PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

MANUFACTURERS & SUPPLIERS OF

PRECISION CUTTING TOOLS



PRODUCT CATALOGUE

Drills• Centre drills• Toolbits• Taps• Carbide Products

CUSTOMER FOCUS | INTEGRITY | TEAMWORK | PASSION FOR EXCELLENCE | ACCOUNTABILITY | RESPECT

PRECISION DELIVERED

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

COMPANY PROFILE

ABOUT US

A Legacy Reintroduced. A Future Reimagined.

Ashok Piramal Tools Pvt. Ltd. marks the return of the Piramal Group to the cutting tools industry, bringing back decades of manufacturing excellence, technical expertise, and customer trust.

Today, we combine this legacy of excellence with modern manufacturing practices, advanced technology, and a forward-looking vision to create innovative cutting tool solutions for customers in India and across global markets.

With deep expertise in Drills, Tool Bits, Taps, Centre Drills, Rotary Burrs, Carbide Tip Tools, Solid Carbide End Mills and other precision cutting tools, our team is committed to delivering products that meet the highest standards of quality, performance, and reliability.

Backed by industry expertise and a customer-centric approach, we continuously strive to develop and supply tools that meet international quality standards and the evolving demands of the manufacturing sector.

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

Our Brand Philosophy

Purpose
Empowering manufacturing through trusted precision.

Vision
To become India's most trusted precision cutting tools company.

Mission
To deliver world-class cutting tools that provide consistent performance and dependable quality with reasonable value.

Precision Delivered

Precision is not something that happens by chance. It is a promise.

At Piramal Tools, every product begins with a commitment to accuracy. From selecting premium raw materials to manufacturing, heat treatment, grinding, coating, inspection, and final packaging, every stage is controlled with one purpose—to deliver precision that our customers can rely on.

For us, precision is more than dimensional accuracy. It means delivering consistent performance, longer tool life, predictable productivity, and dependable quality every time a customer opens our package.

Our customers don't just buy a cutting tool—they buy confidence. Confidence that every hole will be accurate, every thread will be true, every cut will perform, and every delivery will meet expectations.

Precision Delivered represents our promise:

* Precision in engineering.
* Precision in manufacturing.
* Precision in quality.
* Precision in service.
* Precision in every delivery.

Because true precision is not claimed, It is delivered.

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

OUR PRINCIPLES

CORE VALUES

We abide by these enduring values that are the foundation of our business and at the heart of all we do each day.

CUSTOMER FOCUS

- We listen to our customers.
- We are committed to delivering real value.
- We take ownership of our customer's problem until it is solved.

INTEGRITY

- We hold ourselves and others to the highest ethical standards.
- We are honest and constructively give and accept candid feedback.
- We build relationships of trust to share and accept the truth.
- We do the right things even when no one is watching.

TEAMWORK

- We respect others and value their ideas and point of view.
- We work together and support each other to achieve our goals.
- We incorporate fun with hard work.
- We have a passion for winning — we all play an important role.

PASSION FOR EXCELLENCE

- We strive to find better ways to solve customer problems.
- We embrace change and use it to shape our own future.
- We seek innovative solutions to achieve a competitive advantage.
- We recognize outstanding performance and inspire each other to succeed.

ACCOUNTABILITY

- We take ownership of results delivered in our area of work.
- We are responsible for and committed to our own growth and development.
- We work through challenges and obstacles to achieve a successful outcome.

RESPECT

- We show consideration, listen and seek inputs, and treat each other fairly.
- We acknowledge work-life balance as a key driver of competitive edge.
- We value diversity of people and ideas irrespective of experience.

CONTENTS

Description	Page No.
DRILLING TECHNOLOGY	06-31
HSS JOBBER (BRIGHT AND GOLD) SERIES DRILLS	07-11
HSS GOLD TECHNICAL DETAILS	12
QSD DRILLS (QUICK SPIRAL DRILLS)	13-15
QSD DRILLS TECHNICAL DETAILS	16
HSS STUB SERIES DRILLS	17-18
HSS LONG SERIES DRILLS	19-20
HSS EXTRA LONG SERIES DRILLS	21
HSS TAPER SHANK DRILLS	22-23
HSS CENTRE DRILLS	24-25
DRILLS TECHNICAL DETAILS	26-31
TURNING TECHNOLOGY	32-46
HSS SQUARE TOOL BITS (ECO)	33
HSS SQUARE TOOL BITS	34
HSS ROUND TOOL BITS	35
HSS RECTANGULAR (FLAT) TOOL BITS	36
TOOLBITS TECHNICAL DETAILS	37
CARBIDE TIPPED TOOLS	38-46
THREDING TECHNOLOGY	47-51
HAND TAPS	48
HAND TAPS SPECIFICATION	49
RETAPPING TAPS	50
RETAPPING TAPS SPECIFICATION	51
DEBURRING TECHNOLOGY	52-55
TUNGSTEN CARBIDE ROTARY BURRS	
MILLING TECHNOLOGY	56-59
SOLID CARBIDE ENDMILLS	

PRECISION DRILLS

PRECISION DRILLING | HIGH PERFORMANCE | LONG TOOL LIFE



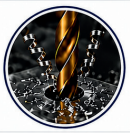
PRECISION THAT PERFORMS

DRILLS



ACCURATE HOLE POSITIONING

Designed for precise and consistent hole location.



SMOOTH CHIP EVACUATION

Optimized flute geometry for efficient chip removal.



EXCELLENT HOLE FINISH

Consistent drilling performance for superior surface finish.



EXTENDED TOOL LIFE

High-quality HSS material and optimized geometry for longer service life.

PRECISION DELIVERED

HSS JOBBER SERIES DRILLS

DIN 338 | JOBBER SERIES | HSS M-2

HSS M-2	25-30°	118°	IS:5101	DIN 338	M.S.	C.I.	S.S.	ALLOY
GRADE	HELIX	POINT	STD	STD	STEEL	CAST IRON	STAINLESS	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
1.00	12	34	10
1.05	12	34	10
1.10	14	36	10
1.15	14	36	10
1.20	16	38	10
1.25	16	38	10
1.30	16	38	10
1.35	18	40	10
1.40	18	40	10
1.45	18	40	10
1.50	18	40	10
1.55	20	43	10
1.60 (1/16")	20	43	10
1.65	20	43	10
1.70	20	43	10
1.75	22	46	10
1.80	22	46	10
1.85	22	46	10
1.90	22	46	10
1.95	24	49	10
2.00 (5/64")	24	49	10
2.05	24	49	10
2.10	24	49	10
2.15	27	53	10
2.20	27	53	10
2.25	27	53	10
2.30	27	53	10
2.35	27	53	10
2.40	30	57	10
2.45	30	57	10
2.50	30	57	10
2.55	30	57	10

DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
2.60	30	57	10
2.65	30	57	10
2.70	33	61	10
2.78 (7/64")	33	61	10
2.80	33	61	10
2.85	33	61	10
2.90	33	61	10
3.00	33	61	10
3.10	36	65	10
3.15	36	65	10
3.20 (1/8")	36	65	10
3.25	36	65	10
3.30	36	65	10
3.40	39	70	10
3.50	39	70	10
3.60 (9/64")	39	70	10
3.65	39	70	10
3.70	39	70	10
3.75	39	70	10
3.80	43	75	10
3.90	43	75	10
3.95	43	75	10
4.00 (5/32")	43	75	10
4.05	43	75	10
4.10	43	75	10
4.15	43	75	10
4.20	43	75	10
4.25	43	75	10
4.30	47	80	10
4.37 (11/64")	47	80	10
4.40	47	80	10
4.50	47	80	10

⚠ **Special size drills & coating available on request.**

HSS JOBBER SERIES DRILLS

DIN 338 | JOBBER SERIES | HSS M-2

HSS M-2	25-30°	118°	IS:5101	DIN 338	M.S.	C.I.	S.S.	ALLOY
GRADE	HELIX	POINT	STD	STD	STEEL	CAST IRON	STAINLESS	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
4.55	47	80	10
4.60	47	80	10
4.70	47	80	10
4.75 (3/16")	52	86	10
4.80	52	86	10
4.85	52	86	10
4.90	52	86	10
4.95	52	86	10
5.00	52	86	10
5.10	52	86	10
5.20 (13/64")	52	86	10
5.25	52	86	10
5.30	52	86	10
5.40	57	93	10
5.50	57	93	10
5.60 (7/32")	57	93	10
5.70	57	93	10
5.75	57	93	10
5.80	57	93	10
5.90	57	93	10
6.00 (15/64")	57	93	10
6.10	63	101	10
6.20	63	101	10
6.25	63	101	10
6.30	63	101	10
6.40 (1/4")	63	101	10
6.50	63	101	10
6.60	63	101	10
6.70	63	101	10
6.75 (17/64")	69	109	10
6.80	69	109	10
6.90	69	109	10

DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
7.00	69	109	10
7.10	69	109	10
7.20 (9/32")	69	109	10
7.25	69	109	10
7.30	69	109	10
7.40	69	109	10
7.50	69	109	10
7.60 (19/64")	75	117	10
7.70	75	117	10
7.75	75	117	10
7.80	75	117	10
7.90	75	117	10
8.00 (5/16")	75	117	10
8.10	75	117	10
8.20	75	117	10
8.30	75	117	10
8.40 (21/64")	75	117	10
8.50	75	117	10
8.60	81	125	10
8.65	81	125	10
8.70	81	125	10
8.75 (11/32")	81	125	10
8.80	81	125	10
8.90	81	125	10
9.00	81	125	10
9.10 (23/64")	81	125	10
9.20	81	125	10
9.25	81	125	10
9.30	81	125	10
9.40	81	125	10
9.50	81	125	10
9.60 (3/8")	87	133	10

⚠ **Special size drills & coating available on request.**

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

HSS JOBBER SERIES DRILLS

DIN 338 | JOBBER SERIES | HSS M-2

HSS M-2	25-30°	118°	IS:5101	DIN 338	M.S.	C.I.	S.S.	ALLOY
GRADE	HELIX	POINT	STD	STD	STEEL	CAST IRON	STAINLESS	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
9.70	87	133	10
9.75	87	133	10
9.80	87	133	10
9.90	87	133	10
10.00 (25/64")	87	133	10
10.10	87	133	10
10.20	87	133	10
10.25 (13/32")	87	133	10
10.30	87	133	10
10.40	87	133	10
10.50	87	133	10
10.60	87	133	10
10.70 (27/64")	94	142	10
10.75	94	142	10
10.80	94	142	10
10.90	94	142	10
11.00	94	142	10
11.10 (7/16")	94	142	10
11.20	94	142	10
11.25	94	142	10
11.30	94	142	10
11.40	94	142	10
11.50 (29/64")	94	142	10
11.60	94	142	10
11.70	94	142	10
11.80	94	142	10
11.90 (15/32")	101	151	10
12.00	101	151	10
12.10	101	151	10
12.20	101	151	10
12.25	101	151	10
12.30 (31/64")	101	151	10

DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
12.40	101	151	10
12.50	101	151	10
12.60	101	151	10
12.70 (1/2")	101	151	10
12.75	101	151	10
12.80	101	151	10
12.90	101	151	10
13.00	101	151	10

⚠ **Special size drills & coating available on request.**

HSS JOBBER SERIES DRILLS

DIN 338 | LETTER GAUGE | HSS M-2

HSS M-2	25-30°	118°	IS:5101	DIN 338	M.S.	C.I.	S.S.	ALLOY
GRADE	HELIX	POINT	STD	STD	STEEL	CAST IRON	STAINLESS	STEEL



LETTER GAUGE	DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
LG A	5.94	57	93	10
LG B	6.04	63	101	10
LG C	5.15	63	101	10
LG D	6.25	63	101	10
LG E	6.35	63	101	10
LG F	6.35	63	101	10
LG G	6.63	63	101	10
LG H	6.75	69	109	10
LG I	6.9	69	109	10
LG G	7.03	69	109	10
LG K	7.14	69	109	10
LG L	7.37	69	109	10
LG M	7.49	69	109	10
LG N	7.67	75	117	10
LG O	8.03	75	117	10
LG P	8.20	75	117	10
LG Q	8.43	75	117	10
LG R	8.61	81	125	10
LG S	8.84	81	125	10
LG T	9.09	81	125	10
LG U	9.34	81	125	10
LG V	9.58	87	133	10
LG W	9.80	87	133	10
LG X	10.08	87	133	10
LG Y	10.26	87	133	10
LG Z	10.49	87	133	10

⚠ **Special size drills & coating available on request.**

PIRAMAL TOOLS

ASHOK PIRAMAL GROUP

HSS JOBBER SERIES DRILLS

DIN 338 | WIRE GAUGE | HSS M-2

HSS M-2	25-30°	118°	IS:5101	DIN 338	M.S.	C.I.	S.S	ALLOY
GRADE	HELIX	POINT	STD	STD	STEEL	CAST IRON	STAINLESS	STEEL



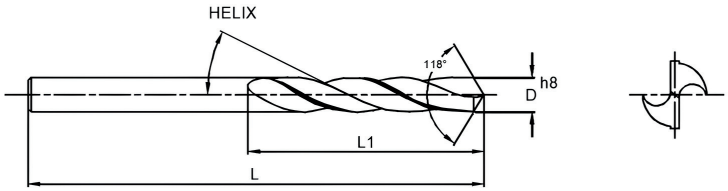
WIRE GAUGE	DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
WG 60	1.02	12	34	10
WG 59	1.04	12	34	10
WG 58	1.07	14	36	10
WG 57	1.09	14	36	10
WG 56	1.18	14	36	10
WG 55	1.32	16	38	10
WG 54	1.4	18	40	10
WG 53	1.51	20	43	10
WG 52	1.61	20	43	10
WG 51	1.7	20	43	10
WG 50	1.78	22	46	10
WG 49	1.85	22	46	10
WG 48	1.93	24	49	10
WG 47	1.99	24	49	10
WG 46	2.06	24	49	10
WG 45	2.08	24	49	10
WG 44	2.18	27	53	10
WG 43	2.26	27	53	10
WG 42	2.37	30	57	10
WG41	2.44	30	57	10
WG 40	2.49	30	57	10
WG 39	2.53	30	57	10
WG 38	2.58	30	57	10
WG 37	2.64	33	61	10
WG 36	2.71	33	61	10
WG 35	2.79	33	61	10
WG 34	2.82	33	61	10
WG 33	2.87	33	61	10
WG 32	2.95	33	61	10
WG 31	3.05	36	65	10

WIRE GAUGE	DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
WG 30	3.26	36	65	10
WG 29	3.45	39	70	10
WG 28	3.57	39	70	10
WG 27	3.66	39	70	10
WG 26	3.73	39	70	10
WG 25	3.8	43	75	10
WG 24	3.86	43	75	10
WG 23	3.91	43	75	10
WG 22	3.99	43	75	10
WG 21	4.04	43	75	10
WG 20	4.09	43	75	10
WG 19	4.22	43	75	10
WG 18	4.3	47	80	10
WG 17	4.39	47	80	10
WG 16	4.5	47	80	10
WG 15	4.57	47	80	10
WG 14	4.62	47	80	10
WG 13	4.7	52	86	10
WG 12	4.8	52	86	10
WG 11	4.85	52	86	10
WG 10	4.92	52	86	10
WG 9	4.98	52	86	10
WG 8	5.06	52	86	10
WG 7	5.11	52	86	10
WG 6	5.18	52	86	10
WG 5	5.22	52	86	10
WG 4	5.31	57	93	10
WG 3	5.41	57	93	10
WG 2	5.61	57	93	10
WG 1	5.79	57	93	10

⚠ **Special size drills & coating available on request.**

HSS GOLD DRILLS

DIN 338 | GOLD DRILLS | HSS M-2 (PRECISION & LONG LIFE DRILLING)





SIZE RANGE : GOLD JOBBER DRILL

- Metricsize : 1.0 mm to 13.0 mm
- Inch size : 3/64" to 1/2"

SIZE RANGE: GOLD STUB DRILL

- Metric size: 1.5 mm to 13.0 mm
- Inch size: 5/64" to 1/2"

SIZE RANGE: GOLD LONG DRILL

- Metric size: 1.00 mm to 13.0 mm
- Inch size: 3/64" to 1/2"

APPLICATION:

- Suitable for non-ferrous metals.
- Suitable for aluminium alloy and cast steel.
- Suitable for hardness up to 25HRc.
- Suitable for general applications.

ADVANTAGES:

- Premium-grade industrial steel and super-hard performance coating for longer life, heat resistance, and precision drilling
- Unique flute design for superior material removal. Special heat treatment provides additional strength.
- Improved hole finish due to better lubrication properties. Improves productivity by 30% compared to a standard drill.

SPECIALLY DESIGNED:

- Specially designed and treated for precision drilling in general-purpose steel for longer life and heat resistance.
- Performs well in a broad range of materials in the iron and steel categories.

RECOMMENDED RPM & FEED (MM/REV) FOR DRILLING

Work Material	Steels		Cast Iron		Alloy Steel		Aluminium		Copper		Stainless Steel		Plastic		Magnesium Alloy		Brass	
Dia (mm)	RPM	MM /REV	RPM	MM /REV	RPM	MM /REV	RPM	MM /REV	RPM	MM /REV	RPM	MM /REV	RPM	MM /REV	RPM	MM /REV	RPM	MM /REV
2	3550	0.03	3550	0.03	1800	0.02	10000	0.03	2800	0.03	1800	0.03	8000	0.03	14000	0.03	5000	0.04
3	2240	0.06	2240	0.06	1120	0.03	6300	0.06	1800	0.06	1120	0.06	5000	0.06	9000	0.06	3150	0.08
5	1400	0.11	1400	0.11	710	0.05	4000	0.11	1120	0.11	710	0.11	3150	0.11	5600	0.11	2000	0.14
8	900	0.16	900	0.16	450	0.08	2500	0.16	710	0.16	450	0.16	2000	0.16	3550	0.16	1250	0.20
12	560	0.22	560	0.22	280	0.11	1600	0.22	450	0.22	280	0.22	1250	0.22	2240	0.22	800	0.28
16	450	0.25	450	0.25	224	0.13	1250	0.25	355	0.25	224	0.25	1000	0.25	1800	0.25	630	0.33
20	355	0.30	355	0.30	180	0.15	1000	0.30	280	0.30	180	0.30	800	0.30	1400	0.30	500	0.38

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

QSD DRILLS

DIN 338 | QUICK SPIRAL | HSS M-35

QSD™ QUICK SPIRAL DRILL

HSS M-35	32-40°	130°	IS:5101	DIN 338	S.S.	FORGED	ALLOY	PRE HARDENED
GRADE	HELIX	POINT	STD	STD	STEEL	STEEL	STEEL	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
1.00	12	34	10
1.05	12	34	10
1.10	14	36	10
1.15	14	36	10
1.20	16	38	10
1.25	16	38	10
1.30	16	38	10
1.35	18	40	10
1.40	18	40	10
1.45	18	40	10
1.50	18	40	10
1.55	20	43	10
1.60 (1/16")	20	43	10
1.65	20	43	10
1.70	20	43	10
1.75	22	46	10
1.80	22	46	10
1.85	22	46	10
1.90	22	46	10
1.95	24	49	10
2.00 (5/64")	24	49	10
2.05	24	49	10
2.10	24	49	10
2.15	27	53	10
2.20	27	53	10
2.25	27	53	10
2.30	27	53	10
2.35	27	53	10
2.40	30	57	10
2.45	30	57	10
2.50	30	57	10
2.55	30	57	10

DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
2.60	30	57	10
2.65	30	57	10
2.70	33	61	10
2.78 (7/64")	33	61	10
2.80	33	61	10
2.85	33	61	10
2.90	33	61	10
3.00	33	61	10
3.10	36	65	10
3.15	36	65	10
3.20 (1/8")	36	65	10
3.25	36	65	10
3.30	36	65	10
3.40	39	70	10
3.50	39	70	10
3.60 (9/64")	39	70	10
3.65	39	70	10
3.70	39	70	10
3.75	39	70	10
3.80	43	75	10
3.90	43	75	10
3.95	43	75	10
4.00 (5/32")	43	75	10
4.05	43	75	10
4.10	43	75	10
4.15	43	75	10
4.20	43	75	10
4.25	43	75	10
4.30	47	80	10
4.37 (11/64")	47	80	10
4.40	47	80	10
4.50	47	80	10

⚠ **Special size drills & coating available on request.**

QSD DRILLS

DIN 338 | QUICK SPIRAL | HSS M-35

QSD™ QUICK SPIRAL DRILL

HSS M-35	32-40°	130°	IS:5101	DIN 338	S.S.	FORGED	ALLOY	PRE HARDENED
GRADE	HELIX	POINT	STD	STD	STEEL	STEEL	STEEL	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
4.55	47	80	10
4.60	47	80	10
4.70	47	80	10
4.75 (3/16")	52	86	10
4.80	52	86	10
4.85	52	86	10
4.90	52	86	10
4.95	52	86	10
5.00	52	86	10
5.10	52	86	10
5.20 (13/64")	52	86	10
5.25	52	86	10
5.30	52	86	10
5.40	57	93	10
5.50	57	93	10
5.60 (7/32")	57	93	10
5.70	57	93	10
5.75	57	93	10
5.80	57	93	10
5.90	57	93	10
6.00 (15/64")	57	93	10
6.10	63	101	10
6.20	63	101	10
6.25	63	101	10
6.30	63	101	10
6.40 (1/4")	63	101	10
6.50	63	101	10
6.60	63	101	10
6.70	63	101	10
6.75 (17/64")	69	109	10
6.80	69	109	10
6.90	69	109	10

DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
7.00	69	109	10
7.10	69	109	10
7.20 (9/32")	69	109	10
7.25	69	109	10
7.30	69	109	10
7.40	69	109	10
7.50	69	109	10
7.60 (19/64")	75	117	10
7.70	75	117	10
7.75	75	117	10
7.80	75	117	10
7.90	75	117	10
8.00 (5/16")	75	117	10
8.10	75	117	10
8.20	75	117	10
8.30	75	117	10
8.40 (21/64")	75	117	10
8.50	75	117	10
8.60	81	125	10
8.65	81	125	10
8.70	81	125	10
8.75 (11/32")	81	125	10
8.80	81	125	10
8.90	81	125	10
9.00	81	125	10
9.10 (23/64")	81	125	10
9.20	81	125	10
9.25	81	125	10
9.30	81	125	10
9.40	81	125	10
9.50	81	125	10
9.60 (3/8")	87	133	10

⚠ **Special size drills & coating available on request.**

QSD DRILLS

DIN 338 | QUICK SPIRAL | HSS M-35

QSD™ QUICK SPIRAL DRILL

HSS M-35	32-40°	130°	IS:5101	DIN 338	S.S.	FORGED	ALLOY	PRE HARDENED
GRADE	HELIX	POINT	STD	STD	STEEL	STEEL	STEEL	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
9.70	87	133	10
9.75	87	133	10
9.80	87	133	10
9.90	87	133	10
10.00 (25/64")	87	133	10
10.10	87	133	10
10.20	87	133	10
10.25 (13/32")	87	133	10
10.30	87	133	10
10.40	87	133	10
10.50	87	133	10
10.60	87	133	10
10.70 (27/64")	94	142	10
10.75	94	142	10
10.80	94	142	10
10.90	94	142	10
11.00	94	142	10
11.10 (7/16")	94	142	10
11.20	94	142	10
11.25	94	142	10
11.30	94	142	10
11.40	94	142	10
11.50 (29/64")	94	142	10
11.60	94	142	10
11.70	94	142	10
11.80	94	142	10
11.90 (15/32")	101	151	10
12.00	101	151	10
12.10	101	151	10
12.20	101	151	10
12.25	101	151	10
12.30 (31/64")	101	151	10

DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
12.40	101	151	10
12.50	101	151	10
12.60	101	151	10
12.70 (1/2")	101	151	10
12.75	101	151	10
12.80	101	151	10
12.90	101	151	10
13.00	101	151	10

⚠ **Special size drills & coating available on request.**

QSD DRILLS

DIN 338 | QUICK SPIRAL | HSS M-35

SPECIALLY DESIGNED:



- Inch size: 5/64" to 1/2"
- Metric size: 1.5 mm to 13.0 mm

ADVANTAGES:

- High helix flute and reinforced web gives maximum rigidity.
- Improved cutting action and faster chip evacuation.
- Self centering drill with special web thinning that reduces thurst.
- Trouble free drilling for high alloy steel material.
- Reduced contact area that results into less heat generation.
- Good for drilling on curved surface.
- Higher productivity as compared to standard drill on hard metal drilling.
- 130° self-centering split point that requires less torque and thrust in machine drilling and thus reduce axial force and increases tool life. This point helps break up chips in deep hole drilling and is an excellent choice when used on CNC equipment.

APPLICATIONS:

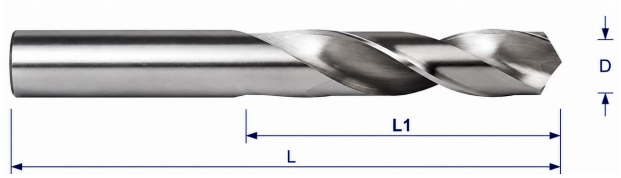
- Higher helix angle are and perform well for gummy materials like alluminium and excel in stainless and heat resistance alloys.
- Recommended for Stainless steel,Aluminium,Brass and other non ferrous metals.

Work Material	Steels containing a high proportion (>10%) of nickel chrome and nickle		Corrosion and heat resisting alloys containing a high proportion of carbon, chrome, and molybdenum		Titanium Alloy	
Cutting Condition	cutting speed 10 m/min.		cutting speed 6.3 m/min.		cutting speed 4 m/min.	
Dia (mm)	Rev. per min	Feed mm/rev.	Rev. per min	Feed mm/rev.	Rev. per min	Feed mm/rev.
2.00	1600	0.02	1000	0.02	630	0.02
2.50	1250	0.02	800	0.02	500	0.02
3.15	1000	0.03	630	0.03	400	0.03
4.00	800	0.04	500	0.04	315	0.04
5.00	630	0.05	400	0.04	250	0.04
6.30	500	0.06	315	0.04	200	0.04
8.00	400	0.08	250	0.06	160	0.06
10.00	315	0.10	200	0.08	125	0.08
12.50	250	0.10	160	0.08	100	0.08

HSS STUB SERIES DRILLS

DIN 1897 | STUB SERIES | HSS M-2

HSS M-2	25-30°	118°	IS:5101	DIN 1897	M.S.	C.I.	ALLOY	PRE HARDENED
GRADE	HELIX	POINT	STD	STD	STEEL	CAST IRON	STEEL	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
3.00	16	46	10
3.10	18	49	10
3.20	18	49	10
3.30	18	49	10
3.40	20	52	10
3.50	20	52	10
3.60	20	52	10
3.70	20	52	10
3.80	22	55	10
3.90	22	55	10
4.00	22	55	10
4.10	22	55	10
4.20	22	55	10
4.30	24	58	10
4.40	24	58	10
4.50	24	58	10
4.60	24	58	10
4.70	24	58	10
4.80	26	62	10
4.90	26	62	10
5.00	26	62	10
5.10	26	62	10
5.20	26	62	10
5.30	26	62	10
5.40	28	66	10
5.50	28	66	10
5.60	28	66	10
5.70	28	66	10
5.80	28	66	10
5.90	28	66	10
6.00	28	66	10
6.10	31	70	10

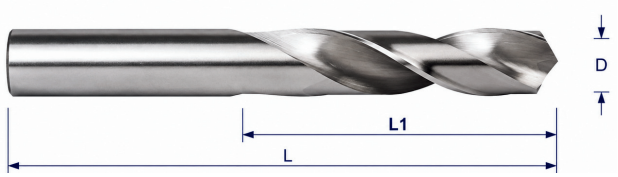
DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
6.20	31	70	10
6.30	31	70	10
6.40	31	70	10
6.50	31	70	10
6.60	31	70	10
6.70	31	70	10
6.80	34	74	10
6.90	34	74	10
7.00	34	74	10
7.10	34	74	10
7.20	34	74	10
7.30	34	74	10
7.40	34	74	10
7.50	34	74	10
7.60	37	79	10
7.70	37	79	10
7.80	37	79	10
7.90	37	79	10
8.00	37	79	10
8.10	37	79	10
8.20	37	79	10
8.30	37	79	10
8.40	37	79	10
8.50	37	79	10
8.60	40	84	10
8.70	40	84	10
8.80	40	84	10
8.90	40	84	10
9.00	40	84	10
9.10	40	84	10
9.20	40	84	10
9.30	40	84	10

⚠ **Special size drills & coating available on request.**

HSS STUB SERIES DRILLS

DIN 1897 | STUB SERIES | HSS M-2

HSS M-2	25-30°	118°	IS:5101	DIN 1897	M.S.	C.I.	ALLOY	PRE HARDENED
GRADE	HELIX	POINT	STD	STD	STEEL	CAST IRON	STEEL	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
9.40	40	84	10
9.50	40	84	10
9.60	43	89	10
9.70	43	89	10
9.80	43	89	10
9.90	43	89	10
10.00	43	89	10
10.10	43	89	10
10.20	43	89	10
10.30	43	89	10
10.40	43	89	10
10.50	43	89	10
10.60	43	89	10
10.70	47	95	10
10.80	47	95	10
10.90	47	95	10
11.00	47	95	10
11.10	47	95	10
11.20	47	95	10
11.30	47	95	10
11.40	47	95	10
11.50	47	95	10
11.60	47	95	10
11.70	47	95	10
11.80	47	95	10
11.90	51	102	10
12.00	51	102	10
12.10	51	102	10
12.20	51	102	10
12.30	51	102	10
12.40	51	102	10

DRILL DIA MM (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
12.50	51	102	10
12.60	51	102	10
12.70	51	102	10
12.80	51	102	10
12.90	51	102	10
13.00	51	102	10

⚠ **Special size drills & coating available on request.**

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

HSS LONG SERIES DRILLS

DIN 340 | LONG SERIES | HSS M-2

HSS M-2	25-30°	118°	IS:5102	DIN 340	M.S.	C.I.	ALLOY	DEEP HOLE
GRADE	HELIX	POINT	STD	STD	STEEL	CAST IRON	STEEL	DRILLING



DRILL DIA (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
1.00	33	56	10
1.10	37	60	10
1.20	41	65	10
1.30	41	65	10
1.40	45	70	10
1.50	45	70	10
1/16"	50	76	10
1.60	50	76	10
1.70	50	76	10
1.80	53	80	10
1.90	53	80	10
5/64"	56	85	10
2.00	56	85	10
2.10	56	85	10
2.20	59	90	10
2.30	59	90	10
3/32"	62	95	10
2.40	62	95	10
2.50	62	95	10
2.60	62	95	10
2.70	66	100	10
7/64"	66	100	10
2.80	66	100	10
2.90	66	100	10
3.00	66	100	10
3.10	69	106	10
1/8"	69	106	10
3.20	69	106	10
3.30	69	106	10
3.40	73	112	10
3.50	73	112	10
9/64"	73	112	10
3.60	73	112	10
3.70	73	112	10
3.80	78	119	10

DRILL DIA (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
3.90	78	119	10
5/32"	78	119	10
4.00	78	119	10
4.10	78	119	10
4.20	78	119	10
4.30	82	126	10
11/64"	82	126	10
4.40	82	126	10
4.50	82	126	10
4.60	82	126	10
4.70	82	126	10
3/16"	87	132	10
4.80	87	132	10
4.90	87	132	10
5.00	87	132	10
5.10	87	132	10
13/64"	87	132	10
5.20	87	132	10
5.30	87	132	10
5.40	91	132	10
5.50	91	139	10
7/32”	91	139	10
5.60	91	139	10
5.70	91	139	10
5.80	91	139	10
5.90	91	139	10
15/64”	91	139	10
6.00	91	139	10
6.10	97	148	10
6.20	97	148	10
6.30	97	148	10
1/4"	97	148	10
6.40	97	148	10
6.50	97	148	10
6.60	97	148	10

⚠ **Special size drills & coating available on request.**

HSS LONG SERIES DRILLS

DIN 340 | LONG SERIES | HSS M-2

HSS M-2	25-30°	118°	IS:5102	DIN 340	M.S.	C.I.	ALLOY	DEEP HOLE
GRADE	HELIX	POINT	STD	STD	STEEL	CAST IRON	STEEL	DRILLING



DRILL DIA (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
6.70	97	148	10
17/64"	102	156	10
6.80	102	156	10
6.90	102	156	10
7.00	102	156	10
7.10	102	156	10
9/32"	102	156	10
7.20	102	156	10
7.30	102	156	10
7.40	102	156	10
7.50	102	156	10
19/64"	109	165	10
7.60	109	165	10
7.70	109	165	10
7.80	109	165	10
7.90	109	165	10
5/16"	109	165	10
8.00	109	165	10
8.10	109	165	10
8.20	109	165	10
8.30	109	165	10
21/64"	109	165	10
8.40	109	165	10
8.50	109	165	10
8.60	115	175	10
8.70	115	175	10
11/32"	115	175	10
8.80	115	175	10
8.90	115	175	10
9.00	115	175	10
23/64"	115	175	10
9.20	115	175	10
9.50	115	175	10
3/8"	115	184	10
9.80	121	184	10

DRILL DIA (D)	FLUTE LENGTH MM (L1)	OVERALL LENGTH MM (L)	PCK QTY NOS.
9.90	121	184	10
25/64"	121	184	10
10.00	121	184	10
10.20	121	184	10
13/32"	121	184	10
10.50	121	184	10
10.70	128	195	10
27/64"	128	195	10
10.80	128	195	10
11.00	128	195	10
7/16"	128	195	10
11.20	128	195	10
11.50	128	195	10
29/64"	128	195	10
11.80	128	195	10
15/32"	134	205	10
12.20	134	205	10
12.20	134	205	10
31/64"	134	205	10
1/2"	134	205	10
13.00	134	205	10

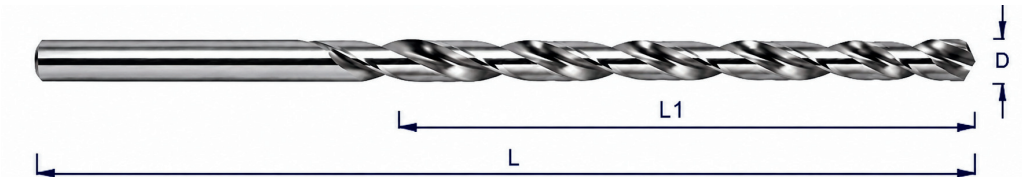
⚠ **Special size drills & coating available on request.**

HSS EXTRA LONG DRILLS

BS | EXTRA LONG SERIES | HSS M-2

HSS M-2	25-30°	118°	BS
GRADE	HELIX	POINT	STANDARD

M.S.	C.I.	ALLOY	DEEP HOLE
STEEL	CAST IRON	STEEL	DRILLING



DRILL DIA (D)		OVERALL LENGTH MM (L)	125	160	200	250	315	400
		FLUTE LENGTH MM (L1)	80	100	150	200	250	300
2.00	—	—	✓	✓	—	—	—	—
2.50	—	—	✓	✓	—	—	—	—
3.00	1/8"	—	—	✓	✓	—	—	—
3.50	—	—	—	✓	✓	✓	—	—
4.00	5/32"	—	—	✓	✓	✓	✓	—
4.50	—	—	—	✓	✓	✓	✓	—
5.00	3/16"	—	—	—	✓	✓	✓	✓
5.50	7/32"	—	—	—	✓	✓	✓	✓
6.00	—	—	—	—	✓	✓	✓	✓
6.50	1/4"	—	—	—	✓	✓	✓	✓
7.00	—	—	—	—	✓	✓	✓	✓
7.50	9/32"	—	—	—	—	✓	✓	✓
8.00	5/16"	—	—	—	—	✓	✓	✓
8.50	11/32"	—	—	—	—	✓	✓	✓
9.00	—	—	—	—	—	✓	✓	✓
9.50	3/8"	—	—	—	—	✓	✓	✓
10.00	—	—	—	—	—	✓	✓	✓
10.50	13/32"	—	—	—	—	✓	✓	✓
11.00	7/16"	—	—	—	—	✓	✓	✓
11.50	—	—	—	—	—	✓	✓	✓
12.00	15/32"	—	—	—	—	✓	✓	✓
12.50	1/2"	—	—	—	—	✓	✓	✓
13.00	—	—	—	—	—	✓	✓	✓
RANGE OF DRILL DIA (D)		—	2.0 TO 2.65	2.0 TO 4.75	2.65 TO 7.50	3.35 TO 13.0	3.75 TO 13.0	4.75 TO 13.00

Note : Other details will be maintained as per IS : 7823-2005

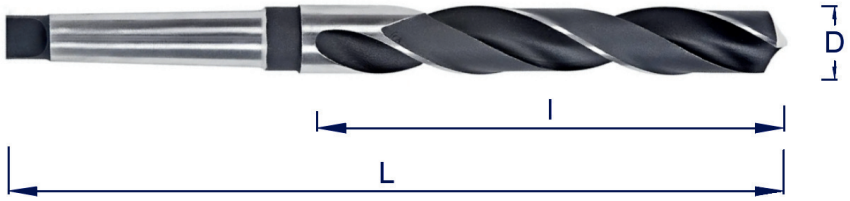
⚠ **Special size drills & coating available on request.**

HSS TAPER SHANK DRILLS

DIN 345 | TYPE-N | HSS M-2

HSS M-2	25-30°	118°	DIN 345
GRADE	HELIX	POINT	STD

M.S.	C.I.	S.S.	ALLOY
STEEL	CAST IRON	STAINLESS	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (l)	OVERALL LENGTH MM (L)	MT SHANK
10.00	87	168	MT1
10.50	87	168	MT1
11.00	94	175	MT1
11.50	94	175	MT1
12.00	101	182	MT1
12.50	101	182	MT1
13.00	101	182	MT1
13.50	108	189	MT1
14.00	108	189	MT1
14.50	114	212	MT2
15.00	114	212	MT2
15.50	120	218	MT2
15.87(15.87")	120	218	MT2
16.00	120	218	MT2
16.50	125	223	MT2
17.00	125	223	MT2
17.46(11/16")	130	228	MT2
17.50	130	228	MT2
18.00	130	228	MT2
18.50	135	233	MT2
19.00	135	233	MT2
19.05 (3/4")	140	238	MT2
19.50	140	238	MT2
20.00	140	238	MT2

DRILL DIA MM (D)	FLUTE LENGTH MM (l)	OVERALL LENGTH MM (L)	MT SHANK
20.50	145	243	MT2
21.00	145	243	MT2
21.50	150	248	MT2
22.00	150	248	MT2
22.50	155	253	MT2
23.00	155	253	MT2
23.50	155	253	MT3
24.00	160	281	MT3
24.50	160	281	MT3
25.00	160	281	MT3
25.50	165	286	MT3
26.00	165	286	MT3
26.50	165	286	MT3
27.00	170	291	MT3
27.50	170	291	MT3
28.00	175	296	MT3
28.50	175	296	MT3
29.00	175	296	MT3
29.50	175	296	MT3
30.00	175	296	MT3
30.50	180	301	MT3
31.00	180	301	MT3
31.50	180	301	MT3
32.00	185	306	MT4

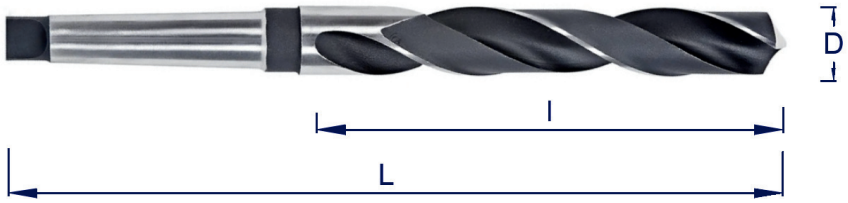
⚠ **Special size drills & coating available on request.**

HSS TAPER SHANK DRILLS

DIN 345 | TYPE-N | HSS M-2

HSS M-2	25-30°	118°	DIN 345
GRADE	HELIX	POINT	STD

M.S.	C.I.	S.S.	ALLOY
STEEL	CAST IRON	STAINLESS	STEEL



DRILL DIA MM (D)	FLUTE LENGTH MM (l)	OVERALL LENGTH MM (L)	MT SHANK
32.50	185	306	MT4
33.00	185	306	MT4
33.50	185	306	MT4
34.00	190	339	MT4
34.50	190	339	MT4
35.00	190	339	MT4
35.50	190	339	MT4
36.00	195	344	MT4
36.50	195	344	MT4
37.00	195	344	MT4
37.50	195	344	MT4
38.00	200	349	MT4
38.50	200	349	MT4
39.00	200	349	MT4
39.50	200	349	MT4
40.00	200	349	MT4
40.50	205	354	MT4
41.50	205	354	MT4

DRILL DIA MM (D)	FLUTE LENGTH MM (l)	OVERALL LENGTH MM (L)	MT SHANK
42.00	205	354	MT4
42.50	205	354	MT4
43.00	210	359	MT4
43.50	210	359	MT4
44.00	210	359	MT4
44.50	215	364	MT4
45.00	215	364	MT4
45.50	215	364	MT4
46.00	215	364	MT4
46.50	215	364	MT4
47.00	215	364	MT4
47.50	215	364	MT4
48.00	220	369	MT4
48.50	220	369	MT4
49.00	220	369	MT4
49.50	220	369	MT4
50.00	220	369	MT4

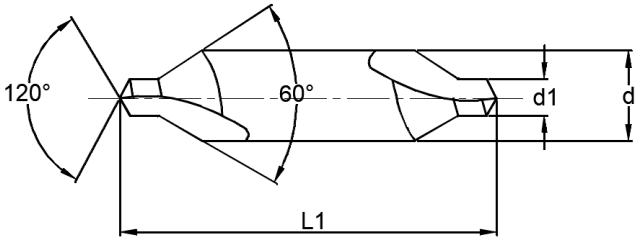
⚠ **Special size drills & coating available on request.**

HSS CENTRE DRILLS

DIN 333 | TYPE-A | TYPE-B | HSS M-2

TYPE-A IS:6708-1977 , DIN:333

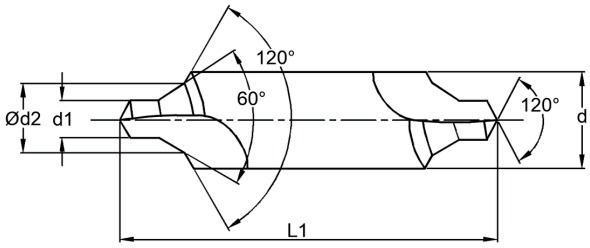




PILOT DIA MM (d1)	BODY DIA MM (d)	OVERALL LENGTH MM (L1)	PCK QTY NOS.
1.00	3.15	32	1
1.25	3.15	32	1
1.60	4.00	36	1
2.00	5.00	40	1
2.50	6.30	45	1
3.15	8.00	50	1
4.00	10.00	56	1
5.00	12.50	63	1
6.30	16.00	71	1
8.00	20.00	80	1
10.00	25.00	100	1

TYPE-B IS:6709-1977 , DIN:333





PILOT DIA MM (d1)	BODY DIA MM (d)	BELL DIA MM (d2)	OVERALL LENGTH MM (L1)	PCK QTY NOS.
1.00	4.00	2.12	36	1
1.25	5.00	2.65	40	1
1.60	6.30	3.35	45	1
2.00	8.00	4.25	50	1
2.50	10.00	5.30	56	1
3.15	11.20	6.70	60	1
4.00	14.00	8.50	67	1
5.00	18.00	10.60	75	1
6.30	20.00	13.20	80	1
8.00	25.00	17.00	100	1
10.00	31.50	21.20	125	1

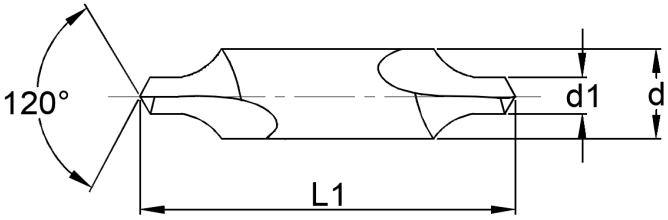
⚠ **Special size centre drills & coating available on request.**

HSS CENTRE DRILLS

DIN 333 | TYPE-R | TYPE-B.S | HSS M-2

TYPE-R IS:6710-1977 , DIN:333

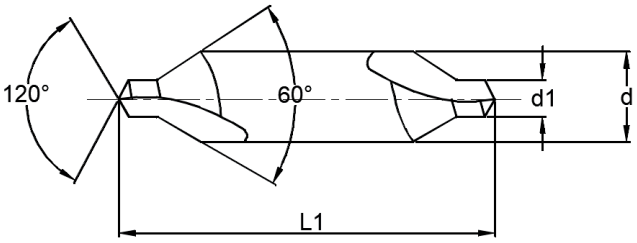




PILOT DIA MM (d1)	BODY DIA MM (d)	OVERALL LENGTH MM (L1)	PCK QTY NOS.
1.00	3.15	32	1
1.25	3.15	32	1
1.60	4.00	36	1
2.00	5.00	40	1
2.50	6.30	45	1
3.15	8.00	50	1
4.00	10.00	56	1
5.00	12.50	63	1
6.30	16.00	71	1

TYPE-B.S 328/II/1950

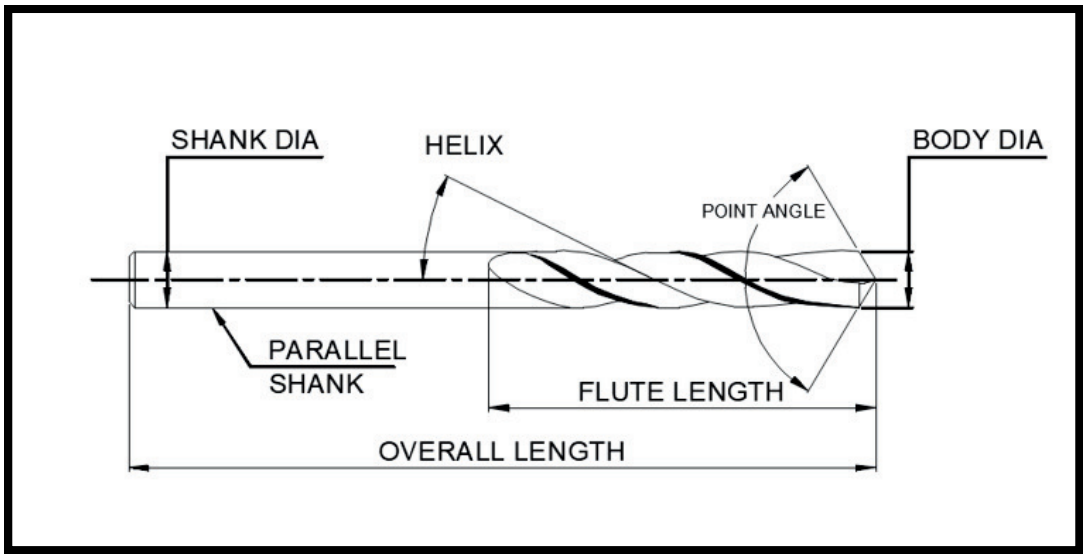


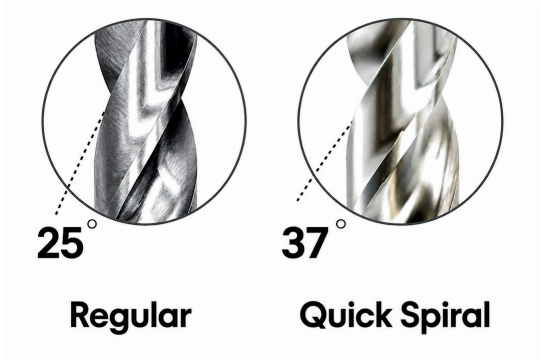


BS NO.	PILOT DIA INCH (d1)	BODY DIA INCH (d)	OVERALL LENGTH INCH (L1)	PCK QTY NOS.
BS-1	3/64"	1/8"	1.1/2"	1
BS-2	1/16"	3/16"	1.3/4"	1
BS-3	3/32"	1/4"	2"	1
BS-4	1/8"	5/16"	2.1/4"	1
BS-5	3/16"	7/16"	2.1/2"	1
BS-6	1/4”	5/8"	3"	1
BS-7	5/16"	3/4"	3.1/2"	1

⚠ **Special size centre drills & coating available on request.**

Twist Drill Terms – General Features





DRILLS DIFFERENT HELIX AND THEIR USES

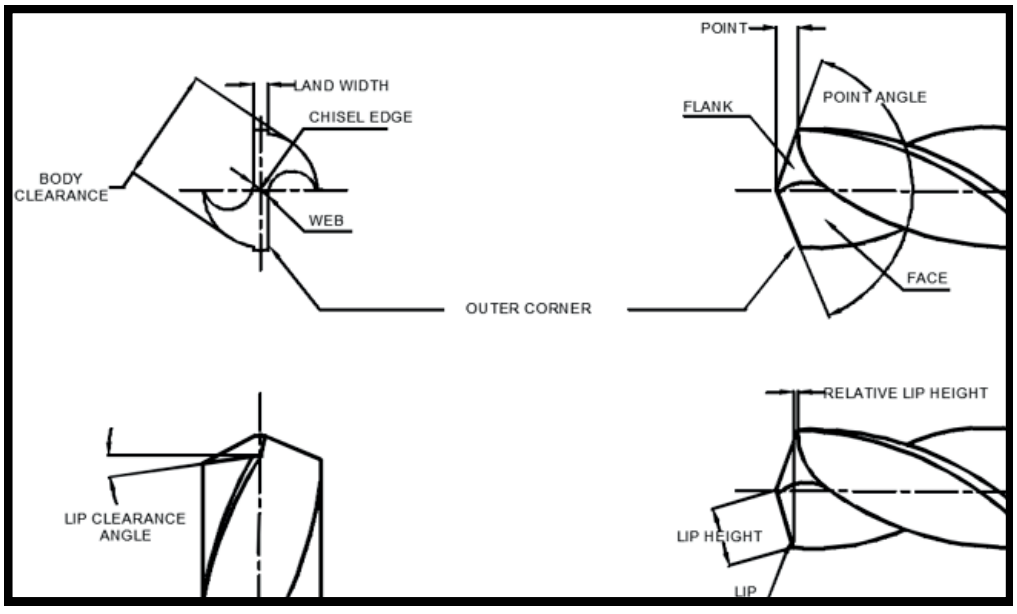
25° Regular Helix

- General-purpose drilling.
- Suitable for mild steel, carbon steel, and cast iron.
- Provides good chip evacuation and stable cutting.

37° Quick Spiral

- Faster chip evacuation.
- 130° point angle and higher web helps to drill in harder alloy materials.
- Helps reduce chip clogging and improves surface finish.

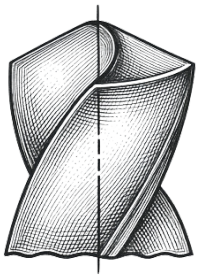
Twist Drill Terms-Point Geometry

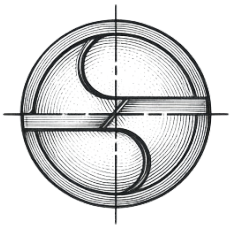


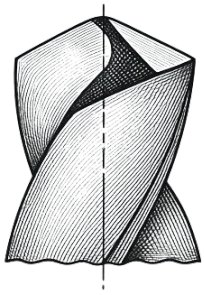
DRILL POINT STYLE

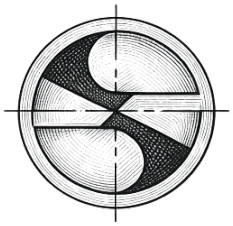
1. GENERAL PURPOSE DRILL

The 118° drill point is the most commonly used drill point. It will give satisfactory results in a wide variety of materials. This point style is supplied on all of our standard special drills unless specified otherwise, except for Spot Drills







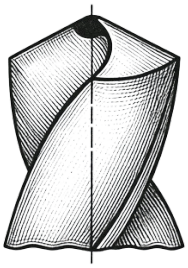


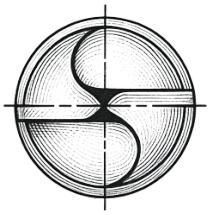
2. SPLIT POINT

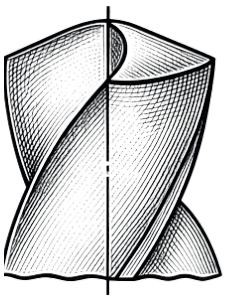
118° or 135° split points are self-centering drill points that require less torque and thrust in hand or machine drilling. This point helps break up chips in deep-hole drilling and is an excellent choice when used on drills for CNC equipment.

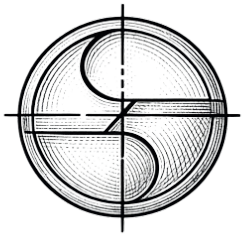
3. NOTCH THINNED POINT

This particular point style was developed for use in heavy-duty drilling applications. It produces excellent results in drilling high-tensile alloys and steel forgings.







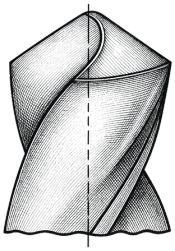


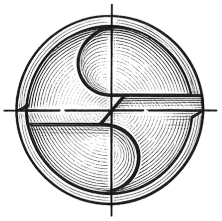
4. 135° POINT

Since the 135° drill point has a shorter cutting lip than a conventional 118° point and less lip relief, it has the necessary strength to drill tough, hard material. This point style can reduce or minimize burr break on breakthrough in many applications.

5. 90° POINT

The 90° drill point angle is most commonly used in wood, plastic, and low-density non- ferrous metals. This point will dramatically reduce cracking in drilling plastics. This point is also excellent for accurate spotting. All our standard spot drills are manufactured with this point style.





DRILLING PRACTICE

Proper drill selection, correct drilling conditions, and suitable machining parameters are essential for achieving accurate holes, longer tool life, and improved productivity.

The flute design, web thickness, and helix angle of a standard twist drill are suitable for drilling a wide range of engineering materials producing semi-continuous chips.

Drill rigidity plays an important role in drilling performance. A shorter flute length provides higher rigidity, reducing vibration, deflection, and improving hole accuracy. Long drills should be properly supported and used only when required.

For difficult-to-machine materials or applications with limited workpiece rigidity, Heavy Duty Drills with Thick Web, Split Point, or Web Thinning are recommended to reduce thrust force and improve drilling stability.

DRILLING TECHNIQUES & BEST PRACTICES

• Check drill point condition before starting the operation. A proper cutting edge ensures lower cutting force and better hole accuracy.

• Verify drill runout before machining. Excessive runout can cause oversized holes, uneven wear, and poor surface finish.

• Use a spot drill or centre drill for accurate hole positioning, especially when drilling on inclined, curved, or uneven surfaces.

• Start drilling at recommended speed. Avoid high RPM during drill entry, as it may damage the cutting edge.

• Reduce feed during drill breakthrough. Lower feed at exit prevents burr formation and edge chipping.

• Maintain proper workpiece support near the drilling point to avoid vibration and sudden tool breakage.

• Ensure the drill point is perpendicular to the work surface for uniform cutting load on both cutting edges.

• Monitor chip shape and colour during drilling. Long stringy chips or blue chips indicate improper cutting conditions.

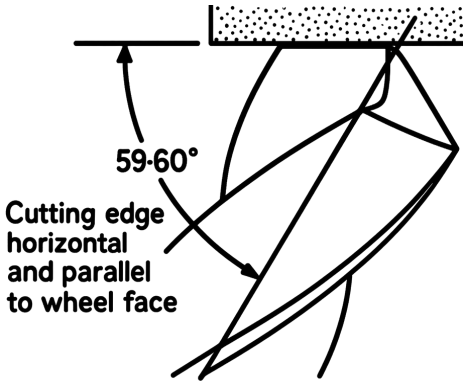
• Use proper drill regrinding geometry after sharpening. Incorrect point angle or lip length difference affects hole accuracy.

• For production drilling, maintain a preventive tool replacement schedule before tool failure occurs

RESHARPENING OF TWIST DRILLS

Correct sharpening plays an important role in maintaining drill performance, hole accuracy, and tool life.

- Sharpen the drill at the correct time to restore cutting efficiency and prevent excessive wear.
- During sharpening, ensure both cutting lips are properly balanced and the original drill geometry is maintained.
- Maintain uniform cutting edge conditions to achieve:
  - Accurate hole size
  - Smooth cutting action
  - Reduced cutting forces
  - Longer tool life
- The grinding process should avoid excessive heat generation, as overheating may damage the cutting edge and reduce drill performance.
- Use proper cooling methods during grinding to prevent thermal cracks and maintain cutting edge strength.
- After sharpening, inspect the drill point condition before returning it to service.



Web Thinning

The web thickness gradually increases from the drill point towards the flute run-out area. During point thinning, the web should be reduced to approximately 10% of the drill diameter by using a grinding wheel with half the flute width. Excessive web thinning should be avoided, as it can weaken the drill and may lead to web splitting or breakage

Chip Breaking

Grooves can be ground across the cutting face using a thin, radiused grinding wheel to enhance chip breaking. When machining conditions permit, a lower cutting speed combined with a higher feed rate can help produce shorter, discontinuous chips, resulting in improved chip control and machining performance.

RESHARPENING OF TWIST DRILLS

Double Angle Point

The standard 118° point angle is maintained over the inner half of the cutting lip, while the outer half is ground to 90° to form a reinforced cutting edge. This double-angle geometry strengthens the drill corners and helps minimize premature wear and edge damage, particularly when machining abrasive materials such as cast iron.

More Obtuse Point Angle

A wider point angle, up to 140°, is suitable for drilling high-strength and work-hardening materials. The modified point geometry forms concave cutting lips, reducing corner loading and providing smoother cutting action. For challenging materials and severe machining conditions, application-specific drill designs are recommended for improved tool life and performance.

Point Correction

Grinding the flute face along the cutting lip can reduce the effective helix angle, making the drill more suitable for machining brittle materials. This correction can also be applied to eliminate convexity in the cutting edges. During grinding, care should be taken to preserve the circular land. The resulting flat cutting edge is particularly effective when using a two-flute drill to enlarge or open an existing hole.

Sharp Point Angle

Point angles as low as 60° are suitable for drilling brittle materials such as Bakelite, helping to minimize chipping and flaking as the drill breaks through the workpiece. When applied to standard drill geometries, such acute point angles result in convex cutting edges, as described under point correction.

Split Point

For thick-web, heavy-duty drills, the chisel edge can become excessively wide, making conventional web thinning ineffective. A split-point geometry creates additional cutting edges at the drill center, reducing thrust force, improving centering, and providing smoother, more efficient drilling performance.

COMMON DRILL PROBLEMS & SOLUTIONS

PROBLEM (INDICATION)	POSSIBLE CAUSES	RECOMMENDED REMEDIES
Drill breaks	• Point improperly ground • Too much feed • Drill is dull • Flutes clogging • Backlash in drill machine	• Check for proper point • Check feed • Inspect drill machine • Clear flutes • Eliminate backlash
Cutting lips chip	• Feed too high • Too high lip relief	• Reduce feed • Check lip relief
Outer corners breakdown	• RPM too high • Poor lubrication • Clogging • Too much feed • Poor lip relief	• Reduce speed • Improve lubrication • Clear chips frequently • Reduce feed • Check lip relief
Cracks in cutting lips	• Running too hot • Too quickly cooled while sharpening	• Repoint drill • Check speed • Check feed • Use proper lubricants
Tang breaks	• Imperfect fit between taper shank and socket • Flutes clogged	• Check for worn socket • Ensure proper drill fit • Clear flutes
Drill breaks when drilling brass	• Flute clogging • Wrong drill	• Replace with proper drill • Clear flutes
Drill splits up center	• Too much feed • Not enough lip relief	• Reduce feed • Check for proper lip relief
Drill will not enter work	• Dull drill • Not enough lip relief • Web too heavy • Reverse chisel	• Resharpen drill • Check lip relief • Thin web • Check chisel angle
Rough Hole	• Dull point • No lubricant • Loose fixture • Feed too high	• Repoint drill • Use proper cutting fluid • Tighten work holding • Reduce feed
Oversize Hole	• Unequal length on cutting lips • Loose spindle	• Repoint drill • Measure for equal length cutting lips • Inspect spindle
Unequal chip size (one flute to other)	• Drill becoming dull • Unequal lips	• Resharpen drill • Check for proper drill
Chips change while drilling	• Point not ground properly • One lip cutting more than the other	• Repoint drill • Measure for equal length cutting lips • Check for equal lip relief
Drill corners burning (blue-black colour)	• Speed too high • Lack of coolant • Hard spot	• Reduce cutting speed • Increase coolant flow • Chamfer drill corners • Place nozzle nearer drill

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

TOOLBITS

PRECISION IN EVERY CUT

CONSISTENT PERFORMANCE | HIGH ACCURACY | LONG TOOL LIFE

ENGINEERED FOR PRECISION MACHINING

HSS TOOL BIT BLANKS



SETUP & MOUNTING

Secure positioning at the correct height and cutting angle.



CUTTING PERFORMANCE

Efficient material removal with controlled and consistent cutting action.



SURFACE FINISH

Produces smooth surfaces with accurate dimensions.



CONSISTENT RESULTS

Reliable performance, improved productivity and consistent component quality.



PRECISION DELIVERED

HSS SQUARE TOOL BITS (ECO)

IS:11143 | SQUARE TOOL BIT | HSS

ECO™ ECONOMICAL. RELIABLE. BUILT FOR INDUSTRY.

ECO	BEVEL END	IS:11143	h13
HSS	15°/0°	STD	TOLERANCE

M.S.	C.I.	ALLOY	NON FERROUS
STEEL	CAST IRON	STEEL	METAL





METRIC SIZE				
SQUARE MM (W)	LENGTH MM (L)			
	75	100	150	200
5.00	✓	✓		
6.00	✓	✓	✓	
8.00	✓	✓	✓	✓
10.00	✓	✓	✓	✓
12.00	✓	✓	✓	✓
16.00			✓	✓
20.00			✓	✓

IMPERIAL SIZE				
SQUARE INCH (W)	LENGTH MM (L)			
	75	100	150	200
3/16"	✓	✓		
1/4"	✓	✓	✓	✓
5/16"	✓	✓	✓	✓
3/8"	✓	✓	✓	✓
1/2"	✓	✓	✓	✓
5/8"			✓	✓
3/4"			✓	✓

MANUFACTURING STANDARDS	
I.S.	11143-1991
DIN	4964
ISO	5421

DESCRIPTION	STANDARD
End Bevel	Standard 15° ,0° and as per customer requirement.
Tolerance	h13/h12
Application	Hss Tool Bits Are used for general lathe work like Turning,Grooving, Facing,Slotting.

⚠ **Special size and tolerance can be supplied as per requirement.**

HSS SQUARE TOOL BITS

IS:11143 | SQUARE TOOL BIT | HSS,M-35,M-42,T-42

HSS	BEVEL END	IS:11143	h13	M.S.	C.I.	ALLOY	PRE HARDENED
M-35,M-42, T-42	15°/0°	STD	TOLERANCE	STEEL	CAST IRON	STEEL	STEEL





METRIC SIZE				
SQUARE MM (W)	LENGTH MM (L)			
	75	100	150	200
5.00	✓	✓		
6.00	✓	✓	✓	
8.00	✓	✓	✓	✓
10.00	✓	✓	✓	✓
12.00	✓	✓	✓	✓
16.00			✓	✓
20.00			✓	✓

IMPERIAL SIZE				
SQUARE INCH (W)	LENGTH MM (L)			
	75	100	150	200
3/16"	✓	✓		
1/4"	✓	✓	✓	✓
5/16"	✓	✓	✓	✓
3/8"	✓	✓	✓	✓
1/2"	✓	✓	✓	✓
5/8"			✓	✓
3/4"			✓	✓

MANUFACTURING STANDARDS	
I.S.	11143-1991
DIN	4964
ISO	5421

DESCRIPTION	STANDARD
End Bevel	Standard 15° ,0° and as per customer requirement.
Tolerance	h13/h12
Application	Hss Tool Bits Are used for general lathe work like Turning,Grooving, Facing,Slotting.

Piramal Square Tool bits - Material - HSS, M-35, M-42 and T-42

- P100 = M35 (HSS WITH 5% COBALT) (63-66 HRc)
- P400E = M35 WITH CRYOGENIC - HEAT TREATMENT (64-67 HRc) 卐卐
- P200 = M42 (HSS WITH 8% COBALT) (65-68 HRc)
- P400 = T42 (HSS WITH 10% COBALT) (64-67 HRc) 卐卐卐
- P500 = T42 WITH CRYOGENIC - HEAT TREATMENT (65-69 HRc) 卐卐卐卐

⚠ **Special size and tolerance can be supplied as per requirement.**

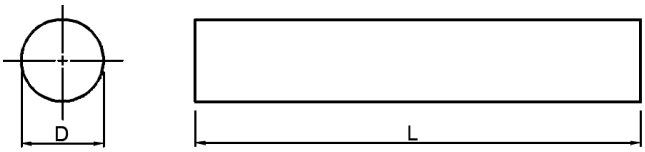
HSS ROUND TOOL BITS

IS:11143 | ROUND TOOL BIT | HSS M-2,M-35,M-42,T-42

HSS	BEVEL END	IS:11143	h9/h8
M-35,M-42, T-42	0°	STD	TOLERANCE

M.S.	C.I.	ALLOY	PRE HARDENED
STEEL	CAST IRON	STEEL	STEEL





METRIC SIZE				
DIAMETER - D MM	LENGTH MM (L)			
	75	100	150	200
5.00	✓	✓	✓	
6.00	✓	✓	✓	✓
8.00	✓	✓	✓	✓
10.00	✓	✓	✓	✓
12.00	✓	✓	✓	✓
14.00		✓	✓	✓
16.00		✓	✓	✓
20.00		✓	✓	✓

IMPERIAL SIZE				
DIAMETER - D INCH	LENGTH MM (L)			
	75	100	150	200
3/16"	✓	✓	✓	
1/4"	✓	✓	✓	✓
5/16"	✓	✓	✓	✓
1/2"	✓	✓	✓	✓
9/16"		✓	✓	✓
5/8"		✓	✓	✓
3/4"		✓	✓	✓

MANUFACTURING STANDARDS	
I.S.	11143-1991
DIN	4964
ISO	5421

DESCRIPTION	STANDARD
End Bevel	Standard 0° and as per customer requirement.
Tolerance	h9/h8
Application	• Hss Tool Bits Are used for general lathe work,Die punching, Rolling, Miling and Boring Work. • HSS Cobalt Tool bits are used for general lathe work,Die punching, Rolling, Miling and Boring Work.With Increase wear resistance.

Piramal Round Tool bits - Material - HSS, M-35, M-42 and T-42

- **P100** = M35 (HSS WITH 5% COBALT) (63-66 HRc)
- **P400E** = M35 WITH CRYOGENIC - HEAT TREATMENT (64-67 HRc)
- **P200** = M42 (HSS WITH 8% COBALT) (65-68 HRc)
- **P400** = T42 (HSS WITH 10% COBALT) (64-67 HRc)
- **P500** = T42 WITH CRYOGENIC - HEAT TREATMENT (65-69 HRc)

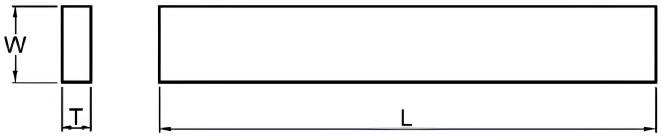
⚠ **Special size and tolerance can be supplied as per requirement.**

HSS RECTANGULAR (FLAT) TOOL BITS

IS:11143 | FLAT TOOL BIT | HSS,M-35,T-42

HSS, M-35,T-42	BEVEL END 0°	IS:11143 STD	h13 TOLERANCE	M.S. STEEL	C.I. CAST IRON	ALLOY STEEL	PRE HARDENED STEEL





METRIC SIZE				
THICKNESS MM (T)	WIDTH MM (T)	LENGTH MM (L)		
		100	150	200
5.00	25.00		✓	
6.00	16.00	✓	✓	
6.00	20.00		✓	
6.00	25.00		✓	
8.00	16.00	✓	✓	✓
8.00	20.00		✓	✓
8.00	25.00		✓	✓
10.00	16.00	✓	✓	✓
10.00	20.00		✓	✓
10.00	25.00		✓	✓
12.00	16.00	✓	✓	✓
12.00	20.00		✓	✓
16.00	25.00		✓	✓
16.00	20.00		✓	✓
20.00	25.00		✓	✓

IMPERIAL SIZE				
THICKNESS INCH (T)	WIDTH INCH (T)	LENGTH INCH (L)		
		4"	6"	8"
3/16"	1"		✓	
1/4"	5/8'	✓	✓	
1/4"	3/4"		✓	
1/4"	1"		✓	
5/16"	5/8'	✓	✓	✓
5/16"	3/4"		✓	✓
5/16"	1"		✓	✓
3/8"	5/8'	✓	✓	✓
3/8"	3/4"		✓	✓
3/8"	1"		✓	✓
1/2"	5/8'	✓	✓	✓
1/2"	3/4"		✓	✓
1/2"	1"		✓	✓
5/8"	3/4"		✓	✓
5/8"	1"		✓	✓
3/4"	1"		✓	✓

MANUFACTURING STANDARDS	
I.S.	11143-1991
DIN	4964
ISO	5421

DESCRIPTION	STANDARD
End Bevel	Standard 0°
Tolerance	h13/h12
Application	• Hss Tool Bits Are used for general lathe work. • HSS Cobalt Tool bits are used for general lathe work with Increase wear resistance.

Piramal Flat Tool bits - Material - HSS, M-35 and T-42

- **P100** = M35 (HSS WITH 5% COBALT) (63-66 HRc)
- **P400** = T42 (HSS WITH 10% COBALT) (64-67 HRc)

⚠ **Special size and tolerance can be supplied as per requirement.**

GUIDELINES FOR SELECTION OF TOOLGRADE FOR VARIOUS APPLICATIONS	
ECO (HSS)	General-purpose cutting tool designed for machining mild steel across a wide range of operations, including turning, shaping, slotting, and other general machining applications.
P100 & P400E (M35)	Excellent toughness and superior wear resistance for extended tool life. Designed for general-purpose machining operations at standard cutting speeds and feeds. Highly recommended grade for machining stainless steel (S.S.) and brass materia
P200 (M42)	Offers higher toughness compared to P400 & P500 grades with excellent wear resistance properties. Designed for applications requiring a perfect balance of toughness and wear resistance, making it ideal for shaping, planer operations, and heavy-duty machining applications.
P400 & P500 (T42)	Provides excellent red hardness and superior thermal resistance, enabling high-speed machining operations. Designed to withstand elevated temperatures, it is ideal for heavy turning, parting, and threading applications. Highly recommended for continuous production environments and automatic machine operations.

TYPICAL CHEMICAL ANALYSIS OF HIGH SPEED STEELS							
Our Tool Grade	Material Grade	Approx % of					
		C	Cr	Mo	W	Co	V
ECO	M2	0.9	4.1	5	6.4	-	1.8
P100 & P400E	M35	1.2	4.4	5	6.4	4.8	1.9
P200	M42	1.1	3.9	9.2	1.4	7.8	1.2
P400 & P500	T42	1.26	4	3.6	9.3	10	3.2

Toolbits Application Guide				
RECOMMENDED CUTTING SPEED - METER PER MINUTE				
MATERIAL	10% Cobalt T42 P400 & P500	8% Cobalt M42 P200	8% Cobalt M35 P100 & P400E	HSS ECO
Suitable for machining low tensile strength materials such as Mild Steel, Wrought Iron, Soft Brass, Copper, Bronze, and Aluminum with tensile strength below 25 tons per square inch	79-50	70-45	60-40	59-36
Suitable for machining steel and steel castings, including slightly hard Mild Steel, Soft Cast Iron, and other materials such as hard Brass, Copper, and Aluminum with tensile strength up to 38 tons per square inch.	39-26	36-24	33-32	30-21
Suitable for machining steel and steel castings, including carbon steel, medium-hard cast iron, and other materials such as hard brass, copper, bronze, and aluminium with tensile strength up to 45 tons per square inch.	29-21	21-15	20-14	18-23
Suitable for machining steel and steel castings, including oil-hardened steel, chrome steel, hard cast iron, and other high-strength materials with tensile strength up to 50 tons per square inch.	22-16	21-15	20-14	18-23
Suitable for machining steel and steel castings, including annealed high-speed steel and other high-strength materials with tensile strength up to 65 tons per square inch.	15-13	15-12	14-11	12-10

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

CARBIDE TIPPED TOOLS

PRECISION MACHINING | EXTENDED TOOL LIFE | SUPERIOR PERFORMANCE



ENGINEERED FOR PRECISION MACHINING

BRAZED CARBIDE TIPPED TURNING TOOLS



STABLE WORKPIECE SETUP

Secure positioning for accurate and consistent machining.



OPTIMIZED TOOL SELECTION

The right brazed carbide tipped turning tool for every application.



EFFICIENT MACHINING

Optimized cutting parameters for productivity and tool life.



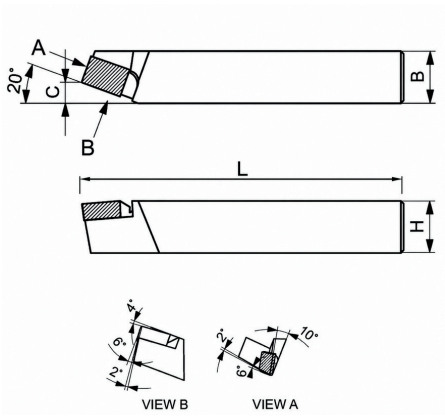
PRECISION RESULTS

Excellent surface finish, dimensional accuracy and repeatable quality.

PRECISION DELIVERED

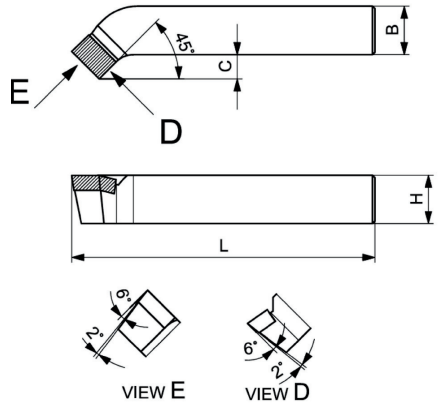
TUNGSTEN CARBIDE TIPPED TOOLS-CTT

110 BAR TURNING TOOL (ISO 1)



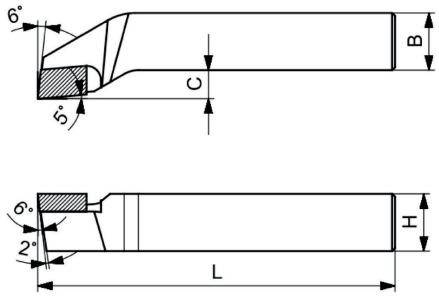
SHANK SECTION	Tool No.	H (mm)	B (mm)	C (mm)	L (mm)	Tip RH	Tip LH
	110-1010	10	10	4	90	A 8	B 8
	110-1212	12	12	5	100	A 10	B 10
	110-1616	16	16	6	110	A 12	B 12
	110-2020	20	20	8	125	A 16	B 16
	110-2525	25	25	10	140	A 20	B 20
	110-3232	32	32	12	170	A 25	B 25
	110-4040	40	40	16	200	A 32	B 32
	110-1610	16	10	4	110	A 10	B 10
	110-2012	20	12	5	125	A 12	B 12
	110-2516	25	16	6	140	A 16	B 16
	110-3220	32	20	8	170	A 20	B 20
	110-4025	40	25	10	200	A 25	B 25

111 CRANKED TURNING AND FACING TOOL (ISO 2)



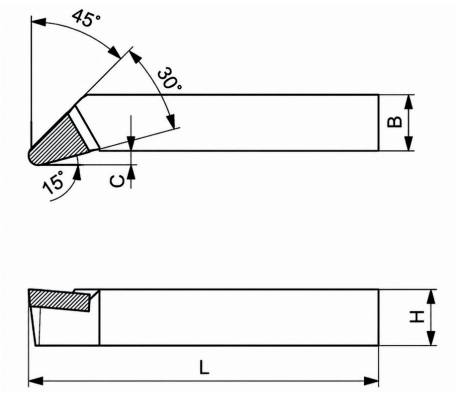
SHANK SECTION	Tool No.	H (mm)	B (mm)	C (mm)	L (mm)	Tip
	111-1010	10	10	6	90	C 8
	111-1212	12	12	7	100	C 10
	111-1616	16	16	8	110	C 12
	111-2020	20	20	10	125	C 16
	111-2525	25	25	12	140	C 20
	111-3232	32	32	14	170	C 25
	111-4040	40	40	18	200	C 32
	111-1610	16	10	7	110	C 10
	111-2012	20	12	8	125	C 12
	111-2516	25	16	10	140	C 16
	111-3220	32	20	12	170	C 20
	111-4025	40	25	14	200	C 25

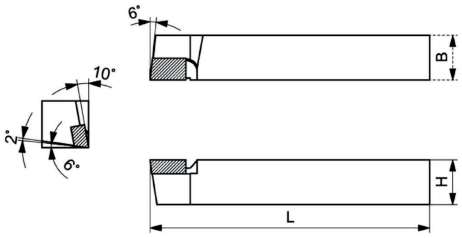
113 STRAIGHT ROUND NOSE TURNING TOOL

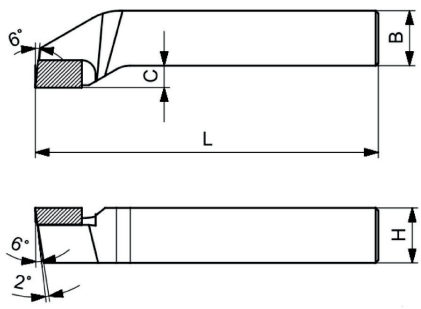


SHANK SECTION	Tool No.	H (mm)	B (mm)	C (mm)	L (mm)	Tip
	113-1010	10	10	90	1	G 8
	113-1212	12	12	100	1.5	G 10
	113-1616	16	16	110	2.5	G 12
	113-2020	20	20	125	3.5	G 16
	113-2525	25	25	140	4.5	G 20
	113-3232	32	32	170	6	G 25
	113-1610	16	10	110	1	G 8
	113-2012	20	12	125	1	G 10
	113-2516	25	16	140	5	G 12
	113-3220	32	20	170	2.5	G 16
	113-4025	40	25	200	3.5	G 20

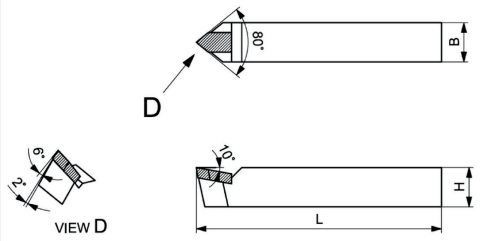
TUNGSTEN CARBIDE TIPPED TOOLS-CTT

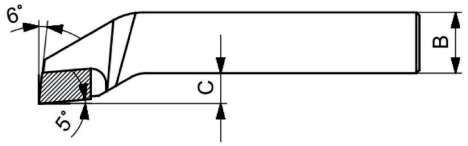
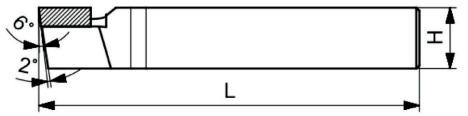
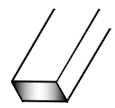
115 CRANKED ROUND NOSE TURNING TOOL	SHANK SECTION	Tool No.	H (mm)	B (mm)	L (mm)	C (mm)	R (mm)	Tip
		115-1010	10	10	90	3	1	G 8
		115-1212	12	12	100	3.5	1.5	G 10
		115-1616	16	16	110	4.5	2.5	G 12
		115-2020	20	20	125	4.8	3.5	G 16
		115-2525	25	25	140	5.5	4.5	G 20
		115-3232	32	32	170	6.3	6	G 25
		115-1610	16	10	110	3	1	G 8
		115-2012	20	12	125	3.5	1.5	G 10
		115-2516	25	16	140	4.5	2.5	G 12
		115-3220	32	20	170	5	3.5	G 16
		115-4025	40	25	200	5.5	4.5	G 20

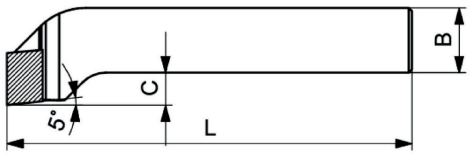
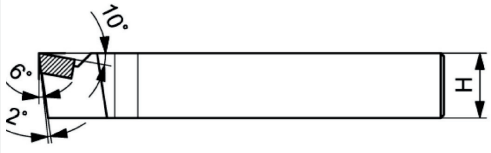
116 Bar Turning Tool	SHANK SECTION	Tool No.	H (mm)	B (mm)	L (mm)	Tip	
						RH	LH
		116-1010	10	10	90	A 8	B 8
		116-1212	12	12	100	A 10	B 10
		116-1616	16	16	110	A 12	B 12
		116-2020	20	20	125	A 16	B 16
		116-2525	25	25	140	A 20	B 20
		116-3232	32	32	170	A 25	B 25
		110-1610	16	10	110	A 10	B 10
		110-2012	20	12	125	A 12	B 12
		110-2516	25	16	140	A 16	B 16
		110-3220	32	20	170	A 20	B 20
		110-4025	40	25	200	A 25	B 25

117 CRANKED KNIFE TOOL	SHANK SECTION	Tool No.	H (mm)	B (mm)	L (mm)	C (mm)	Tip	
							RH	LH
		117-1010	10	10	90	4	A 8	B 8
		117-1212	12	12	100	5	A 10	B 10
		117-1616	16	16	110	6	A 12	B 12
		117-2020	20	20	125	8	A 16	B 16
		117-2525	25	25	140	10	A 20	B 20
		117-3232	32	32	170	12	A 25	B 25
		117-4040	40	40	200	14	A 32	B 32
		110-1610	16	10	110	5	A 10	B 10
		110-2012	20	12	125	6	A 12	B 12
		110-2516	25	16	140	8	A 16	B 16
		110-3220	32	20	170	10	A 20	B 20
		110-4025	40	25	200	12	A 25	B 25

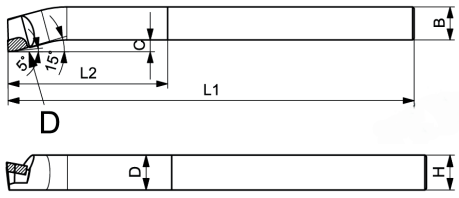
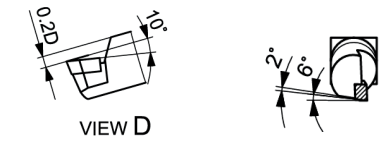
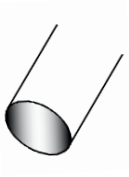
TUNGSTEN CARBIDE TIPPED TOOLS - CTT

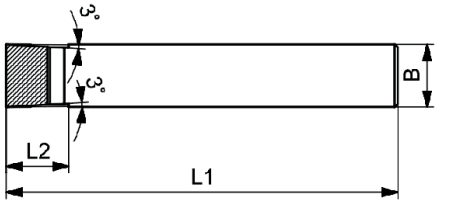
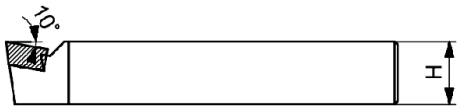
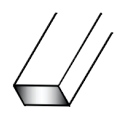
122 STRAIGHT FINISHING TOOL (IND1)	SHANK SECTION	Tool No.	H (mm)	B (mm)	L (mm)	Tip
		IND-1-1010	10	10	90	E 5
		IND-1-1212	12	12	100	E 6
		IND-1-1616	16	16	110	E 8
		IND-1-2020	20	20	125	E 10
		IND-1-2525	25	25	140	E 12
		IND-1-3232	32	32	170	E 16
		IND-1-1610	16	10	110	E 5
		IND-1-2012	20	12	125	E 6
		IND-1-2516	25	16	140	E 8
		IND-1-3220	32	20	170	E 10
		IND-1-4025	40	25	200	E 12

123 CRANKED FINISHING TOOL (ISO 3)	SHANK SECTION	Tool No.	H (mm)	B (mm)	C (mm)	L (mm)	Tip	
							RH	LH
		123-1010	10	10	4	90	A 6	A 6
		123-1212	12	12	6	100	A 8	B 8
		123-1616	16	16	8	110	A 10	B 10
		123-2020	20	20	10	125	A 12	B 12
		123-2525	25	25	12	140	A 16	B 16
		123-3232	32	32	14	170	A 20	B 20
		123-1610	16	10	5	110	A 8	B 8
		123-2012	20	12	6	125	A 10	B 10
		123-2516	25	16	8	140	A 12	B 12
		123-3220	32	20	10	170	A 16	B 16
		123-4025	40	25	12	200	A 20	B 20

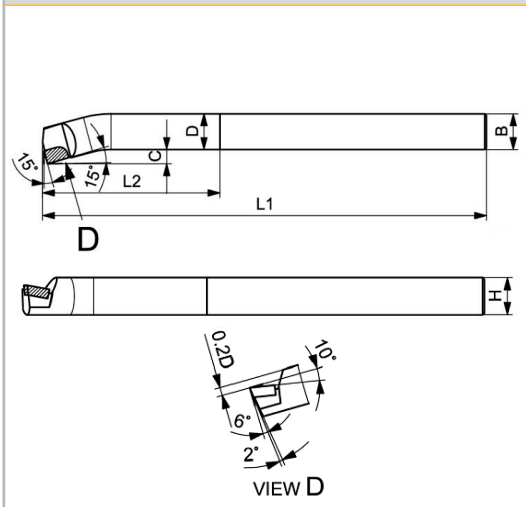
126 CRANKED FACING TOOL (ISO 5)	SHANK SECTION	Tool No.	H (mm)	B (mm)	C (mm)	L (mm)	Tip	
							RH	LH
		126-1010	10	10	5	90	B 8	A 8
		126-1212	12	12	6	100	B 10	A 10
		126-1616	16	16	8	110	B 12	A 12
		126-2020	20	20	10	125	B 16	A 16
		126-2525	25	25	12	140	B 20	A 20
		126-3232	32	32	16	170	B 25	A 25
		126-1610	16	10	6	110	B 10	A 10
		126-2012	20	12	8	125	B 12	A 12
		126-2516	25	16	10	140	B 16	A 16
		126-3220	32	20	12	170	B 20	A 20
		126-4025	40	25	16	200	B 25	A 25

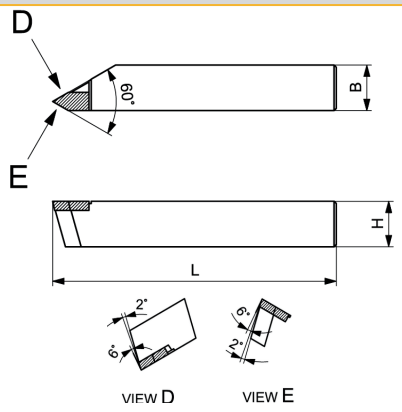
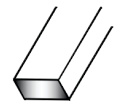
TUNGSTEN CARBIDE TIPPED TOOLS-CTT

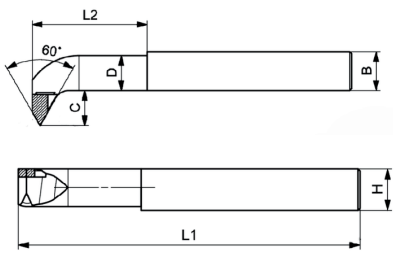
135-136 BORING AND FACING TOOL (ISO 9)	SHANK SECTION	Tool No.	H (mm)	B (mm)	D (mm)	C (mm)	L1 (mm)	L2 (mm)	SMALLEST BORE SIZE (mm)	Tip
		135-0808	8	8	8	3	125	40	14	A 5
		135-1010	10	10	10	4	150	50	18	A 6
		135-1212	12	12	12	5	180	63	21	A 8
		135-1616	16	16	16	6	210	80	27	A 10
		135-2020	20	20	20	8	250	100	34	A 12
		135-2525	25	25	25	10	300	125	43	A 16
		135-3232	32	32	32	12	355	160	52	A 20
		136-8	-	-	8	3	125	-	14	A 5
		136-10	-	-	10	4	150	-	18	A 6
		136-12	-	-	12	5	180	-	21	A 8
		136-16	-	-	16	6	210	-	27	A 10
		136-20	-	-	20	8	250	-	34	A 12
		136-25	-	-	25	10	300	-	43	A 16
		136-32	-	-	32	12	355	-	52	A 20

127 RECESSING TOOL (ISO 4)	SHANK SECTION	Tool No.	H (mm)	B (mm)	L1 (mm)	C (mm)	Tip
		127-1010	10	10	90	10	C 10
		127-1212	12	12	100	12	C 12
		127-1616	16	16	110	16	C 16
		127-2020	20	20	125	20	C 20
		127-2525	25	25	140	25	C 25
		127-3232	32	32	170	32	C 32
		127-1610	16	10	110	16	C 10
		127-2012	20	12	125	20	C 12
		127-2516	25	16	140	25	C 16
		127-3220	32	20	170	32	C 20
		127-4025	40	25	200	40	C 25

TUNGSTEN CARBIDE TIPPED TOOLS-CTT

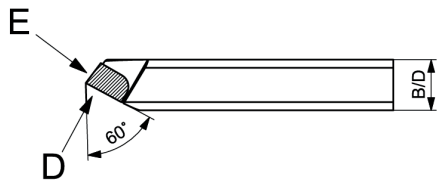
130-131 BORING TOOL	SHANK SECTION	Tool No.	H (mm)	B (mm)	D (mm)	C (mm)	L1 (mm)	L2 (mm)	Smallest bore size (mm)	Tip
		130-0808	8	8	8	3	125	40	14	A 5
		130-1010	10	10	10	4	150	50	18	A 6
		130-1212	12	12	12	5	180	63	21	A 8
		130-1616	16	16	16	6	210	80	27	A 10
		130-2020	20	20	20	8	250	100	34	A 12
		130-2525	25	25	25	10	300	125	43	A 16
		130-3232	32	32	32	12	355	160	52	A 20
		131-8	-	-	8	3	125	-	14	A 5
		131-10	-	-	10	4	150	-	18	A 6
		131-12	-	-	12	5	180	-	21	A 8
		131-16	-	-	16	6	210	-	27	A 10
		131-20	-	-	20	8	250	-	34	A 12
		131-25	-	-	25	10	300	-	43	A 16
		131-32	-	-	32	12	355	-	52	A 20

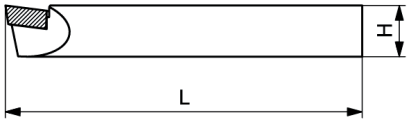
165 STRAIGHT THREADING TOOL	SHANK SECTION	Tool No.	H (mm)	B (mm)	L (mm)	Tip
		165-1010	10	10	90	E 4
		165-1212	12	12	100	E 5
		165-1616	16	16	110	E 6
		165-2020	20	20	125	E 8
		165-2525	25	25	140	E 10
		165-3232	32	32	170	E 12
		165-1610	16	10	110	E 5
		165-2012	20	12	125	E 6
		165-2516	25	16	140	E 8
		165-3220	32	20	170	E 10
		165-4025	40	25	200	E 12

166 INTERNAL THREADING TOOL	SHANK SECTION	Tool No.	H (mm)	B (mm)	D (mm)	c (mm)	L1 (mm)	L2 (mm)	Smallest bore size (mm)	Tip
		166-1010	10	10	9	12	100	30	24	E 4
		166-1212	12	12	11	14	110	35	30	E 5
		166-1616	16	16	15	16	140	45	36	E 6
		166-2020	20	20	18	18	160	55	45	E 8
		166-2525	25	25	22	20	200	65	55	E 10
		166-3232	32	32	28	25	250	75	70	E 12

TUNGSTEN CARBIDE TIPPED TOOLS-CTT

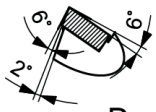
140-142 BORING TOOL







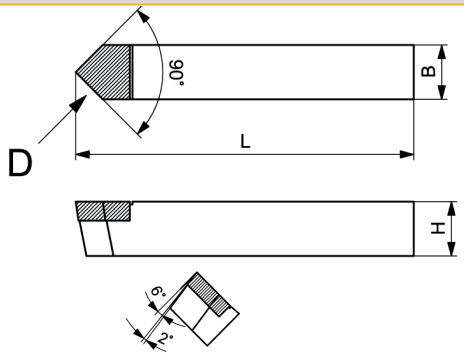
VIEW E



VIEW D

SHANK SECTION	Tool No.	B/D mm/inch	L mm	H mm/inch	Tip RH	Tip LH
	140/142-0006	6	18	5.5	A 6	B 6
	140/142-0008	8	24	7.5	A 6	B 6
	140/142-0010	10	50	8.5	A 8	B 8
	140/142-0012	12	60	10.5	A 10	B 10
	140/142-0016	16	90	14	A 12	B 12
	140/142-0020	20	120	17	A 16	B 16
	140/142-0025	25	175	22	A 20	B 20
	140/142-0606	6	18		A 6	B 6
	140/142-0808	8	24		A 6	B 6
	140/142-1010	10	50		A 8	B 8
	140/142-1212	12	60		A 10	B 10
	140/142-1616	16	90		A 12	B 12
	140/142-2020	20	120		A 16	B 16
	140/142-2525	25	175		A 20	B 20
	E.140/142 3/8"	3/8"	50	21/64"	A 8	B 8
	E.140/142 1/2"	1/2"	60	27/64"	A 10	B 10
	E.140/142 5/8"	5/8"	90	35/64"	A 12	B 12
	E.140/142 3/4"	3/4"	120	43/64"	A 16	B 16
	E.140/142 1"	1"	175	7/8"	A 20	B 20
	E.140/142 3/8"	3/8"	50		A 8	B 8
	E.140/142 1/2"	1/2"	60		A 10	B 10
	E.140/142 5/8"	5/8"	90		A 12	B 12
	E.140/142 3/4"	3/4"	120		A 16	B 16
	E.140/142 1"	1"	175		A 20	B 20

163 STRAIGHT TURNING TOOL & GROOVING TOOL

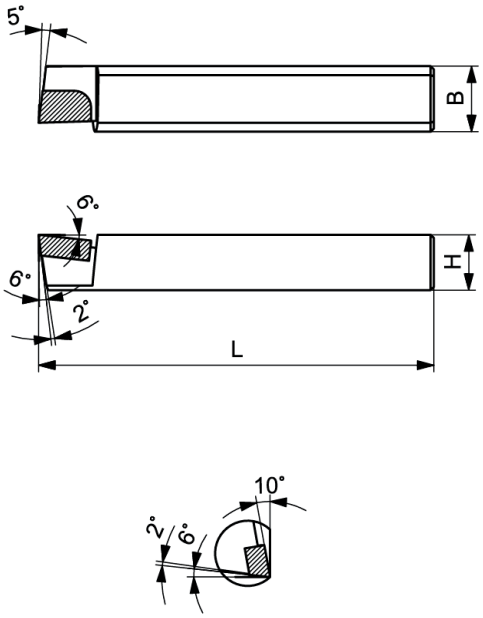


VIEW D

SHANK SECTION	Tool No.	H mm	B mm	L mm	Tip
	163-1010	10	10	90	F 10
	163-1212	12	12	100	F 12
	163-1616	16	16	110	F 16
	163-2020	20	20	125	F 20
	163-2525	25	25	140	F 25
	163-3232	32	32	170	F 32
	163-1610	16	10	110	F 10
	163-2012	20	12	125	F 12
	163-2516	25	16	140	F 16
	163-3220	32	20	170	F 20

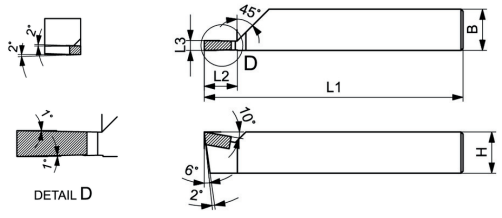
TUNGSTEN CARBIDE TIPPED TOOLS-CTT

140 - BORING TOOL



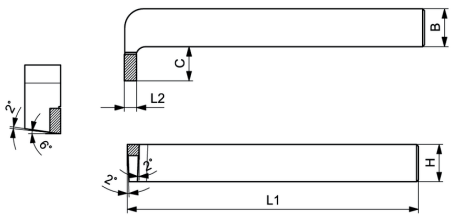
SHANK SECTION	Tool No.	B/D	L	H	Tip	
		mm/inch	mm	mm/inch	RH	LH
	141-0006	6	18	5.5	A 6	B 6
	141-0008	8	24	7.5	A 6	B 6
	141-0010	10	50	8.5	A 8	B 8
	141-0012	12	60	10.5	A 10	B 10
	141-0016	16	90	14	A 12	B 12
	141-0020	20	120	17	A 16	B 16
	141-0025	25	175	22	A 20	B 20
	141-0606	6	18		A 6	B 6
	141-0808	8	24		A 6	B 6
	141-1010	10	50		A 8	B 8
	141-1212	12	60		A 10	B 10
	141-1616	16	90		A 12	B 12
	141-2020	20	120		A 16	B 16
	141-2525	25	175		A 20	B 20
	E.141. 3/8"	3/8"	50	21/64"	A 8	B 8
	E.141. 1/2"	1/2"	60	27/64"	A 10	B 10
	E.141. 5/8"	5/8"	90	35/64"	A 12	B 12
	E.141. 3/4"	3/4"	120	43/64"	A 16	B 16
	E.141. 1"	1"	175	7/8"	A 20	B 20
	E.141. 3/8"	3/8"	50		A 8	B 8
	E.141. 1/2"	1/2"	60		A 10	B 10
	E.141. 5/8"	5/8"	90		A 12	B 12
	E.141. 3/4"	3/4"	120		A 16	B 16
	E.141. 1"	1"	175		A 20	B 20

150 PARTING TOOL (ISO 7)



SHANK SECTION	Tool No.	H	B	L1	L2	L3	Tip
		mm	mm	mm	mm	mm	
	150-1006	10	6	90	10	3	D 3
	150-1208	12	8	100	12	3	D 3
	150-1610	16	10	110	14	4	D 4
	150-2012	20	12	125	16	5	D 5
	150-2516	25	16	140	20	6	D 6
	150-3220	32	20	170	25	8	D 8
	150-4025	40	25	200	32	10	D 10

156 CRANKED INTERNAL RECESSING TOOL



SHANK SECTION	Tool No.	H	B	C	L1	L2	Smallest bore size	Tip
		mm	mm	mm	mm	mm	mm	
	156-1010	10	10	9	100	3	25	D 3
	156-1212	12	12	11	110	4	30	D 4
	156-1616	16	16	14	140	5	40	D 5
	156-2020	20	20	18	160	6	50	D 6
	156-2525	25	25	20	200	8	60	D 8
	156-3232	32	32	28	250	10	85	D 10
	156-4040	40	40	30	315	12	100	D 12

Application Of Carbides For Machining, Ranges Of Application And Colour Code

Identification Colour	Designation
P10 & P20	Material to be Machined
	Steel, steel casting Machining Conditions Turning
	Threading and Milling-High cutting speed
	Material to be Machined
	Steel, steel casting, Malleable cast iron forming lang chips
	Machining & Milling-Medium cutting speed and medium chip section.
	Planning with small chip section.
P30	Material to be Machined
	Steel, steel casting, Malleable cast iron forming lang chips
	Machining Conditions
	Turning, Milling & Planning-Medium or low cutting speed, medium or
	large chip section and machining under unfavourable conditions such
	as heat erogenous material, changing hardness or chip section,
	intermittent turning or subject to vibrations.
P40	Material to be Machined
	Steel, steel Casting, with sand inclusions or shrinkage cavities
	Machining Conditions
	Turning, Planing of using large rake angle, for machining under
	unfavourable conditions, such as heat erogenous materials, changing
	hardness or chip sections, intermittent turning or subject to vibrations,
	and work on automatic machines.
K10 & K20	Material to be Machined
	Grey cast iron of hardness more than 220 HB, Malleable cast iron forming
	short chips, tempered steel, Aluminum alloy containing silicon, copper
	alloys, plastics, glass, hard rubber, hard carboard, porcelain,stone.
	Material to be Machined
	Grey cast iron of harness more than 220 HB, Non-ferrous metals, such as copper, Brass, Aluminium, Laminated wood of abrasive type machining, conditions.
	Turning, Milling, planing, requiring, high toughness.

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

THREADING TAPS

PRECISION THREADING | HIGH PERFORMANCE | LONG TOOL LIFE



ENGINEERED FOR PRECISION THREADING



HOLE PREPARATION
Correct tapping-hole size for smooth and accurate thread cutting.



TAPPING PERFORMANCE
Precise alignment and controlled cutting for consistent thread production.



THREAD QUALITY
Sharp cutting geometry delivers clean, accurate and well-defined threads.



CONSISTENT RESULTS
Reliable tool life, consistent thread quality and improved productivity.

PRECISION DELIVERED

HAND TAPS

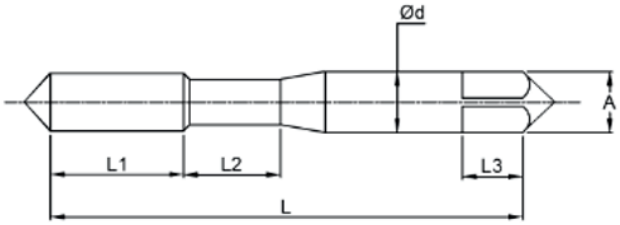
RANGE 3MM TO 20MM | HSS M2 | ISO:529

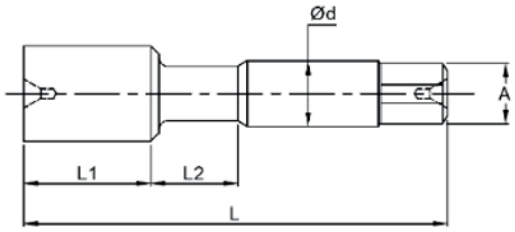
HSS M-2	60°	6H	ISO:529
GRADE	THREAD ANGLE	Tolerance	STD

M.S.	CARBON	S.S.
STEEL	STEEL	STAINLESS









NOMINAL DIA	PITCH	SHANK DIA MM (d)	THREAD LENGTH MM (L1)	RECESS LENGTH MM (L2)	OVERALL LENGTH MM (L)	SQUARE FLAT MM (A)	SQUARE LENGTH MM (L3)	DRILL SIZE
3.00	0.50	3.15	12.50	5.50	48.00	2.50	5.00	2.50
4.00	0.70	4.00	14.00	7.00	57.00	3.15	6.00	3.30
5.00	0.80	5.00	11.00	11.00	63.00	4.00	7.00	4.20
6.00	1.00	6.30	13.00	13.00	66.00	5.00	8.00	5.00
8.00	1.25	8.00	16.00	13.00	72.00	6.30	9.00	6.75
10.00	1.50	10.00	18.00	16.00	80.00	8.00	11.00	8.50
12.00	1.75	9.00	22.00	12.00	89.00	7.10	10.00	10.25
14.00	2.00	11.20	24.00	17.00	95.00	9.00	12.00	12.00
16.00	2.00	12.50	24.00	13.00	102.00	10.00	13.00	14.00
18.00	2.50	14.00	29.00	21.00	112.00	11.20	14.00	15.50
20.00	2.50	14.00	29.00	21.00	112.00	11.20	14.00	17.50

⚠ **Machine taps base on Din Standard can be supplied as per requirement.**

HAND TAPS

APPLICATION DETAILS AND TAP SELECTION GUIDE

Chamfer Style	Lead Threads	Alternative Name	Application	Features
Taper Tap	7–10 Threads	First Tap	Through holes, starting threads by hand	Easy alignment, low cutting load, smooth thread entry
Plug Tap	3–5 Threads	Second Tap	General purpose, through & blind holes	Most commonly used hand tap, balance of strength & cutting efficiency
Bottoming Tap	1–2 Threads	Bottom Tap	Blind holes requiring full thread depth	Produces threads close to the bottom of the hole; used after taper or plug tap

APPLICATION DETAILS

- **Taper Tap**
  Used for starting new threads.
  Ideal for manual tapping.
  Best for through holes.
  Long chamfer provides smooth cutting action and accurate alignment.

- **Plug (Second) Tap**
  Most widely used hand tap.
  Suitable for general-purpose threading.
  Can be used in both through and blind holes.
  Often supplied as the standard single hand tap.

- **Bottoming Tap**
  Used where full threads are required close to the bottom of a blind hole.
  Should be used only after a taper or plug tap has already started the thread.
  Short chamfer increases cutting load but provides maximum thread depth.

HAND TAP PRACTICE & GUIDE

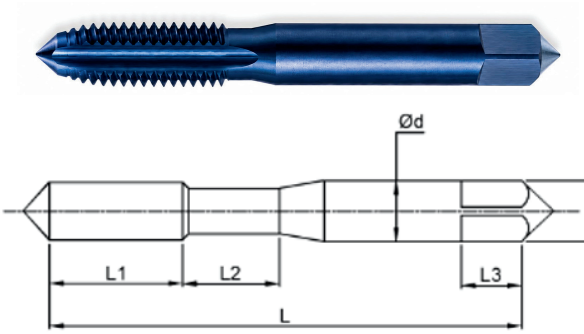
- Drill the correct tapping drill size before threading.
- Secure the workpiece firmly to prevent movement during tapping.
- Keep the tap aligned perpendicular to the work surface to ensure accurate threads.
- Apply an appropriate cutting fluid for the workpiece material.
- Rotate the tap smoothly without applying excessive force.
- Reverse the tap approximately ¼ to ½ turn periodically to break chips and reduce cutting resistance.
- Clean chips from the flutes frequently, especially in blind holes.
- Never force a tap if resistance increases—withdraw, clean, lubricate, and continue.
- Use all three hand taps (Taper → Plug → Bottoming) when full thread depth is required in blind holes.
- Inspect the finished thread using the appropriate thread gauge or mating fastener.

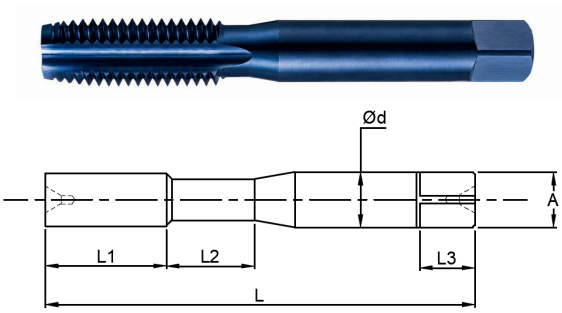
RETAPPING TAPS

HSS M2 | ISO:529 | BLACK OXIDE COATING

ReTap™ RETAPPING TAPS
BUILT TO RESTORE. ENGINEERED TO PERFORM.

HSS M-2	60°	4H/6G	ISO:529
GRADE	THREAD ANGLE	Tolerance	STD





4H RETAPPING RANGE:

PRODUCT CODE	NOMINAL DIA	PITCH	SHANK DIA MM (d)	THREAD LENGTH MM (L1)	RECESS LENGTH MM (L2)	OVERALL LENGTH MM (L)	SQUARE FLAT MM (A)	SQUARE LENGTH MM (L3)	CENTRE	COATING
RT05083F4H	5.00	0.80	5.00	16.00	9.00	58.00	4.00	7.00	EXTERNAL CENTRE	BLACK OXIDE
RT06103F4H	6.00	1.00	6.30	19.00	11.00	66.00	5.00	8.00	EXTERNAL CENTRE	BLACK OXIDE
RT081253F4H	8.00	1.25	8.00	22.00	13.00	72.00	6.30	9.00	EXTERNAL CENTRE	BLACK OXIDE
RT081254F4H	8.00	1.25	8.00	22.00	13.00	72.00	6.30	9.00	INTERNAL CENTRE	BLACK OXIDE
RT101254F4H	10.00	1.25	10.00	24.00	15.00	80.00	8.00	11.00	INTERNAL CENTRE	BLACK OXIDE
RT101504F4H	10.00	1.50	10.00	24.00	15.00	80.00	8.00	11.00	INTERNAL CENTRE	BLACK OXIDE

6G RETAPPING RANGE:

PRODUCT CODE	NOMINAL DIA	PITCH	SHANK DIA MM (d)	THREAD LENGTH MM (L1)	RECESS LENGTH MM (L2)	OVERALL LENGTH MM (L)	SQUARE FLAT MM (A)	SQUARE LENGTH MM (L3)	CENTRE	COATING
RT05083F6G	5.00	0.80	5.00	16.00	9.00	58.00	4.00	7.00	EXTERNAL CENTRE	BLACK OXIDE
RT06103F6G	6.00	1.0	6.30	19.00	11.00	66.00	5.00	8.00	EXTERNAL CENTRE	BLACK OXIDE
RT101504F6G	10.00	1.50	10.00	24.00	15.00	80.00	8.00	11.00	INTERNAL CENTRE	BLACK OXIDE

⚠Special size RETAPPING taps can be supplied as per requirement.

RETAPPING TAPS

HSS M2 | ISO:529 | BLACK OXIDE COATING

ReTap™ RETAPPING TAPS
BUILT TO RESTORE. ENGINEERED TO PERFORM.

RETAPPING DESIGN

- Retapping Taps are specially designed for restoring and cleaning damaged or previously cut threads. These taps are manufactured in accordance with ISO 529 standards to ensure dimensional accuracy and reliable performance.
- They are available in two types:
- Internal Centre
- External Centre
- A second chamfer is provided to improve thread alignment, reduce cutting load, and ensure smooth re-threading. The taps are finished with a Black Oxide coating, which enhances wear resistance, reduces friction, and provides corrosion protection.



BLACK OXIDE COATING ADVANTAGES:

- Improves lubricity during threading.
- Reduces friction and cutting torque.
- Enhances resistance to rust and corrosion.
- Minimizes chip welding on the cutting edges.
- Improves wear resistance and tool life.

APPLICATIONS:

- Cleaning and restoring existing internal threads.
- Removes rust, dirt, paint, plating, burrs, and corrosion from threaded holes.
- Used for maintenance and repair work where original thread size needs to be maintained.
- Restores threads damaged during machining, welding, assembly, or storage.
- Ideal for automotive, machine tools, fabrication, and general engineering applications.
- Used before assembly to ensure smooth fitment of bolts and screws.
- Suitable for through holes and existing threads.
- Helps in reducing assembly problems caused by contaminated or slightly damaged threads.

⚠ **Special size Retapping taps can be supplied as per requirement.**

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

TUNGSTEN CARBIDE ROTARY BURRS

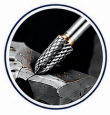
FAST MATERIAL REMOVAL | HIGH PERFORMANCE | LONG TOOL LIFE



ENGINEERED FOR PRECISION DEBURRING



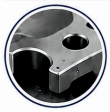
OPTIMIZED BURR SELECTION
Choose the right burr shape and cut type for every application.



EFFICIENT MATERIAL REMOVAL
Quickly removes welds, casting flash, excess material and sharp edges.



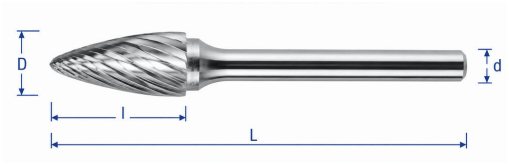
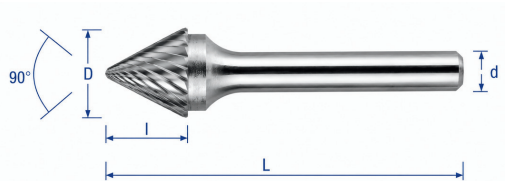
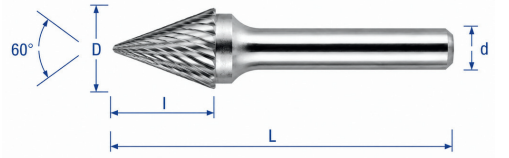
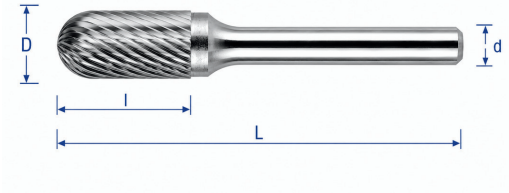
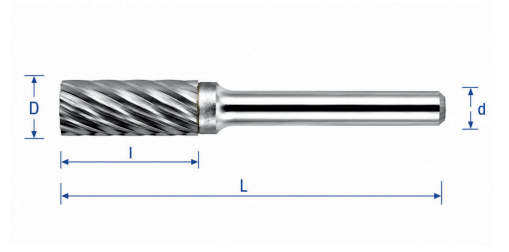
SMOOTH SHAPING & FINISHING
Precisely shapes contours, chamfers edges and improves surface finish.



PRECISION RESULTS
Clean finishes, accurate profiles and consistent component quality.

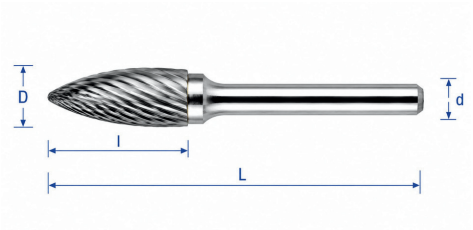
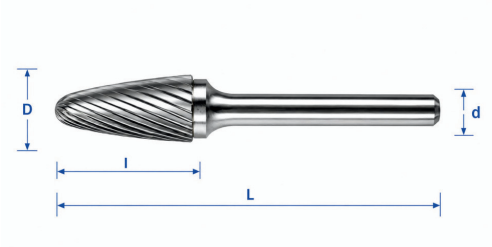
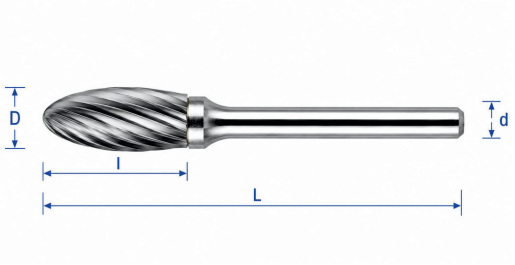
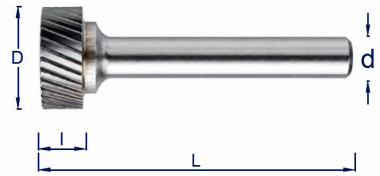
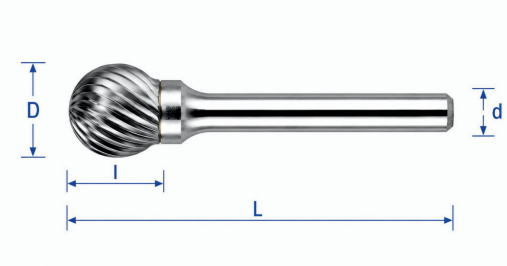
PRECISION DELIVERED

ROTARY BURRS

SHAPE	PRODUCT CODE	HEAD DIA MM (D)	HEAD LENGTH MM (l)	OVERALL LENGTH MM (L)	SHANK DIA MM (d)	
CONICAL "M" Type DIN 8032 SKM	M0311	3	11	38	3	
	M0611	6	11	38	3	
	M0619	6	19	60	6	
	M1020	10	20	70	6	
	M1225	12	25	75	6	
CONINICAL 90° "K" Type DIN 8032 KSK	K1012	10	12	60	6	
	K1613	16	13	63	6	
CONINICAL 60 DEGREE "J" Type DIN 8032 KSJ	J1616	16	16	66	6	
CYLINDRICAL RADIUS END "C" Type DIN 8032 WRC	C0316	3	16	38	3	
	C0613	6	13	38	3	
	C0620	6	20	50	6	
	C0820	8	20	70	6	
	C1020	10	20	70	6	
	C1220	12	20	70	6	
	C1625	16	25	75	6	
	C1225	12	25	75	6	
CYLINDRICAL "A" Type DIN 8032 ZYA	A0316	3	16	38	3	
	A0606	6	6	38	3	
	A0613	6	13	38	3	
	A0415	4	15	50	6	
	A0620	6	20	60	6	
	A0820	8	20	70	6	
	A1020	10	20	70	6	
	A1220	12	20	70	6	
	A1625	16	25	75	6	
	A1216	12	16	65	6	
	A1225	12	25	75	6	

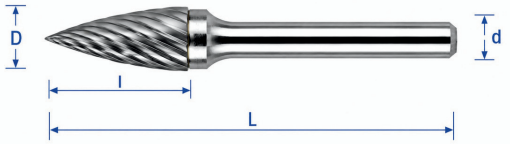
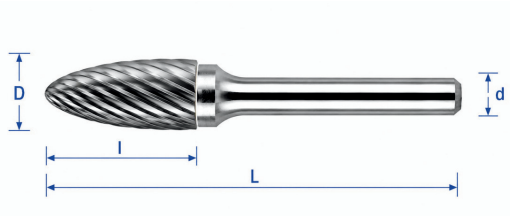
⚠ **Double Cut RotaryBurrs can be supplied as per requirement.**

ROTARY BURRS

SHAPE	PRODUCT CODE	HEAD DIA MM (D)	HEAD LENGTH MM (l)	OVERALL LENGTH MM (L)	SHANK DIA MM (d)	
FLAME "H" Type DIN 8032 FLH	H0615	6	15	50	6	
	H0820	8	20	70	6	
	H1025	10	25	65	6	
	H1232	12	32	82	6	
CONE "L" Type DIN 8032 KEL	L0308	3	8	38	3	
	L0612	6	12	38	3	
	L1020	10	20	65	6	
	L1220	12	20	70	6	
	L1633	16	33	75	6	
OVAL "E" Type DIN 8032 TRE	E0308	3	8	38	3	
	E0610-1	6	10	38	3	
	E0814	8	14	60	6	
	E1220	12	20	70	6	
	E1625	16	25	75	6	
	E0610-2	6	10	60	6	
RIM "A" Type DIN 8032 RIM	A1002	10	2	50	6	
	A2006	20	6	60	6	
	A1210	12	10	60	6	
BALL "D"Type DIN 8032 KUD	D0403	4	3	38	3	
	D0504	5	4	38	3	
	D0605	6	5	50	6	
	D0807	8	7	50	6	
	D1009	10	9	60	6	
	D01211	12	11	60	6	
	D1614	16	14	65	6	

Double Cut RotaryBurrs can be supplied as per requirement.

ROTARY BURRS

SHAPE	PRODUCT CODE	HEAD DIA MM (D)	HEAD LENGTH MM (l)	OVERALL LENGTH MM (L)	SHANK DIA MM (d)	
TREE POINTED END "G" Type DIN 8032 SPG	G0313	3	13	38	3	
	G0316	3	16	38	3	
	G0613	6	13	38	3	
	G0620	6	20	70	6	
	G1020	10	20	70	6	
	G1225	12	25	75	6	
	G1630	16	30	80	6	
TREE RADIUS END "F" Type DIN 8032 RBF	F0620	6	20	70	6	
	F1020	10	20	70	6	
	F1225	12	25	75	6	
INVERTED CONE "N" Type DIN 8032 WKN	N0308	3	8	38	3	
	N0608	6	8	38	3	

⚠ **Double Cut RotaryBurrs can be supplied as per requirement.**

PIRAMAL TOOLS™

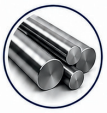
ASHOK PIRAMAL GROUP

SOLID CARBIDE ENDMILLS

PRECISION MACHINING | HIGH PERFORMANCE | LONG TOOL LIFE



ENGINEERED FOR PRECISION PERFORMANCE



PREMIUM CARBIDE BLANKS

High-quality carbide grades selected for strength, rigidity and long tool life.



PRECISION GRINDING

Advanced CNC grinding delivers accurate profiles, flutes and cutting edges.



OPTIMIZED TOOL GEOMETRY

Precisely engineered flute and radius geometry for efficient, accurate machining.



CONSISTENT QUALITY

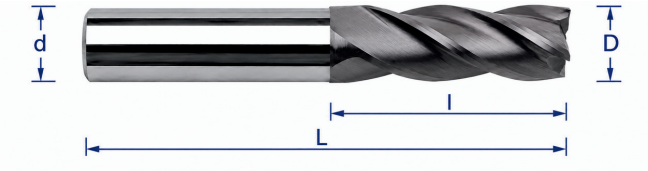
Advanced inspection, optional PVD coating and protected packaging ensure reliable performance.

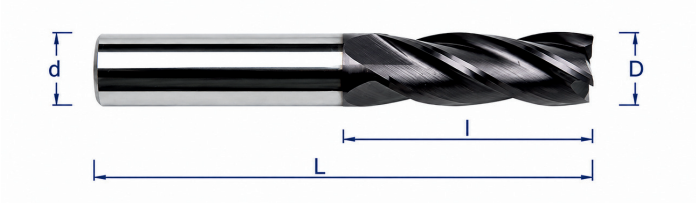
PRECISION DELIVERED

SOLIDE CARBIDE ENDMILLS

AlcrN	Upto 50°	2/4	SOLIDE CARBIDE
COATING	HRc	NO Of FLT	

TiAlSiN	Upto 60°	2/4	SOLIDE CARBIDE
COATING	HRc	NO Of FLT	





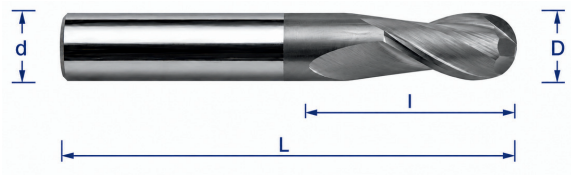
CUTTING DIA MM (D)	CUTTING LENGTH MM (L1)	SHANK DIA MM (d)	OVERALL LENGTH MM (L)	NO OF FLUTE
2.00	6	4	50	4
3.00	9	4	50	4
4.00	12	4	50	4
5.00	15	5	50	4
6.00	18	6	50	4
8.00	24	8	60	4
10.00	30	10	75	4
12.00	36	12	75	4
14.00	45	14	100	4
16.00	45	16	100	4
18.00	45	18	100	4
20.00	45	20	100	4

LONG SERIES

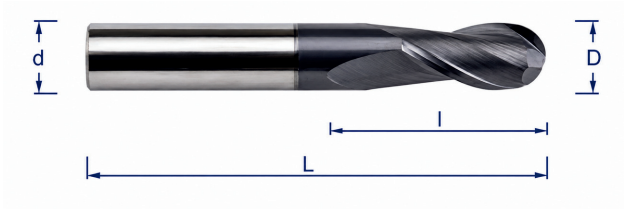
CUTTING DIA MM (D)	CUTTING LENGTH MM (L1)	SHANK DIA MM (d)	OVERALL LENGTH MM (L)	NO OF FLUTE
4.00	16	4	75	4
6.00	25	6	75	4
8.00	35	8	100	4
10.00	40	10	100	4
12.00	45	12	100	4

SOLIDE CARBIDE BALL NOSE ENDMILLS

AlcrN	50°	2/4	SOLIDE CARBIDE
COATING	HRc	NO Of FLT	



TiAlSiN	60°	2/4	SOLIDE CARBIDE
COATING	HRc	NO Of FLT	



CUTTING DIA MM (D)	CUTTING LENGTH MM (L1)	SHANK DIA MM (d)	OVERALL LENGTH MM (L)	NO OF FLUTE
2	4	4	50	2
3	6	4	50	2
4	8	4	50	2
5	10	5	50	2
6	12	6	50	2
8	16	8	60	2
10	20	10	75	2
12	24	12	75	2
14	28	14	100	2
16	32	16	100	2
18	36	18	100	2
20	40	20	100	2

- **Application & Design**

AlCrN Coating - Up to 50 HRC machiing
Suitable for machining mold steel, welded parts, alloy materials, etc.

TiAlSiN Coating - Up to 60 HRC machining
Suitable for hardened mould steel, titanium alloy, Plastic mould & other difficult to machine materilas.

- **Coating Type Coating Colour Coating Thickness**

Coating 2–3 µm
(Coating colours may vary. Colours shown in the illustrations are for reference purposes only.)

SUGGESTED SPEED AND FEED DATA FOR SOLID CARBIDE ENDMILLS AND DRILLS

SLOTTING AND KEY WAY MILLING

Material	Carbon steel , Alloy Steel < HRc 28		Carbon steel , Alloy Steel HRc 28 - HRc 45		Stainless Steel and Super alloys		Cast Iron	
Diameter	RPM	feed/tooth	RPM	feed/tooth	RPM	feed/tooth	RPM	feed/tooth
2	6369	0.03	6369	0.024	6369	0.02	6369	0.044
3	4777	0.045	4777	0.036	4777	0.03	4777	0.066
4	3981	0.06	3981	0.048	3981	0.04	3981	0.088
5	3185	0.075	3185	0.060	3185	0.05	3185	0.110
6	2654	0.09	2654	0.072	2654	0.06	2654	0.132
8	1990	0.12	1990	0.096	1990	0.08	1990	0.176
10	1911	0.15	1911	0.120	1911	0.10	1911	0.220
12	1592	0.18	1592	0.144	1592	0.12	1592	0.264
14	1365	0.21	1365	0.168	1365	0.14	1365	0.308
16	1393	0.24	1393	0.192	1393	0.16	1393	0.352
18	1238	0.27	1238	0.216	1238	0.18	1238	0.396
20	1115	0.30	1115	0.240	1115	0.20	1115	0.440

ENDMILLING

Material	Carbon steel , Alloy Steel < HRc 28		Carbon steel , Alloy Steel HRc 28 - HRc 45		Stainless Steel and Super alloys		Grey Cast Iron	
Diameter	RPM	feed/tooth	RPM	feed/tooth	RPM	feed/tooth	RPM	feed/tooth
2	6369	0.04	6369	0.03	6369	0.024	6369	0.06
3	4777	0.06	4777	0.045	4777	0.036	4777	0.09
4	3981	0.08	3981	0.06	3981	0.048	3981	0.12
5	3185	0.1	3185	0.075	3185	0.06	3185	0.15
6	2654	0.12	2654	0.09	2654	0.072	2654	0.18
8	1990	0.16	1990	0.12	1990	0.096	1990	0.24
10	1911	0.2	1911	0.15	1911	0.12	1911	0.3
12	1592	0.24	1592	0.18	1592	0.144	1592	0.36
14	1365	0.28	1365	0.21	1365	0.168	1365	0.42
16	1393	0.32	1393	0.24	1393	0.192	1393	0.48
18	1238	0.36	1238	0.27	1238	0.216	1238	0.54
20	1115	0.4	1115	0.3	1115	0.24	1115	0.6

DRILLING

Material	Carbon steel , Alloy Steel < HRc 28		Carbon steel , Alloy Steel HRc 28 - HRc 45		Stainless Steel and Super alloys		Cast Iron	
Diameter	RPM	mm/rev	RPM	mm/rev	RPM	mm/rev	RPM	mm/rev
2	5100	0.04	5100	0.03	4900	0.02	5100	0.06
3	4246	0.045	4246	0.036	4246	0.03	4246	0.066
4	3583	0.06	3583	0.048	3583	0.04	3583	0.088
5	2866	0.075	2866	0.06	2866	0.05	2866	0.11
6	2389	0.09	2389	0.072	2389	0.06	2389	0.132
8	1990	0.12	1990	0.096	1990	0.08	1990	0.176
10	1592	0.15	1592	0.12	1592	0.1	1592	0.22
12	1327	0.18	1327	0.144	1327	0.12	1327	0.264
14	1251	0.21	1251	0.168	1251	0.14	1251	0.308
16	1194	0.24	1194	0.192	1194	0.16	1194	0.352
18	1062	0.27	1062	0.216	1062	0.18	1062	0.396
20	1115	0.3	1115	0.24	1115	0.2	1115	0.44

- Increase speed and feed rate by around 25% in case of coated endills
- Reduce feed rate by around 30% in case of long types
- Increase speed and feed rate by around 25% in case of coated drills

NOTES

NOTES

NOTES

PIRAMAL TOOLS™

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PRODUCT PORTFOLIO

PIRAMAL TOOLS™

ASHOK PIRAMAL GROUP

PRECISION DELIVERED

Engineered for Precision.

Built for Perfomance.

Trusted for reliablity.



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