONE RADIUS 	3MM X 8MM X 38MM X 3MM	JKSDMK1	JKSDMK1D	
	6.3MM X 12.7MM X 38MM X 3MM	JKSDMK2	JKSDMK2D	
	9.5MM X 19MM X 69MM X 6MM	JKSDK1	JKSDK1D	
	12.7MM X 19MM X 69MM X 6MM	JKSDK2	JKSDK2D	
	16MM X 33MM X 83MM X 6MM	JKSDK3	JKSDK3D	

SHAPE	DESCRIPTION HEAD DIA X HEAD LENGTH X OAL LENGTH X SHANK DIA	JK CODE		APPLICATIONS
		STANDARD	DELUXE	
OVAL 	3MM X 8MM X 38MM X 3MM	JKSDMO1	JKSDMO1D	
	6MM X 10MM X 38MM X 3MM	JKSDMO2	JKSDMO2D	
	8MM X 14MM X 60MM X 6MM	JKSDO1	JKSDO1D	
	12MM X 20MM X 70MM X 6MM	JKSDO2	JKSDO2D	
	16MM X 25MM X 75MM X 6MM	JKSDO3	JKSDO3D	
	6MM X 10MM X 60MM X 6MM	JKSDO4	JKSDO4D	
BALL 	4MM X 3MM X 38MM X 3MM	JKSDMS1	JKSDMS1D	
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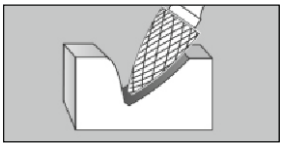
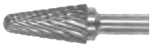
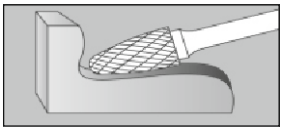
	6MM X 5MM X 50MM X 6MM	JKSDS1	JKSDS1D	
	8MM X 7MM X 50MM X 6MM	JKSDS2	JKSDS2D	
	10MM X 9MM X 60MM X 6MM	JKSDS3	JKSDS3D	
	12MM X 11MM X 60MM X 6MM	JKSDS4	JKSDS4D	
	16MM X 14MM X 65MM X 6MM	JKSDS5	JKSDS5D	
TREE POINTED END 	3MM X 13MM X 38MM X 3MM	JKSDMT1	JKSDMT1D	
	3MM X 16MM X 38MM X 3MM	JKSDMT2	JKSDMT2D	
	6MM X 13MM X 38MM X 3MM	JKSDMT3	JKSDMT3D	
	6MM X 20MM X 70MM X 6MM	JKSDT1	JKSDT1D	
	10MM X 20MM X 70MM X 6MM	JKSDT2	JKSDT2D	
	12MM X 25MM X 75MM X 6MM	JKSDT3	JKSDT3D	
	16MM X 30MM X 80MM X 6MM	JKSDT4	JKSDT4D	
TREE RADIUS END 	6MM X 20MM X 70MM X 6MM	JKSDTB1	JKSDTB1D	
	10MM X 20MM X 70MM X 6MM	JKSDTB2	JKSDTB2D	
	12MM X 25MM X 75MM X 6MM	JKSDTB3	JKSDTB3D	

NOTES

NOTES

Other Range

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