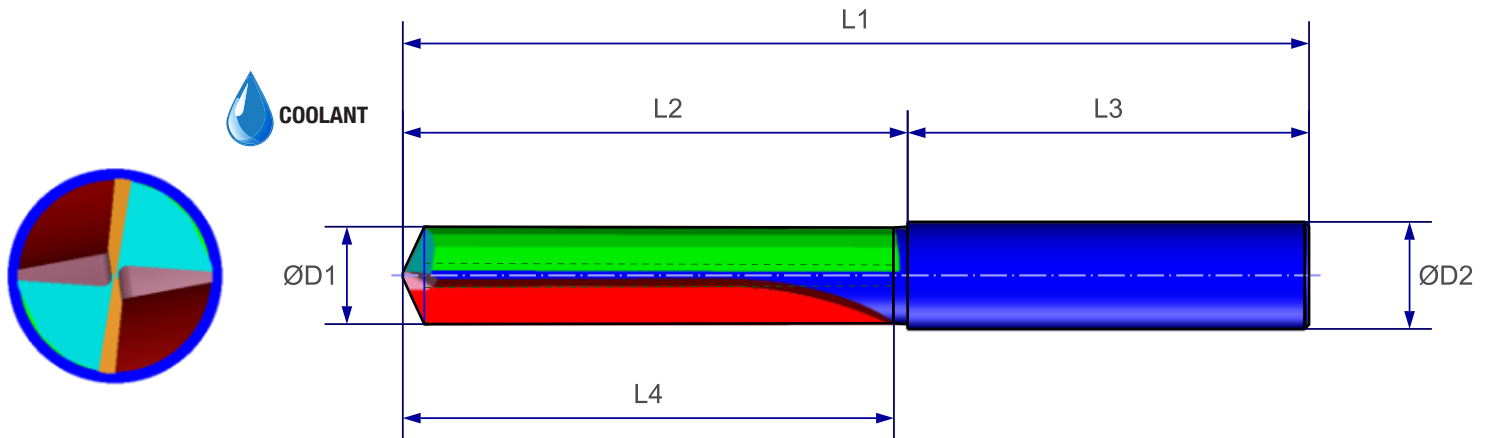
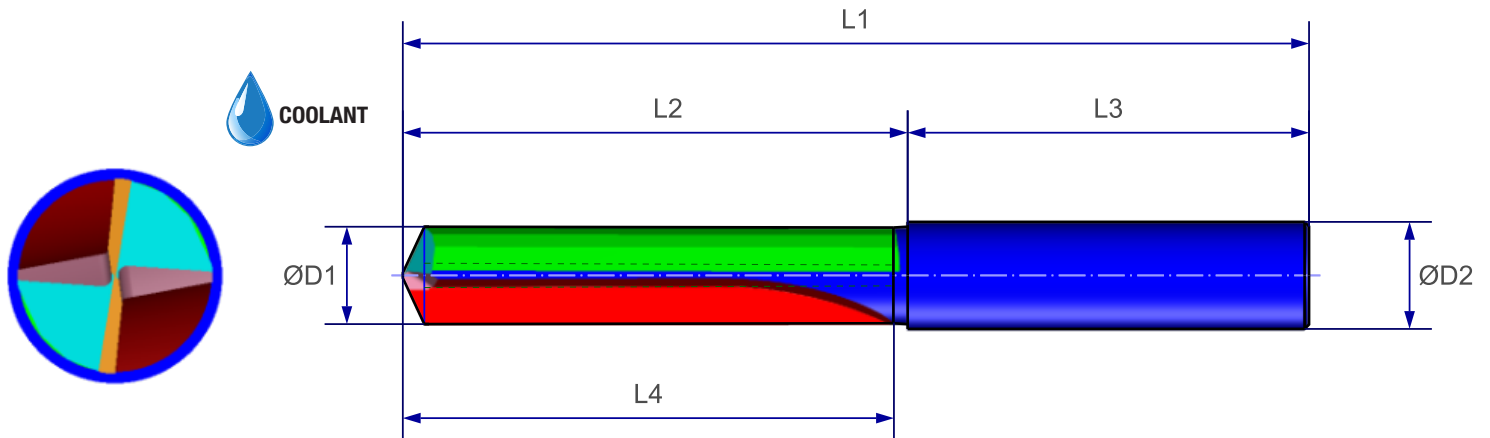


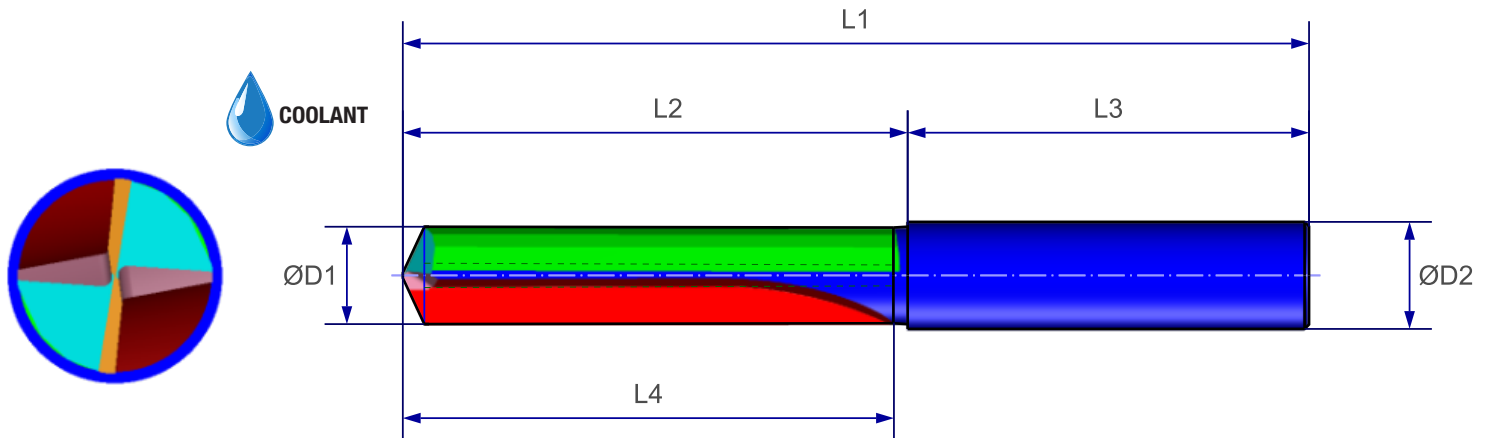
DESCRIPTION EXAMPLE... I=INCH, TT=TIGHT TOLERANCE, C=COOLANT, 2=FLUTES, 125=DIA, 5XD=FLUTE LENGTH	DRILL DIAMETER D1 inch m7	DRILLS FRACTIONAL & FOR THREADS	SHANK DIAMETER D2 metric	OAL L1 inch	FLUTE LENGTH L2 inch	DRILLING DEPTH L3 inch	SHANK LENGTH L4 inch
ITTC2-1562-5XD	.156	5/32	6	2.913	1.339	1.142	1.417
ITTC2-1610-5XD	.161	10-32 UNF	6	2.913	1.378	1.142	1.417
ITTC2-1690-5XD	.169	M5	6	2.913	1.378	1.142	1.417
ITTC2-1719-5XD	.172	11/64	6	2.913	1.378	1.142	1.417
ITTC2-1875-5XD	.188	3/16	6	3.228	1.654	1.378	1.417
ITTC2-1890-5XD	.189	12-32 UNF	6	3.228	1.654	1.378	1.417
ITTC2-2010-5XD	.201	M6	6	3.228	1.654	1.378	1.417
ITTC2-2031-5XD	.203	13/64	6	3.228	1.654	1.378	1.417
ITTC2-2188-5XD	.219	7/32	6	3.228	1.693	1.378	1.417
ITTC2-2344-5XD	.234	15/64	6	3.228	1.693	1.378	1.417
ITTC2-2500-5XD	.250	1/4	8	3.583	2.047	1.693	1.417
ITTC2-2640-5XD	.264	5/18-18UNF	8	3.583	2.087	1.693	1.417
ITTC2-2656-5XD	.266	17/64	8	3.583	2.087	1.693	1.417
ITTC2-2800-5XD	.280	MF8x1	8	3.583	2.087	1.693	1.417
ITTC2-2813-5XD	.281	9/32	8	3.583	2.087	1.693	1.417
ITTC2-2969-5XD	.297	19/64	8	3.583	2.126	1.693	1.417
ITTC2-3125-5XD	.313	5/16	8	3.583	2.126	1.693	1.417
ITTC2-3281-5XD	.328	21/64	10	4.055	2.402	1.929	1.575
ITTC2-3438-5XD	.344	11/32	10	4.055	2.441	1.929	1.575
ITTC2-3594-5XD	.359	23/64	10	4.055	2.441	1.929	1.575
ITTC2-3750-5XD	.375	3/8	10	4.055	2.480	1.929	1.575
ITTC2-3906-5XD	.391	25/64	10	4.055	2.480	1.929	1.575
ITTC2-3940-5XD	.394	7/16-20 UNF	12	4.646	2.795	2.205	1.575
ITTC2-4063-5XD	.406	13/32	12	4.646	2.795	2.205	1.772



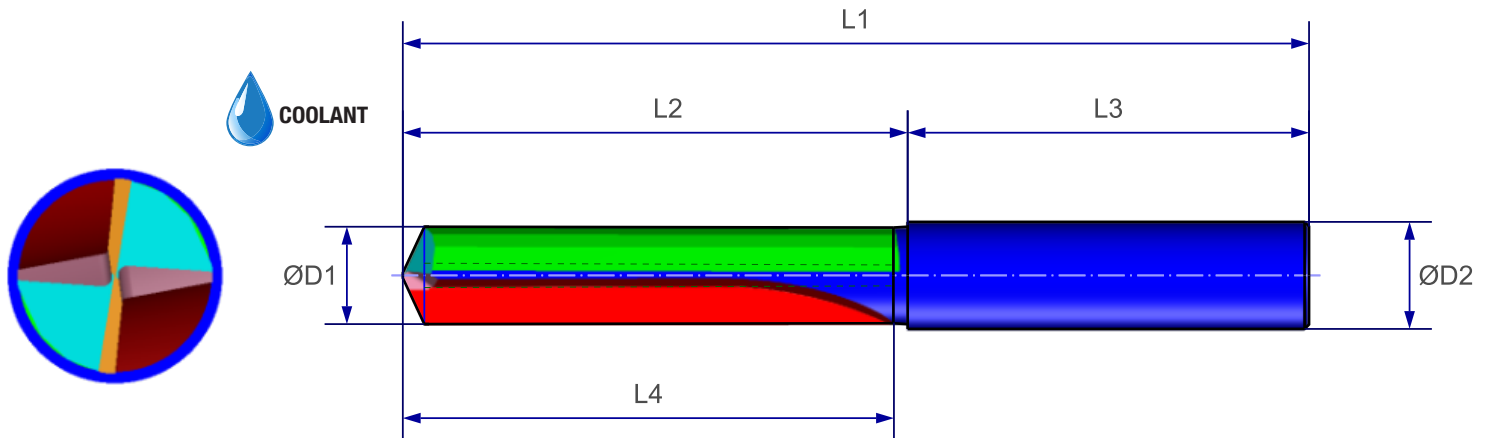
DESCRIPTION EXAMPLE... I=INCH, TT=TIGHT TOLERANCE, C=COOLANT, 2=FLUTES, 125=DIA, 5XD=FLUTE LENGTH	DRILL DIAMETER D1 inch m7	DRILLS FRACTIONAL & FOR THREADS	SHANK DIAMETER D2 metric	OAL L1 inch	FLUTE LENGTH L2 inch	DRILLING DEPTH L3 inch	SHANK LENGTH L4 inch
ITTC2-4210-5XD	.421	MF12x1.5	12	4.646	2.835	2.205	1.772
ITTC2-4375-5XD	.438	7/16	12	4.646	2.835	2.205	1.772
ITTC2-4531-5XD	.453	29/64	12	4.646	2.874	2.205	1.772
ITTC2-4570-5XD	.457	1/2-20 UNF	12	4.646	2.874	2.205	1.772
ITTC2-4690-5XD	.469	15/32	12	4.646	2.874	2.205	1.772
ITTC2-4844-5XD	.484	31/64	14	4.882	3.071	2.362	1.772
ITTC2-5000-5XD	.500	1/2	14	4.882	3.110	2.362	1.772
ITTC2-5469-5XD	.547	35/64	14	4.882	3.150	2.362	1.890
ITTC2-5625-5XD	.563	9/16	16	5.236	3.307	2.480	1.890
ITTC2-5781-5XD	.578	37/64	16	5.236	3.346	2.480	1.910
ITTC2-5938-5XD	.594	19/32	16	5.236	3.346	2.480	1.910
ITTC2-6094-5XD	.609	39/64	16	5.236	3.386	2.480	1.910
ITTC2-6250-5XD	.625	5/8	16	5.236	3.386	2.480	1.910
ITTC2-6875-5XD	.688	11/16	18	5.630	3.819	2.795	1.910
ITTC2-7500-5XD	.750	3/4	20	6.024	4.134	3.031	1.990



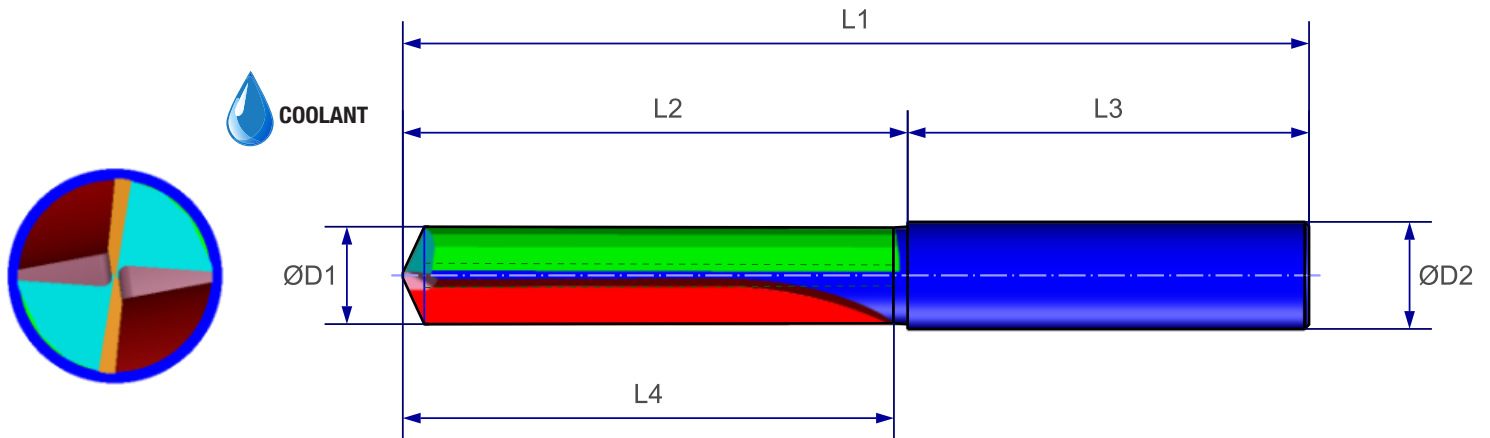
DESCRIPTION EXAMPLE... M=METRIC, TT=TIGHT TOLERANCE, C=COOLANT, 2=FLUTES, 3=Metric DIA 5XD=FLUTE LENGTH	DRILL DIAMETER D1 mm m7	DRILLS FOR THREADS	SHANK DIAMETER D2	OAL L1 mm	FLUTE LENGTH L2 mm	DRILLING DEPTH L3 mm	SHANK LENGTH L4 mm
MTT2-0400-5XD	4.00		6	74	35	29	36
MTT2-0410-5XD	4.10	10-32 UNC	6	74	35	29	36
MTT2-0420-5XD	4.20		6	74	35	29	36
MTT2-0430-5XD	4.30	M5	6	74	35	29	36
MTT2-0440-5XD	4.40		6	74	35	29	36
MTT2-0450-5XD	4.50		6	74	35	29	36
MTT2-0470-5XD	4.70		6	74	36	29	36
MTT2-0480-5XD	4.80	12-32 UNC	6	82	42	35	36
MTT2-0490-5XD	4.90		6	82	42	35	36
MTT2-0500-5XD	5.00		6	82	42	35	36
MTT2-0510-5XD	5.10	M6	6	82	42	35	36
MTT2-0520-5XD	5.20		6	82	42	35	36
MTT2-0530-5XD	5.30	1/4-20 UNC	6	82	42	35	36
MTT2-0540-5XD	5.40		6	82	43	35	36
MTT2-0550-5XD	5.50		6	82	43	35	36
MTT2-0560-5XD	5.60		6	82	43	35	36
MTT2-0570-5XD	5.70		6	82	43	35	36
MTT2-0580-5XD	5.80		6	82	43	35	36
MTT2-0590-5XD	5.90		6	82	43	35	36
MTT2-0600-5XD	6.00		8	91	52	43	36
MTT2-0610-5XD	6.10		8	91	52	43	36
MTT2-0620-5XD	6.20		8	91	52	43	36
MTT2-0630-5XD	6.30		8	91	52	43	36
MTT2-0640-5XD	6.40		8	91	52	43	36



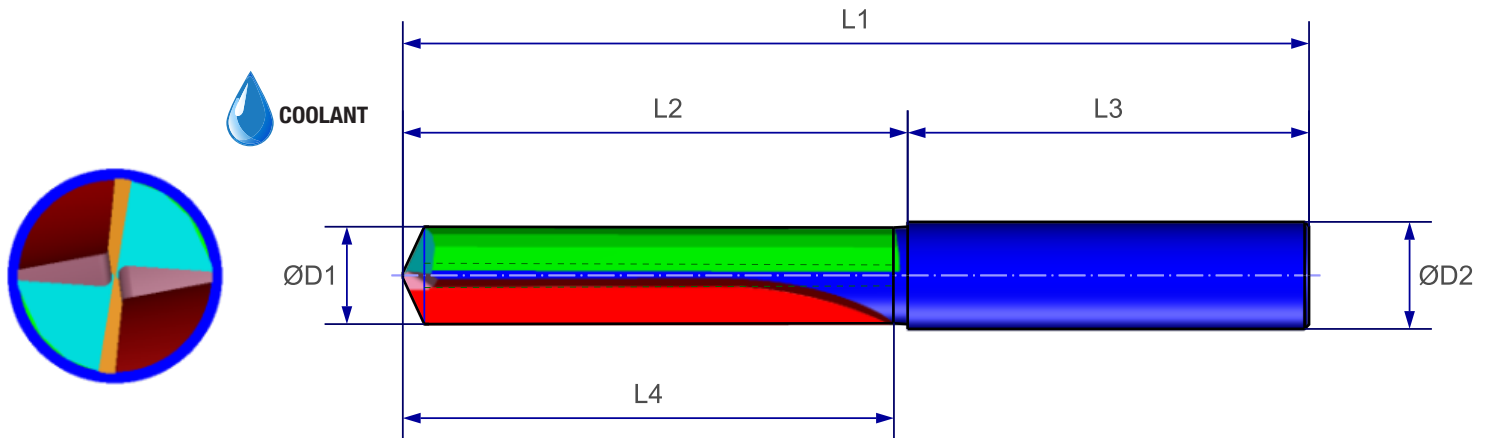
DESCRIPTION EXAMPLE... M=METRIC, TT=TIGHT TOLERANCE, C=COOLANT, 2=FLUTES, 3=Metric DIA 5XD=FLUTE LENGTH	DRILL DIAMETER D1 mm m7	DRILLS FOR THREADS	SHANK DIAMETER D2	OAL L1 mm	FLUTE LENGTH L2 mm	DRILLING DEPTH L3 mm	SHANK LENGTH L4 mm
MTT2-0650-5XD	6.50		8	91	52	43	36
MTT2-0660-5XD	6.60		8	91	52	43	36
MTT2-0670-5XD	6.70	5/18-18UNF	8	91	53	43	36
MTT2-0675-5XD	6.75		8	91	53	43	36
MTT2-0680-5XD	6.80		8	91	53	43	36
MTT2-0690-5XD	6.90	M8	8	91	53	43	36
MTT2-0700-5XD	7.00		8	91	53	43	36
MTT2-0710-5XD	7.10	MF8x1	8	91	53	43	36
MTT2-0720-5XD	7.20		8	91	53	43	36
MTT2-0730-5XD	7.30		8	91	53	43	36
MTT2-0740-5XD	7.40		8	91	54	43	36
MTT2-0750-5XD	7.50		8	91	54	43	36
MTT2-0760-5XD	7.60		8	91	54	43	36
MTT2-0770-5XD	7.70		8	91	54	43	36
MTT2-0780-5XD	7.80		8	91	54	43	36
MTT2-0790-5XD	7.90		8	91	54	43	36
MTT2-0800-5XD	8.00		10	103	61	49	40
MTT2-0810-5XD	8.10		10	103	61	49	40
MTT2-0820-5XD	8.20	3/8-16 UNC	10	103	61	49	40
MTT2-0830-5XD	8.30		10	103	61	49	40
MTT2-0840-5XD	8.40		10	103	61	49	40
MTT2-0850-5XD	8.50		10	103	61	49	40
MTT2-0860-5XD	8.60	3/8-24 UNF	10	103	61	49	40
MTT2-0870-5XD	8.70	M10	10	103	62	49	40



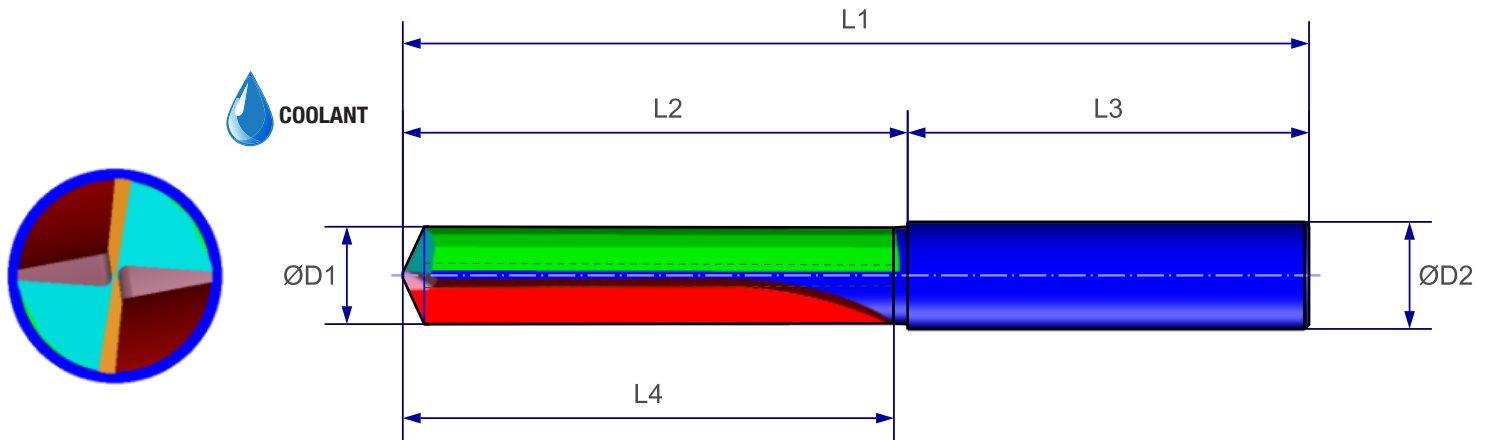
DESCRIPTION EXAMPLE... M=METRIC, TT=TIGHT TOLERANCE, C=COOLANT, 2=FLUTES, 3=Metric DIA 5XD=FLUTE LENGTH	DRILL DIAMETER D1 mm m7	DRILLS FOR THREADS	SHANK DIAMETER D2	OAL L1 mm	FLUTE LENGTH L2 mm	DRILLING DEPTH L3 mm	SHANK LENGTH L4 mm
MTT2-0880-5XD	8.80		10	103	62	49	40
MTT2-0890-5XD	8.90	MF10x1.25	10	103	62	49	40
MTT2-0900-5XD	9.00		10	103	62	49	40
MTT2-0910-5XD	9.10		10	103	62	49	40
MTT2-0920-5XD	9.20		10	103	62	49	40
MTT2-0930-5XD	9.30		10	103	62	49	40
MTT2-0940-5XD	9.40		10	103	63	49	40
MTT2-0950-5XD	9.50		10	103	63	49	40
MTT2-0960-5XD	9.60		10	103	63	49	40
MTT2-0970-5XD	9.70		10	103	63	49	40
MTT2-0980-5XD	9.70		10	103	63	49	40
MTT2-0990-5XD	9.90		10	103	63	49	40
MTT2-1000-5XD	10.00	7/16-20 UNF	12	118	71	56	45
MTT2-1010-5XD	10.10		12	118	71	56	45
MTT2-1020-5XD	10.20		12	118	71	56	45
MTT2-1030-5XD	10.30		12	118	71	56	45
MTT2-1040-5XD	10.40	M12	12	118	71	56	45
MTT2-1050-5XD	10.50		12	118	71	56	45
MTT2-1060-5XD	10.60		12	118	71	56	45
MTT2-1070-5XD	10.70	MF12x1.5	12	118	72	56	45
MTT2-1080-5XD	10.80		12	118	72	56	45
MTT2-1090-5XD	10.90		12	118	72	56	45
MTT2-1100-5XD	11.00	1/2-13 UNC	12	118	72	56	45
MTT2-1110-5XD	11.10		12	118	72	56	45



DESCRIPTION EXAMPLE... M=METRIC, TT=TIGHT TOLERANCE, C=COOLANT, 2=FLUTES, 3=Metric DIA 5XD=FLUTE LENGTH	DRILL DIAMETER D1 mm m7	DRILLS FOR THREADS	SHANK DIAMETER D2	OAL L1 mm	FLUTE LENGTH L2 mm	DRILLING DEPTH L3 mm	SHANK LENGTH L4 mm
MTT2-1120-5XD	11.20		12	118	72	56	45
MTT2-1140-5XD	11.40		12	118	73	56	45
MTT2-1150-5XD	11.50		12	118	73	56	45
MTT2-1160-5XD	11.60	1/2-20 UNF	12	118	73	56	45
MTT2-1170-5XD	11.70		12	118	73	56	45
MTT2-1180-5XD	11.80		12	118	73	56	45
MTT2-1190-5XD	11.90		12	118	73	56	45
MTT2-1200-5XD	12.00		14	124	78	60	45
MTT2-1210-5XD	12.10		14	124	78	60	45
MTT2-1220-5XD	12.20		14	124	78	60	45
MTT2-1230-5XD	12.30		14	124	78	60	45
MTT2-1250-5XD	12.50		14	124	78	60	45
MTT2-1260-5XD	12.60		14	124	78	60	45
MTT2-1270-5XD	12.70		14	124	79	60	45
MTT2-1280-5XD	12.80		14	124	79	60	45
MTT2-1290-5XD	12.90		14	124	79	60	45
MTT2-1300-5XD	13.00		14	124	79	60	45
MTT2-1310-5XD	13.10		14	124	79	60	45
MTT2-1320-5XD	13.20		14	124	79	60	45
MTT2-1330-5XD	13.30		14	124	79	60	45
MTT2-1350-5XD	13.50		14	124	80	60	45
MTT2-1380-5XD	13.80		14	124	80	60	45
MTT2-1400-5XD	14.00		16	133	84	63	48
MTT2-1410-5XD	14.10		16	133	84	63	48



DESCRIPTION EXAMPLE... M=METRIC, TT=TIGHT TOLERANCE, C=COOLANT, 2=FLUTES, 3=Metric DIA 5XD=FLUTE LENGTH	DRILL DIAMETER D1 mm m7	DRILLS FOR THREADS	SHANK DIAMETER D2	OAL L1 mm	FLUTE LENGTH L2 mm	DRILLING DEPTH L3 mm	SHANK LENGTH L4 mm
MTT2-1420-5XD	14.20		16	133	84	63	48
MTT2-1430-5XD	14.30		16	133	84	63	48
MTT2-1440-5XD	14.40		16	133	84	63	48
MTT2-1450-5XD	14.50		16	133	84	63	48
MTT2-1460-5XD	14.60		16	133	84	63	48
MTT2-1480-5XD	14.80		16	133	85	63	48
MTT2-1500-5XD	15.00		16	133	85	63	48
MTT2-1510-5XD	15.10		16	133	85	63	48
MTT2-1520-5XD	15.20		16	133	85	63	48
MTT2-1530-5XD	15.30		16	133	85	63	48
MTT2-1540-5XD	15.40		16	133	86	63	48
MTT2-1550-5XD	15.50		16	133	86	63	48
MTT2-1560-5XD	15.60		16	133	86	63	48
MTT2-1570-5XD	15.70		16	133	86	63	48
MTT2-1580-5XD	15.80		16	133	86	63	48
MTT2-1590-5XD	15.90		16	133	86	63	48
MTT2-1600-5XD	16.00		18	143	95	71	48
MTT2-1610-5XD	16.10		18	143	95	71	48
MTT2-1650-5XD	16.50		18	143	95	71	48
MTT2-1700-5XD	17.00		18	143	96	71	48
MTT2-1750-5XD	17.50		18	143	97	71	48
MTT2-1770-5XD	17.70		18	143	97	71	48
MTT2-1800-5XD	18.00		20	153	104	77	50
MTT2-1840-5XD	18.40		20	153	104	77	50



DESCRIPTION EXAMPLE... M=METRIC, TT=TIGHT TOLERANCE, C=COOLANT, 2=FLUTES, 3=Metric DIA 5XD=FLUTE LENGTH	DRILL DIAMETER D1 mm m7	DRILLS FOR THREADS	SHANK DIAMETER D2	OAL L1 mm	FLUTE LENGTH L2 mm	DRILLING DEPTH L3 mm	SHANK LENGTH L4 mm
MTT2-1850-5XD	18.50		20	153	104	77	50
MTT2-1900-5XD	19.00		20	153	105	77	50
MTT2-1910-5XD	19.10		20	153	105	77	50
MTT2-1920-5XD	19.20		20	153	105	77	50
MTT2-1930-5XD	19.30		20	153	105	77	50
MTT2-1950-5XD	19.50		20	153	106	77	50
MTT2-2000-5XD	20.00		20	153	107	77	50



Cutting Speed	Tool Diameter												
	inch	0.118	0.157	0.236	0.315	0.394	0.472	0.630	0.787	1			
	mm	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.4			
<b>Cast and Low-Strength Ductile Irons</b>				Tensile Strength RM (MPa)*: 150-400					Hardness (HB) or HRC: 120-290				
	Min.	Start	Max	Feed Rate by Diameter									
SFM	190	370	450	ipr	.004-.008	.005-.009	.006-.011	.007-.013	.008-.015	.009-.017	.012-.021	.013-.026	.016-.03
<b>Wrought Aluminum Alloys</b>				Tensile Strength RM (MPa)*: <520									
				Feed Rate by Diameter									
SFM	330	800	1400	ipr	.006-.010	.007-.011	.009-.014	.011-.017	.012-.020	.014-.022	.017-.027	.020-.032	.024-.038
<b>Cast Aluminum</b>				Tensile Strength RM (MPa)*: <350					Hardness (HB) or HRC: 70-100				
				Feed Rate by Diameter									
SFM	300	650	950	ipr	.006-.009	.007-.011	.008-.013	.010-.015	.012-.018	.013-.021	.017-.026	.020-.032	.024-.038
<b>Coper and Copper Alloys</b>				Tensile Strength RM (MPa)*: 200-650					Hardness (HB) or HCR: 60-200				
				Feed Rate by Diameter									
SFM	300	530	800	ipr	.006-.011	.006-.013	.007-.014	.009-.016	.010-.017	.011-.019	.013-.022	.014-.025	.017-.028
<b>Titanium Alloys</b>				Tensile Strength RM (MPa)*: 900-1600					Hardness (HB) or HRC: 300-400				
				Feed Rate by Diameter									
SFM	60	110	150	ipr	.002-.003	.002-.003	.002-.004	.003-.004	.004-.006	.005-.007	.007-.010	.009-.013	.011-.015