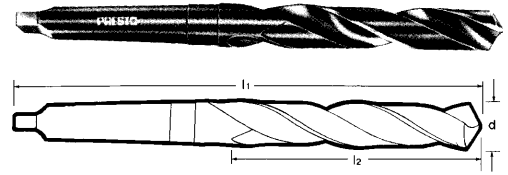


**MORSE TAPER SHANK DRILLS**

**Standard Helix**

BS 328 DIN 345 ISO 235/1



**11 000 HSS**      **Range**      **Finish**  
 1/16"-4"      P1 Blue  
 2.00mm-100.00mm      P1 Blue  
 Point Angle 118°  
 31/64, 12.00mm and above point thinned

No. 1 Morse Taper Shank					No. 1 Morse Taper Shank					No. 1 Morse Taper Shank				
Dia	Flute Length	Overall Length	Availability		Dia	Flute Length	Overall Length	Availability		Dia	Flute Length	Overall Length	Availability	
in	mm	mm	mm	mm	in	mm	mm	mm	mm	in	mm	mm	mm	mm
d	l <sub>2</sub>	l <sub>1</sub>			d	l <sub>2</sub>	l <sub>1</sub>			d	l <sub>2</sub>	l <sub>1</sub>		
1/16	20	101	•		15/64	57	138	•		3/8	87	168	•	
5/64	24	105	•		6.00	57	138	•		9.60	87	168	•	
	2.00	24	105	•	6.10	63	144	•		9.70	87	168	•	
	2.25	27	108	•	6.20	63	144	•		9.75	87	168	•	
3/32	30	111	•		6.25	63	144	•		9.80	87	168	•	
	2.50	30	111	•	6.30	63	144	•		9.90	87	168	•	
	2.75	33	114	•	1/4	63	144	•		25/64	87	168	•	
7/64	33	114	•		6.40	63	144	•		10.00	87	168	•	
	3.00	33	114	•	6.50	63	144	•		10.10	87	168	•	
	3.10	36	117	•	6.60	63	144	•		10.20	87	168	•	
1/8	36	117	•		6.70	63	144	•		10.25	87	168	•	
	3.20	36	117	•	17/64	69	150	•		10.30	87	168	•	
	3.25	36	117	•	6.75	69	150	•		13/32	87	168	•	
	3.30	36	117	•	6.80	69	150	•		10.40	87	168	•	
	3.40	39	120	•	6.90	69	150	•		10.50	87	168	•	
	3.50	39	120	•	7.00	69	150	•		10.60	87	168	•	
9/64	39	120	•		7.10	69	150	•		10.70	94	175	•	
	3.60	39	120	•	9/32	69	150	•		27/64	94	175	•	
	3.70	39	120	•	7.20	69	150	•		10.75	94	175	•	
	3.75	39	120	•	7.25	69	150	•		10.80	94	175	•	
	3.80	43	124	•	7.30	69	150	•		10.90	94	175	•	
	3.90	43	124	•	7.40	69	150	•		11.00	94	175	•	
5/32	43	124	•		7.50	69	150	•		11.10	94	175	•	
	4.00	43	124	•	19/64	75	156	•		7/16	94	175	•	
	4.10	43	124	•	7.60	75	156	•		11.20	94	175	•	
	4.20	43	124	•	7.70	75	156	•		11.25	94	175	•	
	4.25	43	124	•	7.75	75	156	•		11.30	94	175	•	
	4.30	47	128	•	7.80	75	156	•		11.40	94	175	•	
11/64	47	128	•		7.90	75	156	•		11.50	94	175	•	
	4.40	47	128	•	5/16	75	156	•		29/64	94	175	•	
	4.50	47	128	•	8.00	75	156	•		11.60	94	175	•	
	4.60	47	128	•	8.10	75	156	•		11.70	94	175	•	
	4.70	47	128	•	8.20	75	156	•		11.75	94	175	•	
	4.75	47	128	•	8.25	75	156	•		11.80	94	175	•	
3/16	52	133	•		8.30	75	156	•		11.90	101	182	•	
	4.80	52	133	•	21/64	75	156	•		15/32	101	182	•	
	4.90	52	133	•	8.40	75	156	•		12.00	101	182	•	
	5.00	52	133	•	8.50	75	156	•		12.10	101	182	•	
	5.10	52	133	•	8.60	81	162	•		12.20	101	182	•	
13/64	52	133	•		8.70	81	162	•		12.25	101	182	•	
	5.20	52	133	•	11/32	81	162	•		12.30	101	182	•	
	5.25	52	133	•	8.75	81	162	•		31/64	101	182	•	
	5.30	52	133	•	8.80	81	162	•		12.40	101	182	•	
	5.40	57	138	•	8.90	81	162	•		12.50	101	182	•	
	5.50	57	138	•	9.00	81	162	•		12.60	101	182	•	
7/32	57	138	•		9.10	81	162	•		12.70	101	182	•	
	5.60	57	138	•	23/64	81	162	•		1/2	101	182	•	
	5.70	57	138	•	9.20	81	162	•		12.75	101	182	•	
	5.75	57	138	•	9.25	81	162	•		12.80	101	182	•	
	5.80	57	138	•	9.30	81	162	•		12.90	101	182	•	
	5.90	57	138	•	9.40	81	162	•		13.00	101	182	•	
					9.50	81	162	•		33/64	101	182	•	

Twist Drills

Reamers

Taps & Dies

Milling Cutters

Milling Cutters

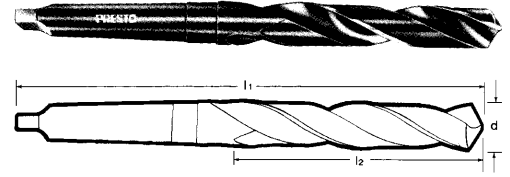
Pipe Threading Tools

Technical

**MORSE TAPER SHANK DRILLS**

**Standard Helix** *continued*

BS 328 DIN 345 ISO 235/1



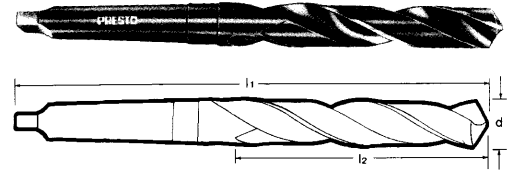
**11 000 HSS**      **Range**      **Finish**  
 1/16"-4"      P1 Blue  
 2.00mm-100.00mm      P1 Blue  
 Point Angle 118°  
 31/64, 12.00mm and above point thinned

11 000 HSS					11 000 HSS					11 000 HSS				
Dia		Flute Length mm l <sub>2</sub>	Overall Length mm l <sub>1</sub>	Availability	Dia		Flute Length mm l <sub>2</sub>	Overall Length mm l <sub>1</sub>	Availability	Dia		Flute Length mm l <sub>2</sub>	Overall Length mm l <sub>1</sub>	Availability
in	mm				in	mm				in	mm			
	13.10	101	182	●		17.50	130	228	●		23.00	155	253	●
	13.20	101	182	●		17.60	130	228	●	29/32		155	253	●
	13.25	108	189	●		17.70	130	228	●	No. 3 Morse Taper Shank				
	13.30	108	189	●		17.75	130	228	●		23.25	155	276	●
	13.40	108	189	●		17.80	130	228	●	59/64		155	276	●
17/32		108	189	●	45/64		130	228	●		23.50	155	276	●
	13.50	108	189	●		17.90	130	228	●		23.75	160	281	●
	13.60	108	189	●		18.00	130	228	●	15/16		160	281	●
	13.70	108	189	●		18.10	135	233	●		24.00	160	281	●
	13.75	108	189	●		18.20	135	233	●	61/64		160	281	●
	13.80	108	189	●		18.25	135	233	●		24.25	160	281	●
35/64		108	189	●	23/32		135	233	●		24.50	160	281	●
	13.90	108	189	●		18.50	135	233	●	31/32		160	281	●
	14.00	108	189	●	47/64		135	233	●		24.75	160	281	●
No. 2 Morse Taper Shank						18.75	135	233	●	* 63/64		160	281	●
	14.10	114	212	●		18.80	135	233	●		25.00	160	281	●
	14.20	114	212	●		19.00	135	233	●		25.25	165	286	●
	14.25	114	212	●	3/4		140	238	●	1		165	286	●
9/16		114	212	●		19.10	140	238	●		25.50	165	286	●
	14.50	114	212	●		19.20	140	238	●		25.75	165	286	●
	14.60	114	212	●		19.25	140	238	●	1.1/64		165	286	●
37/64		114	212	●		19.30	140	238	●		26.00	165	286	●
	14.75	114	212	●	49/64		140	238	●	1.1/32		165	286	●
	14.80	114	212	●		19.50	140	238	●		26.25	165	286	●
	14.90	114	212	●		19.75	140	238	●		26.50	165	286	●
	14.90	114	212	●		19.80	140	238	●	1.3/64		170	291	●
	15.00	114	212	●	25/32		140	238	●		26.75	170	291	●
19/32		120	218	●		19.90	140	238	●	1.1/16		170	291	●
	15.25	120	218	●		20.00	140	238	●		27.00	170	291	●
	15.30	120	218	●		20.20	145	243	●		27.25	170	291	●
39/64		120	218	●	51/64		145	243	●	1.5/64		170	291	●
	15.50	120	218	●		20.25	145	243	●		27.50	170	291	●
	15.60	120	218	●		20.40	145	243	●		27.75	170	291	●
	15.75	120	218	●		20.50	145	243	●	1.3/32		170	291	●
5/8		120	218	●	13/16		145	243	●		28.00	170	291	●
	15.90	120	218	●		20.75	145	243	●	1.7/64		175	296	●
	16.00	120	218	●		21.00	145	243	●		28.25	175	296	●
	16.10	125	223	●	53/64		145	243	●		28.50	175	296	●
	16.20	125	223	●		21.20	145	243	●	1.1/8		175	296	●
	16.25	125	223	●		21.25	150	248	●		28.75	175	296	●
41/64		125	223	●		21.30	150	248	●	1.9/64		175	296	●
	16.30	125	223	●	27/32		150	248	●		29.00	175	296	●
	16.50	125	223	●		21.50	150	248	●		29.25	175	296	●
	16.60	125	223	●		21.75	150	248	●	1.5/32		175	296	●
21/32		125	223	●	55/64		150	248	●		29.50	175	296	●
	16.75	125	223	●		22.00	150	248	●		29.75	175	296	●
	17.00	125	223	●	7/8		150	248	●	1.11/64		175	296	●
43/64		130	228	●		22.25	150	248	●		30.00	175	296	●
	17.10	130	228	●		22.40	150	248	●	1.3/16		180	301	●
	17.25	130	228	●		22.50	155	253	●		30.25	180	301	●
	17.30	130	228	●	57/64		155	253	●		30.50	180	301	●
11/16		130	228	●		22.75	155	253	●					

**MORSE TAPER SHANK DRILLS**

**Standard Helix** *continued*

BS 328 DIN 345 ISO 235/1



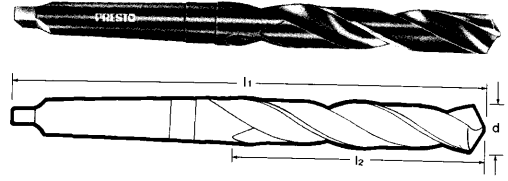
**11 000 HSS**      **Range**      **Finish**  
 1/16"-4"      P1 Blue  
 2.00mm-100.00mm      P1 Blue  
 Point Angle 118°  
 31/64, 12.00mm and above point thinned

11 000 HSS					11 000 HSS					11 000 HSS				
Dia in	Dia mm	Flute Length mm	Overall Length mm	Availability	Dia in	Dia mm	Flute Length mm	Overall Length mm	Availability	Dia in	Dia mm	Flute Length mm	Overall Length mm	Availability
d		l <sub>2</sub>	l <sub>1</sub>		d		l <sub>2</sub>	l <sub>1</sub>		d		l <sub>2</sub>	l <sub>1</sub>	
1.13/64		180	301	●	41.00	205	354	354	●	2.1/16		225	412	●
	30.75	180	301	●	1.5/8		205	354	●		52.50	225	412	●
1.7/32		180	301	●		41.50	205	354	●		53.00	225	412	●
	31.00	180	301	●	1.41/64		205	354	●	2.3/32		230	417	●
	31.25	180	301	●		42.00	205	354	●		53.50	230	417	●
1.15/64		180	301	●	1.21/32		205	354	●	2.1/8		230	417	●
	31.50	180	301	●	1.43/64		205	354	●		54.00	230	417	●
1.1/4	31.75	185	306	●		42.50	205	354	●		54.50	230	417	●
					1.11/16		210	359	●	2.5/32		230	417	●
						43.00	210	359	●		55.00	230	417	●
					1.45/64		210	359	●		55.50	230	417	●
No. 4 Morse Taper Shank						43.50	210	359	●	2.3/16		230	417	●
	32.00	185	334	●	1.23/32		210	359	●		56.00	230	417	●
1.17/64		185	334	●		44.00	210	359	●	2.7/32		235	422	●
	32.50	185	334	●	1.47/64		210	359	●		56.50	235	422	●
1.9/32		185	334	●		1.3/4	210	359	●		57.00	235	422	●
	32.75	185	334	●		44.50	210	359	●	2.1/4		235	422	●
1.19/64		185	334	●	1.49/64		210	359	●		57.50	235	422	●
	33.00	185	334	●		45.00	210	359	●	2.9/32		235	422	●
1.5/16		185	334	●	1.25/32		215	364	●		58.00	235	422	●
	33.50	185	334	●		45.50	215	364	●		58.50	235	422	●
1.21/64		190	339	●	1.51/64		215	364	●	2.5/16		235	422	●
	34.00	190	339	●		46.00	215	364	●		59.00	235	422	●
1.11/32		190	339	●	1.13/16		215	364	●		59.50	235	422	●
	34.50	190	339	●	1.53/64		215	364	●	2.11/32		235	422	●
1.23/64		190	339	●		46.50	215	364	●		60.00	235	422	●
	1.3/8	190	339	●	1.27/32		215	364	●	2.3/8		240	427	●
	35.00	190	339	●		47.00	215	364	●		61.00	240	427	●
1.25/64		190	339	●	1.55/64		215	364	●	2.13/32		240	427	●
	35.50	190	339	●		47.50	215	364	●	2.7/16		240	427	●
1.13/32		195	344	●	1.7/8		220	369	●		62.00	240	427	●
	36.00	195	344	●		48.00	220	369	●	2.15/32		240	427	●
1.27/64		195	344	●	1.57/64		220	369	●		63.00	240	427	●
	36.50	195	344	●	1.29/32		220	369	●	2.1/2		245	432	●
1.7/16		195	344	●		48.50	220	369	●		64.00	245	432	●
1.29/64		195	344	●	1.59/64		220	369	●	2.17/32		245	432	●
	37.00	195	344	●		49.00	220	369	●		65.00	245	432	●
1.15/32		195	344	●	1.15/16		220	369	●	2.9/16		245	432	●
	37.50	195	344	●		49.50	220	369	●	2.19/32		245	432	●
1.31/64		200	349	●	1.61/64		220	369	●		66.00	245	432	●
	38.00	200	349	●		50.00	220	369	●	2.5/8		245	432	●
1.1/2		200	349	●	1.31/32		225	374	●		67.00	245	432	●
1.33/64		200	349	●										
	38.50	200	349	●										

**MORSE TAPER SHANK DRILLS**

**Standard Helix** *continued*

BS 328 DIN 345 ISO 235/1



	<b>Range</b>	<b>Finish</b>
<b>11 000 HSS</b>	1/16"-4" 2.00mm-100.00mm	P1 Blue P1 Blue
	Point Angle 118° 31/64, 12.00mm and above point thinned	

Dia in d	mm	Flute Length mm l <sub>2</sub>	Overall Length mm l <sub>1</sub>	Availability
----------------	----	---	---	--------------

Dia in d	mm	Flute Length mm l <sub>2</sub>	Overall Length mm l <sub>1</sub>	Availability
----------------	----	---	---	--------------

	72.00	255	442	•
2.27/32		255	442	•
	73.00	255	442	•
2.7/8		255	442	•
2.29/32		255	442	•
	74.00	255	442	•
2.15/16		255	442	•
	75.00	255	442	•
2.31/32		260	447	•
	76.00	260	447	•
3		260	447	•

	3.13/16	280	534	•
	97.00	280	534	•
	98.00	280	534	•
3.7/8		280	534	•
	99.00	280	534	•
	100.00	280	534	•
3.15/16		280	534	•
4		285	539	•

No. 6 Morse Taper Shank

3.1/32	260	514	•	
	77.00	260	514	•
3.1/16	260	514	•	
	78.00	260	514	•
3.3/32	260	514	•	
	79.00	260	514	•
3.1/8	260	514	•	
	80.00	260	514	•
3.5/32	265	519	•	
3.3/16	265	519	•	
	81.00	265	519	•
3.7/32	265	519	•	
	82.00	265	519	•
3.1/4	265	519	•	
	83.00	265	519	•
3.9/32	265	519	•	
	84.00	265	519	•
3.5/16	265	519	•	
3.11/32	265	519	•	
	85.00	265	519	•
3.3/8	270	524	•	
	86.00	270	524	•
3.13/32	270	524	•	
	87.00	270	524	•
3.7/16	270	524	•	
	88.00	270	524	•
3.15/32	270	524	•	
3.1/2	270	524	•	
	89.00	270	524	•
	90.00	270	524	•
3.9/16	275	529	•	
	91.00	275	529	•
	92.00	275	529	•
3.5/8	275	529	•	
	93.00	275	529	•
3.11/16	275	529	•	
	94.00	275	529	•
	95.00	275	529	•
3.3/4	280	534	•	
	96.00	280	534	•