



Birla Precision Technologies Ltd.
**INDIAN TOOL
MANUFACTURERS**
(DIVISION)



**TWIST DRILLS | REAMERS | MILLING CUTTERS | GROUND THREAD TAPS
| MASONRY DRILLS | TOOL BITS**



PRICE LIST 0422



APPLICATION SPECIFIC
TAPS & DRILLS



Birla Precision Technologies Limited
**INDIAN TOOL
MANUFACTURERS**
(DIVISION)

PROFILE

INDIAN TOOL MANUFACTURER'S (ITM), A DIVISION OF BIRLA PRECISION TECHNOLOGIES LIMITED PIONEERED IN THE YEAR 1937 THE MANUFACTURE AND SUPPLY OF HIGH SPEED STEEL CUTTING TOOLS IN INDIA.

ITM HAS TWO MANUFACTURING UNITS IN MAHARASHTRA. THE FIRST PLANT AT NASIK WHERE STANDARD AS WELL AS SPECIAL TOOLS ARE MANUFACTURED AS PER CUSTOMER REQUIREMENT AND THE SECOND PLANT AT AURANGABAD. MANUFACTURING STANDARD CATALOGUE ITEMS. BOTH ARE ISO 9001-2000 CERTIFIED FROM TUV-RW.

ITM UNDERTAKES PRODUCTION OF CUTTING TOOLS IN VARIOUS GRADES OF HIGH SPEED STEEL LIKE M2, M35, M42, T42 ETC.

ITM ALSO PRODUCES AS PER SPECIFIC REQUIREMENTS OF THE CUSTOMER PARTICULARLY WITH REGARD TO PROFILE, GEOMETRY, DIMENSION ETC.

ITM'S "DAGGER" BRAND CUTTING TOOLS DISTRIBUTED WIDELY THROUGH A COUNTRY WIDE NETWORK OF DISTRIBUTORS AND DEALERS, BACKED BY BRANCH OFFICES. RESIDENT REPRESENTATIVES AND SERVICE ENGINEERS AT AHMEDABAD, BANGALORE, BARODA, BHOPAL, CHENNAI, COCHIN, DELHI, FARIDABAD, JAMSHEDPUR, KANPUR, KOLKATTA, LUDHIANA, MUMBAI, PUNE AND SECUNDERABAD.



UNIT NO.1 NASIK PLANT



UNIT NO.2 AURANGABAD PLANT

PRICE LIST 0422

Birla Precision Technologies Limited

**INDIAN TOOL
MANUFACTURERS**

(DIVISION)

TWIST DRILL

REAMERS

MILLING CUTTERS

GROUND THREAD TAPS

MASONRY DRILLS

TOOL BITS

**PANTHER SERIES PRODUCTS
(DRILLS & TAPS)**

REGISTERED OFFICE

23, Birla Mansion No. 2, 1st Floor,
D.D. Sathe Marg, Prarthana Samaj,
Mumbai - 400 004
Tel. : +91 22 23825060
E-mail : info@birlaprecision.com
Web. : www.birlaprecision.com




NASIK UNIT

62/63, MIDC Industrial Area,
Satpur, Nasik - 422 007.
Tel. : (0253) 2350320 / 21,
E-mail : itmnsk@indiantool.com

AURANGABAD UNIT

B-15/3, MIDC Industrial Area,
Waluj, Aurangabad - 431 133.
Tel. : (0240) 2564056 / 57
E-mail : itmagb@indiantool.com

Visit us :

-  <http://www.facebook.com/birlaprecision/>
-  <http://instagram.com/birlaprecisiontech?utm.medium=copy link>
-  <http://twitter.com/precisionbirla?s=21>

- This Price List subject to alteration without prior notice and the prices are based on the present input costs.
- Prices given in this price list are for standard products and base prices only. Taxes are extra as applicable.
- The prices are for delivery on F.O.R. Destination.
- This price list effective from **01/04/2022 & supersedes all previous price lists.**

Note : The products indicate in this price list are conforming to National & International Standards. However, we can manufacture and supply **Special and Tailor Made Tools** to suit requirements of the Customers and End-users on request. For any specific requirements please send your enquiries to enquiry@indiantool.com

Birla Precision Technologies Limited

**INDIAN TOOL
MANUFACTURERS**

(DIVISION)

BRANCHES

AHMEDABAD

104, New Cloth Market,
Ahmedabad - 380 002.
Tel : (079) - 22123277 / 22124642
E-mail : itmahm@indiantool.com

KANPUR

17, A, Express Road,
Canal Road,
Kanpur 208001
Mob.: 9795851437
E-mail : itmkanpur@indiantool.com

BANGALORE

TBH Plaza, 2nd Floor, No. 34,
SJP Road, Bangalore - 560 002
Tel : (080) - 22128347
Mob : 9900244241
E-mail : itmblr@indiantool.com

KOLKATA

'NICCO' House, 4th Floor,
2 Hare Street, Kolkata - 700 001.
Tel : (033) - 22485191 / 22486449
Mobile : 09339846922
E-mail : itmkol@indiantool.com

CHENNAI

157, Linghi Chetty Street,
Chennai - 600 001.
Tel : (044) - 25342636, 42012503
E-mail : itmchn@indiantool.com

LUDHIANA

JASSAL HOUSE, G.T. ROAD,
LUDHIANA - 141008
Tel : (0161) - 2722535
E-mail : itmldh@indiantool.com

DELHI

2/11, Ansari Road, Darya Ganj,
New Delhi - 110 002
Tel : (011) 43575500
E-mail : itmdlh@indiantool.com

PUNE

Shop No. 15, Pesh Industrial Premises
Co.Op. Society Ltd., Plot No. S-79/1/A,
Telco Road, Next to - Century
Enka Industry, MIDC, Bhosari,
Pune - 411 026
Tel.: (020) 27123477
E-mail : itm pune@indiantool.com

INDORE

M47, New Siyaganj,
Mal-Godam Road,
Indore - 452007 (MP)
Tel: (073) 4997791
Mob.: 9425956159
E-mail : itmindore@indiantool.com

SECUNDERABAD

5-1-535, 2nd Floor, Hill Street,
Ranigunj, Secunderabad - 500 003.
Tel : (040) - 27713177 / 27718093
E-mail : itmsec@indiantool.com

MUMBAI OFFICE

Dalmaj House, 1st Floor, 206,
J. Bajaj Road, Nariman Point,
Mumbai - 400 021.
Phone : 91 - 02266168400 / 22819468
Email : itmth@indiantool.com
website : www.indiantool.com

NINJA PRODUCTS



NINJA Taps

After successful launch of Panther Taps, we at Indian Tool Manufacturers (ITM) – A division of Birla Precision Technologies Ltd., are proud to announce launch of our “NINJA Taps”, a new series of superior quality Taps. These Taps are made out of premium quality of HSS grade of Materials.

ITM NINJA Taps meets the customer needs of precise thread quality and improved productivity. The range of these products consists of SPPT Taps, Spiral Taps, St. Flute Taps, and Roll Form Taps.

- Spiral Point Taps : (Size Range M3-M16)
- Spiral Flute Taps : (Size Range M3-M16)
- St. Flute Taps : (Size Range M3-M16)
- Roll Form Taps : (Size Range M6-M16)

NINJA Drills

NINJA Series of Drills are made out of highest quality of HSS grade of Materials. These drills are manufactured on our latest CNC Machines, with special geometry to give better performance. These Drills can be used for Stainless Steels, Nickel Chromium Steels and Forged Steels, etc.

Size Range :

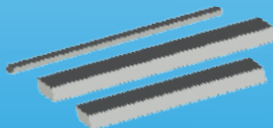
Ninja Series Drills are manufactured; as per IS: 5101 and BS: 328.

- Metric Size : 3.0 mm to 13.0 mm
- Inch Series : 1/8" to 1/2"

Applications :

Ninja series drills are best suitable for drilling on; Stainless Steels, Forged Steels, Nickel Chromium Steels and Tougher Machining Applications.

HATHYAR - TOOL BITS



ITM Hathyar Square Tool Bits are manufactured out of finest grades of HSS materials. All Tool Bits made with 15° bevel angle. This will give advantage to make easy end grinding preparation for end user.

HATHYAR - 20 – Suitable for free cutting materials.

HATHYAR - 50 – Suitable for difficult to cut materials.

HATHYAR - 51 – Suitable for Harder Alloy steels and stainless steels.

PANTHER PRODUCTS



APPLICATION SPECIFIC TAPS & DRILLS

These products are solutions for :

- ◆ Exceptional Performance
- ◆ Better Tool Life
- ◆ Superior quality

Drills

Panther series Drills are made-out of finest HSS Premium Materials and manufactured from latest CNC Machines, having special point geometry to produce better finish and accurate holes. These drills designed especially to machine difficult to cut material like Stainless steels, Nickel chromium steel and Forged steel, etc.

Advantages :

- ◆ Best Suitable for tougher material
- ◆ Unique point geometry to reduce thrust forced during drilling
- ◆ Special surface treatment for maximum wear resistance.
- ◆ Longer Tool Life

Taps

Panther series Taps are made - out of premium grades of HSS Materials. These taps are produced from our latest CNC Machines, having unique geometries to suit different work materials.

Panther series consists of Spiral Flute, Spiral Point, Roll Form and Cast Iron Taps. We can supply these taps with TiN, TiCN and Ti(Al)N coating to enhance performance of taps.

- ◆ **Spiral Flute Taps :** Best suitable for Blind Hole applications, spiral flutes eliminate the chip clogging.
- ◆ **Spiral Point Taps :** Best suitable for through hole applications, spiral point works as a chip breaker, to push chips towards forward direction.
- ◆ **Roll Form Taps :** Roll form tapping operation is a chip less operation, Form threads are produced by displacement of material. Best suitable for soft materials like Aluminum, Copper and Brass etc.
- ◆ **Cast Iron Taps :** Best suitable for blind and through application of Cast Iron materials.

Application Taps
'TORPEDO'
available on request.



HSS TWIST DRILLS



ITM offer a extensive range of standard and special twist drills in different grades of HSS, available in various diameters.

RANGE :

Type : Parallel Shank Stub series, Jobber series, Long Series, Taper Shank drills, Core drills, Extra long drills with Parallel & Taper Shank, Combined drills and countersinks (Centre drills), Taper Pin Drills, Shell drills, Special drills etc.

Size :

Range : Parallel Shank Twist Drills: 3mm - 31.5mm, 3/64" - 1.15/64"
Taper Shank drills : 3.0mm - 102mm : 1/8" - 4"
MAL-2000mm

Material : HSS-M2

Note : Drills can be supplied as per specific Customers needs on request as follows :

- Intermediate Diameters.
- Non Standard and Special Drills.
- In different grades of HSS Like M35, M42 etc.
- Various surface coating like TiN, TiAIN etc.
- Special geometry to suit various applications.

HSS SCREWING TAPS



Available in a wide range of sizes, types and combinations.

RANGE :

Type : Hand and Short Machine Taps, Long Shank Machine Taps, .Nut Taps Pipe Taps, BSW, BSF, UNC, NC, NF, NGT and special Taps.

Size :

Range : 3mm - 100mm : 1/8 - 4"

Material : HSS-M2

Note : Taps can be supplied as per Customers needs on request as follows :

- Serial or Non serial
- Individual Pieces or in Sets
- Different type of Flute like Straight, Helical, Spiral, Spiral Point & Fluteless.
- In different grades of HSS like M35, M42 etc.
- Various surface coating like TiN, TiTAIN etc.
- Special Taps as per Customer's Drawing.

HSS REAMERS



Available in a wide range of diameters and manufactured to suit specific reaming operations to provide perfect accuracy and optimum surface Finish.

RANGE :

Type : Parallel hand reamers, long fluted machine reamers, Chucking reamers with parallel shank or taper shank, Bridge reamers, Taper pin reamers, Socket reamers, Machine Jig reamers, Centre reamers, Shell reamers etc.

Size :

Range : 3.0mm - 76.2mm : 1/8" - 3"

Material : HSS-M2

Note : Reamers can also be supplied as per specific Customers needs as follows :

- Non standard and special as per Customers drawing.
- Intermediate diameters.
- In different grades of HSS like M35, M42 etc.
- Various surface coating like TiN, TiAIN etc.

HSS MILLING CUTTERS



Available in a wide range of diameters and types suitable for various types of milling operations.

RANGE :

Size :

Range : Shank Type cutters : 3mm-63mm : 1/8"-2.1/2"
Bore Type cutter : 40mm-250mm : 1.1/2" - 10"

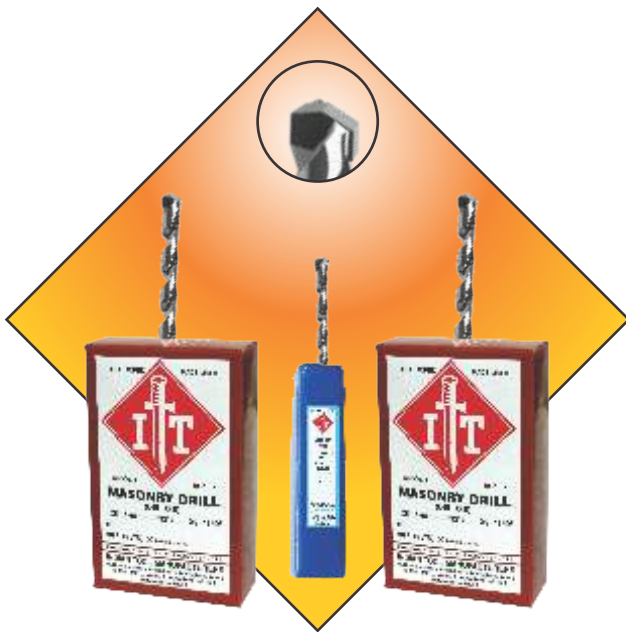
Type : Cylindrical cutters, Side & Face cutters, Shell End Mills, Single and Double Angle Cutters, Face cutters, Slotting cutters, Keyway Milling cutters, Hollow Mill, Convex and Concave Milling cutters, Single and Double corner rounding cutters, Parallel and Taper Shank Slot Drills, End Mills, "T" Slot cutters, Counter bores, Counter sinks, Woodruff Key Slot cutters with parallel shank and cutters as per special design.

Material : HSS-M2

Note : Milling cutters can also be supplied as per specific Customers needs as follows:

- Non standard and special as per Customer drawings.
- Intermediate diameters.
- In different grades of HSS like M35, M42 etc.

MASONRY DRILLS



ITM's : Carbide Tipped Masonry Drills are manufactured from Alloy Steel, have Ground Flutes, are in Bright Finish and combined with ITM's unique brazing and treatment process results in withstanding shock and outstanding resistance to wear during its use.

RANGE :

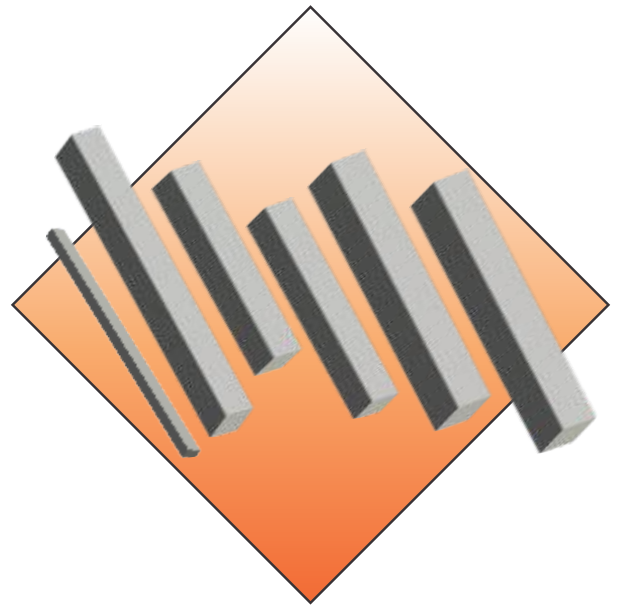
Type : ITM Masonry Drills are available in three categories. Standard, Delux and Super Granato.

Size Range : 3.0mm to 13mm : 1/8" to 1/2" in all three categories

Standard Masonry Drills Suitable for all general purpose. Available in 10 pcs packing.

Deluxe Masonry Drills Specially developed for use on tougher material like Stonework. Concrete and Marble etc.

HSS TOOL BITS



Backed by the high quality of High Speed Steel material ITM manufactures a comprehensive range of HSS Tool Bits, Dagger Tool bits ensure maximum red hardness for greater endurance.

Rigorous and regular metallurgical tests are undertaken to analyze the quality as well as the composition of the raw materials used. These include determination of carbide size, decarb, segregation, grain size, response to heat treatment etc., thus guaranteeing smooth, trouble free performance.

RANGE :

Size :
Range : Square tools size 5mm-25mm : 3/16"-1"

Material : HSS-M2 & T42.

Note :

- Cryogenic treatment for special applications on request.
- All square tool bite are supplied with the bevel angle of 150.

CARBIDE TIPPED DRILLS



Carbide Tipped Drills are made out of highest quality of "Carbide Tips". These CT drills are manufactured on our latest CNC Machines, with special geometry to give better performance. The Carbide Tipped are brazed by special process to ensure the better fitment to ensure faster, effective, correct drilling of hole sizes with highest finish.

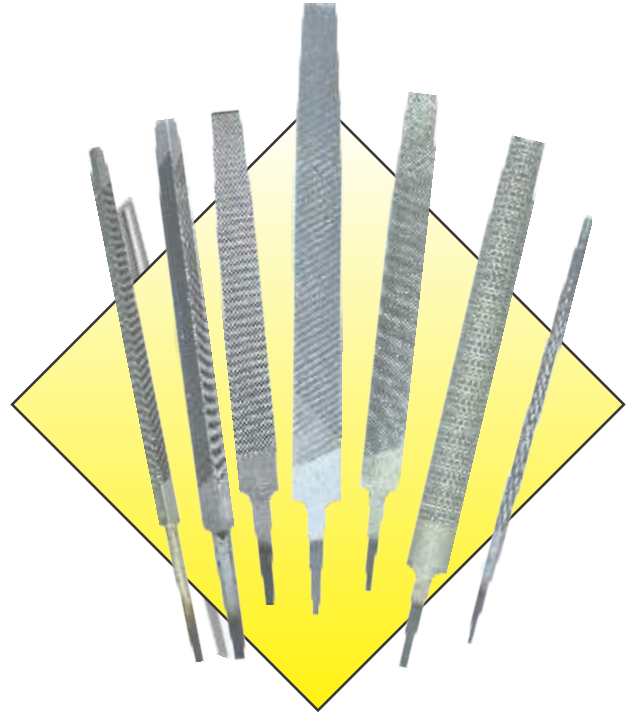
Application:

- These drills are used at Brake Lines, Foundry Industry, Composite materials and general Applications.

Size Range :

- Metric: 4 mm – 13 mm
- Inch: 11/64" – 1/2"

ENGINEERS FILES



Dagger Brand Files are made from the finest file steel material on State-of-the-Art Production Line. Files are manufactured on unique hydro pneumatically controlled machines resulting in uniform Teeth geometry and consistent desired finish cutting quality with.

RANGE:

Type : Machine Files, Saw Files, Rasps, Special Files & Mill Files

Size

Range : 100mm to 350mm : 4" to 14"

Cuts : Single Cut, Double Cut, Bastard Cut, 2nd Cut, Smooth Cut & Rasp Cut.

Shapes : Rectangle, Square, Round, Triangle, Half Round

Files are available in 10pcs packing up to 250mm & 5pcs packing for above 250mm.

LABLE COLOURS

Bastard Cut	: GREEN	
2nd Cut	: YELLOW	
Smooth Cut	: RED	

SDS PLUS HAMMER DRILLS



Hammer Drills are new series of product from ITM's product range. These drills have unique point geometry for better penetration and work at higher cutting Parameters.

Salient Features :

- Premium Quality Carbide Tips
- High Quality Steel Body
- Ergonomic Design
- Operates at High Speeds

Advantages :

- High Resistance to Shock Loads
- Highly Durable Tools
- Sustain at High Hammering Action
- High Removal Rate of Powder dust from Work area
- Less load on machine
- Higher Productivity

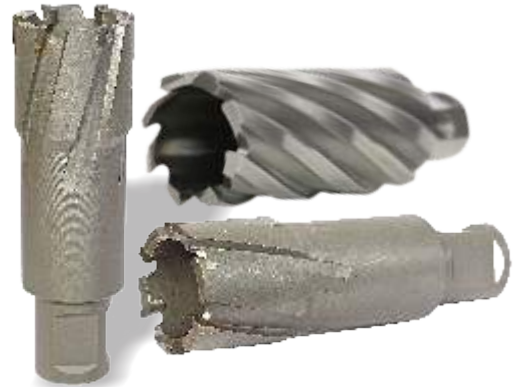
Application :

- These drills are widely used at Construction work, Concrete, Clinker Bricks (Furnace Brocks) and Stones etc.,

Size Range :

- Metric : Dia. 4 mm – 16 mm

ANNULAR CUTTERS



TUNGSTEN CARBIDE TIPPED (TCT) : TCT Annular Cutters are new series of product from ITM's product range. These cutters are manufactured on latest CNC Machines to get highest quality of Cutters. These cutters are used with Special Carbide Tips to give accurate Hole finish.

Advantages :

- No Pre Drilling & Step Drilling Required
- Burr Free Holes
- Required Less Thrust
- Less energy Peripheral Cutting
- Hole Finish Precise and Accurate

HSS ANNULAR CUTTER : HSS Annular Cutters are new series of product from ITM's product range. These cutters are manufactured on latest CNC Machines to get highest quality of Cutters. These cutter having special geometry to produce accurate hole finish.

Advantages :

- Increased Cutting Speed
- Minimize Tool Wear
- Better Alignment of Hole Axis
- Reduced Tooth Load
- Extended Tool Life

Application : TCT & HSS Annular Cutter

These cutters are widely used at Fabrication Industries, Tower Manufacturers, Railway Wagons etc.,

Size Range : TCT & HSS Annular Cutter :

Metric : Dia 12 mm to 50 mm

DOC 50 mm (Depth of Cut – DOC)

INDEX

HSS TWIST DRILLS	PG. NO.
Parallel Shank (Jobber Series)	1-2
Parallel Shank (Stub Series)	2-3
Parallel Shank (Long Series)	3-4
Taper Shank Drills	4-6
Taper Shank 3 or 4 Fluted Core Drills, Shell Drills	7
Combine Drills & Countersinks (Centre Drill)	8
Taper Shank Twist Drill (Long Series)	8-9
Taper Shank Extra Long Drills	10-13
Parallel Shank Extra Long Drills	13
Panther & Ninja Series - Parallel & Taper Drills	14
HSS REAMERS	
Parallel Hand Reamers / Long Fluted Machine Reamers and Parallel / Taper Shank Chucking Reamers / Taper Shank Extra Long Machine Reamers	15-16
Taper Pin Reamers Hand / Machine, Machine Jig Reamers	16
Socket Reamers Parallel / Taper, Machine Bridge Reamers, Shell Reamers	17
HSS MILLING CUTTERS	
Countersinks with Taper Shank Taper Shank Counterbores	17
Taper Shank Counterbores Cylindrical Cutters, Helical Cylindrical Cutters	18
High Power Cylindrical Cutters Side & Face Cutters, Single Angle Cutters, Double Angle Cutters, Equal Angle Cutters	18-20
Equal Angle Cutters, Double (Unequal) Angle Cutters	20

HSS MILLING CUTTERS	PG. NO.
Convex / Concave Cutters, Single / Double Corner Rounding Cutters	21
End Mills (Parallel and Taper Shank)	22-23
Slot Milling Cutters (Parallel & Taper Shank), Taper Shank T-Slot Cutters	23-24
Woodruff Keyslot Cutters, Face Cutters	25
Keyway Milling Cutters Form Relieved, Taper Shank T-Slot Cutters (Staggered Teeth)	25
Slotting Cutters, Shell End Mills	26
HSS TAPS	
Hand & Short Machine Taps and Nut Taps	26-27
Long Shank Machine Taps BSW, UNC, BSF, UN, NF Pipe Taps - BSP, NPS, NPSF, BSPT, NPTF, B.A. Hand Taps / Nut Taps.	28-29
Standard Hand & Short Machine Taps B.S.B., B.S.Cy., B.S.Con, NGT, BSGT, Hand Taps BSW, BSF, UNC, UNF & NUT Taps, NIB Taps.	29-30
NINJA Series Taps. Panther & Ninja Series End Mills.	30
Panther Series - Taps	31
Masonry Drills, Tool Bits / Decimal Equivalents	32
Tapping Chart / Hardness Conversion Chart	33
Point Enhancement / Point Grinding Techniques	34
Speed & Feed / Trouble Shooting (Drills - Taps)	35
Enhancement (Metallurgical)	36

**HSS PARALLEL SHANK (JOBBER SERIES)
TWIST DRILLS IS : 5101**

SIZE			PRICE (Rs.) 10 Nos.	SIZE			PRICE (Rs.) 10 Nos.
MM	INCH	DG		MM	INCH	DG	
0.30			1584	2.90★			601
0.40			1373	2.95		32	601
0.50			997	3.00★			601
0.60			997	3.05		31★	716
0.70			997	3.10★			716
0.80★			835	3.17	1/8★		716
0.90★			796	3.20★			740
1.00★			508	3.26		30★	740
1.02		60	508	3.30★			740
1.04		59	508	3.40★			740
1.07		58	508	3.45		29	740
1.09		57	508	3.50★			740
1.10★			508	3.57	9/64★	28	740
1.18		56	508	3.60★			1046
1.19	3/64★		508	3.66		27	1046
1.20★			508	3.70★			1046
1.30★			508	3.73		26	1046
1.32		55	508	3.80★		25	1046
1.40★		54	508	3.86		24	1046
1.50★			508	3.90★			1046
1.51		53	508	3.91		23	1046
1.59	1/16★		508	3.97	5/32★		1046
1.60★			508	3.99		22	1046
1.61		52	547	4.00★			1046
1.70★		51	547	4.04		21	1270
1.78		50★	547	4.09		20	1270
1.80★			547	4.10★			1270
1.85		49	547	4.20★			1270
1.90★			547	4.22		19★	1270
1.93		48★	547	4.30★		18	1270
1.98	5/64★		547	4.37	11/64★		1270
1.99		47★	547	4.39		17	1270
2.00★			547	4.40★			1270
2.06		46	547	4.50★		16	1668
2.08		45	547	4.57		15	1668
2.10★			547	4.60			1668
2.18		44	547	4.62		14	1668
2.20★			547	4.70		13	1668
2.26		43★	547	4.76	3/16★		1668
2.30★			547	4.80★		12	1668
2.37		42	547	4.85		11	1810
2.38	3/32★		547	4.90★			1810
2.40★			547	4.92		10	1810
2.44		41	547	4.98		9	1810
2.49		40	547	5.00★			1810
2.50★			547	5.06		8	1810
2.53		39	547	5.10★			1810
2.58		38	547	5.11		7	1810
2.60★			547	5.16	13/64★		1810
2.64		37	547	5.18		6	1810
2.70★			547	5.20★			1810
2.71		36	547	5.22		5	1953
2.78	7/64★		547	5.30★			1953
2.79		35	601	5.31		4	1953
2.80★			601	5.40★			1953
2.82		34	601				
2.87		33	601				

**HSS PARALLEL SHANK (JOBBER SERIES)
TWIST DRILLS IS : 5101**

SIZE			PRICE (Rs.) 10 Nos.	SIZE			PRICE (Rs.) 10 Nos.
MM	INCH	DG		MM	INCH	DG	
5.41		3	1953	8.60★			5079
5.50★			1953	8.61		R	5079
5.56	7/32★		1953	8.70★			5079
5.60			1953	8.73	11/32★		5350
5.61		2	2197	8.80★			5350
5.70★			2197	8.84		S	5350
5.79		1	2197	8.90			5350
5.80★			2197	9.00★			5350
5.90			2197	9.09		T	5582
5.94		A	2197	9.10			5582
5.95	15/64★		2197	9.13	23/64★		5582
6.00★			2197	9.20★			5582
6.04		B	2393	9.30★			5582
6.10★			2393	9.34		U★	5582
6.15		C	2393	9.40★			5582
6.20★			2393	9.50★			5582
6.25		D	2393	9.52	3/8★		6327
6.30★			2393	9.58		V	6327
6.35★	1/4★	E	2393	9.60			6327
6.40★			2393	9.70			6327
6.50★			3053	9.80★		W	6327
6.53		F★	3053	9.90			7083
6.60★			3053	9.92	25/64★		7083
6.63		G	3053	10.00★			7083
6.70★			3053	10.08		X	7083
6.75	17/64★	H	3053	10.10			7083
6.80★			3053	10.20★			7083
6.90★		I	3342	10.26		Y	7675
7.00★			3342	10.30★			7675
7.03		J	3342	10.32	13/32★		7675
7.10★			3342	10.40★			7675
7.14	9/32★	K	3342	10.49		Z	7675
7.20★			3342	10.50★			7675
7.30			3526	10.60			7675
7.37		L	3526	10.70			8126
7.40			3526	10.72	27/64★		8126
7.49		M	3526	10.80			8126
7.50★			3526	10.90			8126
7.54	19/64★		3817	11.00★			8126
7.60			3817	11.10			9070
7.67		N	3817	11.11	7/16★		9070
7.70			3817	11.20★			9070
7.80★			3817	11.30			9070
7.90★			3817	11.40			9070
7.94	5/16★		4192	11.50★			9567
8.00★			4192	11.51	29/64★		9567
8.03		O	4192	11.60			9567
8.10★			4192	11.70			9567
8.20★		P	4192	11.80★			9567
8.30★			5079	11.90			10218
8.33	21/64★		5079	11.91	15/32★		10218
8.40★			5079	12.00★			10218
8.43		Q	5079	12.10			10218
8.50★			5079	12.20			10218

HSS PARALLEL SHANK (JOBBER SERIES) TWIST DRILLS IS : 5101

SIZE		PRICE (Rs.) 10 Nos.	SIZE		PRICE (Rs.) 10 Nos.
MM	INCH		MM	INCH	
12.30	31/64 ★	10837	14.29	9/16 ★	17397
12.40		10837	14.50 ★		17397
12.50 ★		10837	14.68	37/64	18746
12.60		10837	14.75		18746
12.70 ★	1/2 ★	11442	15.00 ★		18746
12.80 ★		11541	15.08	19/32	18746
12.90		11541	15.25		18746
13.00 ★		11541	15.48	39/64	20311
13.10	33/64 ★	14356	15.50 ★		20311
13.20		14356	15.75		20311
13.30		14356	15.87	5/8 ★	20311
13.40		14356	16.00 ★		20311
13.49	17/32 ★	15283	17.00		21485
13.50 ★		15283	17.46	11/16	21485
13.60		15283	18.00		23249
13.70		15283	19.00		24589
13.80		15283	19.05	3/4	24589
13.89	35/64	16581	20.00 ★		29373
13.90		16581	21.00		29373
14.00 ★		16581	22.00		32937
14.25 ★		16581	22.22	7/8	32397

ITEMS MARKED ★ (ONLY IN RH) ARE EX-STOCK ITEMS. ALL REMAINING ITEMS IN (RH & LH) WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50000/- NETT OR MOQ OF 50 NOS. PER SIZE WHICHEVER IS HIGHER.

IMPORTANT NOTES :

- All sizes to be ordered in multiples of 10 only.
- For non-listed intermediate Sizes, the higher Price of the nearest listed size. (INCH or MM) will be applicable.
- (a) Quick Spiral or Slow Spiral Drills :
 Sizes up to (3.17 mm) 1/8" **50% extra**
 Sizes over (3.17 mm) 1/8" **25% extra**
 (b) Jobbers with Tenon **10% extra**
- For M35 = 40% & M42 = 80% extra

HSS PARALLEL SHANK (JOBBER SERIES) TWIST DRILLS IS : 5101

Price Rs. / Set

Jobber Drill **25 Pcs. Set** (0.5 mm Rise)
1.00 To 13.00 MM. **11870**

Jobber Drill **13 Pcs. Set** (1/64" Rise)
1/16" To 1/4" **2182**

HSS PARALLEL SHANK (STUB SERIES) TWIST DRILLS IS : 5100

SIZE		PRICE (Rs.) 10 Nos.	SIZE		PRICE (Rs.) 10 Nos.
MM	INCH		MM	INCH	
1.00 ★		533	9.20		5060
1.19	3/64	533	9.50		5060
1.20		533	9.52	3/8	5290
1.50		533	9.80		5290
1.59	1/16	533	9.92	25/64	6472
1.80		533	10.00		6472
1.98	5/64	533	10.20		6472
2.00		533	10.32	13/32	6967
2.20		533	10.50		6967
2.38	3/32	533	10.72	27/64	7844
2.50		533	10.80		7844
2.78	7/64 ★	533	11.00		7844
2.80		576	11.11	7/16	8170
3.00		601	11.20		8170
3.17	1/8 ★	697	11.50		8741
3.20		731	11.51	29/64	8741
3.50		731	11.80		8741
3.57	9/64 ★	731	11.91	15/32	9248
3.80		1013	12.00		9248
3.97	5/32 ★	1013	12.20		9248
4.00		1013	12.30	31/64	10050
4.20		1125	12.50		10050
4.37	11/64	1125	12.70	1/2	10267
4.50		1491	12.80		10356
4.76	3/16 ★	1491	13.00		10356
4.80		1491	13.20		12127
5.00		1585	13.49	17/32	12127
5.16	13/64 ★	1585	13.50		12923
5.20		1585	13.80		12923
5.50		1722	14.00		14070
5.56	7/32	1722	14.25		14070
5.80		1939	14.29	9/16	14070
5.95	15/64	1939	14.50		14654
6.00		1939	14.75		15845
6.20		2170	15.00		15845
6.35	1/4 ★	2170	15.08	19/32	15845
6.50		2671	15.25		15845
6.75	17/64	2671	15.50		17152
6.80		2671	15.75		17152
7.00		2928	15.87	5/8	17152
7.14	9/32	2928	16.00		17152
7.20		2928	16.25		17426
7.50		3042	16.50		17426
7.54	19/64	3342	16.67	21/32	17426
7.80		3342	16.75		17778
7.94	5/16 ★	3677	17.00		17778
8.00		3677	17.25		18101
8.20		3677	17.46	11/16	18101
8.33	21/64	4593	17.50		18101
8.50		4593	17.75		18348
8.73	11/32	4791	18.00		18348
8.80		4791	18.25		18674
9.00		4791	18.26	23/32	18674
9.13	23/64	5060	18.50		18674

**HSS PARALLEL SHANK (STUB SERIES)
TWIST DRILLS IS : 5100**

SIZE		PRICE (Rs.) 10 Nos.	SIZE		PRICE (Rs.) 10 Nos.
MM	INCH		MM	INCH	
18.75		19006	27.00		37870
19.00		19006	27.50		37870
19.05	3/4	19006	27.78	1.3/32	40078
19.25		19328	28.00		40078
19.50		19328	28.50		40382
19.75		19328	28.57	1.1/8	40382
19.84	25/32	19328	29.00		42376
20.00		19659	29.37	1.5/32	46649
20.25		20068	29.50		46649
20.50		20068	30.00		47272
20.64	13/16	20068	30.16	1.3/16	47272
20.75		20871	30.50		53197
21.00		20871	30.96	1.7/32	53197
21.25		21125	31.00		53197
21.43	27/32	21125	31.50		53995
21.50		21836	31.75	1.1/4	53995
21.75		22116	32.00		55158
22.00		22116	32.50		56886
22.22	7/8	22116	32.54	1.9/32	56886
22.25		23524	33.00		56886
22.50		23524	33.34	1.5/16	56886
22.75		23851	33.50		59838
23.00		23851	34.00		59838
23.02	29/32	23851	34.13	1.11/32	65671
23.25		25222	34.50		65671
23.50		25222	34.92	1.3/8	65671
23.75		25222	35.00		72209
23.81	15/16	25222	35.50		73239
24.00		27911	35.72	1.13/32	73239
24.25		27911	36.00		73239
24.50		27911	36.50		73239
24.61	31/32	27911	36.51	1.7/16	73239
24.75		30617	37.00		78731
25.00		30617	37.31	1.15/32	79908
25.25		30766	37.50		79908
25.40	1	30766	38.00		79908
25.50		34723	38.10	1.1/2	79908
26.00		34723	38.50		89227
26.19	1.1/32	35525	39.00		89227
26.50		35525	39.50		90764
26.99	1.1/16	35937	40.00		90764

ITEMS MARKED ★ (ONLY IN RH) ARE EX-STOCK ITEMS. ALL REMAINING ITEMS IN (RH & LH) WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50000/- NETT OR MOQ OF 50 NOS. PER SIZE WHICHEVER IS HIGHER.

IMPORTANT NOTES :

- Sizes upto 13 mm should be ordered in multiples of 10 only.
- For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.
- Quick Spiral or Slow Spiral Drills :**
 Sizes upto (3.17 mm) 1/8" **50% extra**
 Sizes over (3.17 mm) 1/8" **25% extra**
- For M35 = 40% & M42 = 80% extra

**HSS PARALLEL SHANK (LONG SERIES)
TWIST DRILLS IS : 5102**

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
0.60		579	5.30		577
0.70		541	5.40		577
0.80		484	5.50		577
1.00		307	5.56	7/32	577
1.10		307	5.60		626
1.19	3/64	307	5.70		626
1.20		307	5.80		626
1.30		307	5.90		626
1.40		307	5.95	15/64	626
1.50		307	6.00★		626
1.59	1/16	307	6.10		714
1.60		307	6.20		714
1.70		307	6.30		714
1.80		307	6.35	1/4★	653
1.90		307	6.40		910
1.98	5/64	307	6.50		910
2.00★		307	6.60		1098
2.10		307	6.70		1098
2.20		307	6.75	17/64	1098
2.30		392	6.80		1098
2.38	3/32★	392	6.90		1098
2.40		392	7.00		1098
2.50★		392	7.10		1098
2.60		392	7.14	9/32	1098
2.70		392	7.20		1098
2.78	7/64	392	7.30		1098
2.80★		392	7.40		1098
2.90		392	7.50		1098
3.00★		396	7.54	19/64	1098
3.10		396	7.60		1098
3.17	1/8★	396	7.70		1098
3.20		396	7.80		1098
3.30★		396	7.90		1131
3.40		396	7.94	5/16	1131
3.50★		396	8.00★		1131
3.57	9/64	396	8.10		1131
3.60		427	8.20		1131
3.70		427	8.30		1131
3.80		427	8.33	21/64	1131
3.90		427	8.40		1131
3.97	5/32★	427	8.50		1140
4.00★		427	8.60		1198
4.10		427	8.70		1198
4.20		427	8.73	11/32	1198
4.30		427	8.80		1450
4.37	11/64	427	9.00		1260
4.40		427	9.13	23/64	1426
4.50		427	9.20		1450
4.60		427	9.50		1260
4.70		427	9.52	3/8	1260
4.76	3/16	427	9.80		1458
4.80		427	9.92	25/64	1458
4.90		502	10.00★		1318
5.00★		502	10.20		1458
5.10		502			
5.16	13/64	502			
5.20		502			

**HSS PARALLEL SHANK (LONG SERIES)
TWIST DRILLS IS : 5102**

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
10.32	13/32	1318	18.65	47/64	3565
10.50		1583	18.75		3600
10.72	27/64	1799	19.00		3600
10.80		1799	19.05	3/4	3600
11.00		1656	19.25		3804
11.11	7/16	1656	19.45	49/64	4158
11.20		1924	19.50		3804
11.50		1703	19.75		3804
11.51	29/64	1924	19.84	25/32	3804
11.80		1924	20.00		4038
11.91	15/32	1703	20.24	51/64	4288
12.00		1756	20.25		4038
12.20		1958	20.30		4038
12.30	31/64	1958	20.64	13/16	4038
12.50		1755	20.75		4158
12.70	1/2	1755	21.00		4158
12.80		2687	21.03	53/64	4550
13.00		2435	21.25		4288
13.10	33/64	2708	21.43	27/32	4288
13.20		2708	21.50		4550
13.49	17/32	2484	21.75		4550
13.50		2708	21.83	55/64	4867
13.80		2947	22.00		4550
13.89	35/64	2947	22.22	7/8	4550
14.00		2708	22.25		4925
14.25		2708	22.15		4925
14.29	9/16	2708	22.62	57/64	5261
14.50		2837	22.75		5037
14.68	37/64	3125	23.00		5037
14.75		2837	23.02	29/32	5037
15.00		2837	23.25		5103
15.08	19/32	2837	23.42	59/64	6017
15.25		2947	23.50		5588
15.48	39/64	3220	23.75		5588
15.50		2947	23.81	15/16	5588
15.75		2947	24.00		5824
15.87	5/8	2947	24.21	61/64	6356
16.00		2993	24.25		5824
16.25		2993	24.50		5824
16.27	41/64	3331	24.61	31/32	5824
16.50		3050	24.75		6244
16.67	21/32	3050	25.00	63/64	6244
16.75		3125	25.25		6323
17.00		3125	25.40	1	6323
17.07	43/64	3394	25.50		7788
17.25		3125	25.75		7788
17.46	11/16	3125	25.80	1.1/64	7953
17.50		3331	26.00		7953
17.75		3331	26.19	1.1/32	7953
17.86	45/64	3683	26.25		8576
18.00		3394	26.50		8576
18.25		3394	26.59	1.3/64	8768
18.26	23/32	3394	26.75		8768
18.50		3535	26.99	1.1/16	8768

**HSS PARALLEL SHANK (LONG SERIES)
TWIST DRILLS IS : 5102**

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
27.00		8936	29.37	1.5/32	10295
27.25		8936	29.50		10430
27.38	1.5/64	9038	29.75		10430
27.50		9038	29.77	1.11/64	10631
27.75		9038	30.00		10631
27.78	1.3/32	9038	30.16	1.3/16	10631
28.00		9871	30.25		11300
28.18	1.7/64	10003	30.50		11300
28.25		10003	30.56	1.13/64	11510
28.50		10003	30.75		11510
28.57	1.1/8	10003	30.96	1.7/32	11510
28.75		10088	31.00		12803
28.97	1.9/64	10295	31.25		12803
29.00		10295	31.35	1.15/64	13266
29.25		10295	31.50		13266

ITEMS MARKEDH (ONLY IN RH) ARE EX-STOCK ITEMS. ALL REMAINING ITEMS IN (RH) WILL ATTRACT MINIMUM ORDER VALUE OF Rs.50000/- NETT OR MOQ OF 50 NOS. PER SIZE WHICHEVER IS HIGHER.

IMPORTANT NOTES :

- For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.
- (a) Quick Spiral or Slow Spiral Drills :
 Sizes upto (3.17 mm) 1/8" **50% extra**
 Sizes over (3.17 mm) 1/8" **25% extra**
 (b) Long Series Drills with Tenon
 Sizes over 3 mm upto 6.50 mm **10% extra**
 Sizes over 6.50 mm **5% extra**
- For **M35 = 40% & M42 = 80% extra**
 Sizes below 1mm are manufactured to our Standard.

HSS TAPER SHANK TWIST DRILLS IS : 5103

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
3.00★		485	5.50★		655
3.17	1/8★	485	5.56	7/32★	655
3.20		507	5.80★		674
3.50★		485	5.95	15/64	674
3.57	9/64	507	6.00★		655
3.80		507	6.20		755
3.97	5/32	485	6.35	1/4★	749
4.00★		485	6.50★		813
4.20★		655	6.75	17/64★	825
4.37	11/64	655	6.80★		825
4.50		655	7.00★		813
4.76	3/16★	655	7.14	9/32★	813
4.80★		655	7.20★		825
5.00★		655	7.50★		813
5.16	13/64★	674	7.54	19/64	825
5.20★		674	7.80★		825

HSS TAPER SHANK TWIST DRILLS IS : 5103

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
7.94	5/16★	815	16.25★		2772
8.00★		815	16.27	41/64★	2772
8.20★		994	16.50★		2946
8.33	21/64★	1047	16.67	21/32★	2946
8.50★		908	16.75★		2946
8.73	11/32★	994	17.00★		2946
8.80★		1092	17.07	43/64	2994
9.00		994	17.25		2994
9.13	23/64	1092	17.46	11/16★	2994
9.20		1092	17.50★		3108
9.50★		994	17.75		3152
9.52	3/8★	994	17.86	45/64★	3274
9.80		1174	18.00★		3274
9.92	25/64★	1174	18.25★		3274
10.00★		1062	18.26	23/32★	3274
10.20★		1194	18.50★		3274
10.32★	13/32	1153	18.65	47/64★	3314
10.50★		1415	18.75★		3314
10.72	27/64★	1466	19.00★		3314
10.80★		1466	19.05	3/4★	3314
11.00★		1466	19.25		3480
11.11	7/16★	1466	19.45	49/64	3480
11.20★		1514	19.50★		3480
11.50★		1514	19.75		3480
11.51	29/64★	1514	19.84	25/32★	3480
11.80★		1514	20.00★		3744
11.91	15/32★	1514	20.24	51/64	3789
12.00★		1529	20.25★		3789
12.20★		1529	20.50		3789
12.30	31/64	1529	20.64	13/16★	3789
12.50		1529	20.75		3950
12.70	1/2	1529	21.00★		3950
12.80★		2129	21.03	53/64	4047
13.00★		2129	21.25		4047
13.10	33/64★	2220	21.43	27/32	4047
13.20★		2220	21.50		4174
13.49	17/32★	2220	21.75★		4174
13.50★		2378	21.83	55/64	4251
13.80★		2378	22.00		4251
13.89	35/64★	2378	22.22★	7/8★	4251
14.00★		2378	22.25		4633
14.25★		2556	22.50★		4633
14.29	9/16★	2556	22.62★	57/64	4723
14.50★		2654	22.75		4723
14.68	37/64★	2654	23.00★		4723
14.75★		2654	23.02	29/32	4954
15.00★		2654	23.25		5484
15.08	19/32★	2654	23.42	59/64	5622
15.25★		2693	23.50★		5622
15.48	39/64★	2693	23.75		5622
15.50★		2693	23.81★	15/16	5622
15.75★		2693	24.00★		5788
15.87	5/8	2693	24.21	61/64	5886
16.00★		2772	24.25		5886

HSS TAPER SHANK TWIST DRILLS IS : 5103

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
24.50★		5886	33.73	1.21/64	14068
24.61	31/32	5886	34.00★		14068
24.75		6150	34.13	1.11/32	14664
25.00★	63/64	6150	34.50		15407
25.25		6232	34.58	1.23/64	15549
25.40	1★	6232	34.92	1.3/8★	15549
25.50★		6774	35.00★		15549
25.75		6774	35.32	1.25/64	16480
25.80	1.1/64	6848	35.50		16480
26.00★		6597	35.72	1.13/32	16480
26.19	1.1/32	6586	36.00★		16722
26.25		7116	36.12	1.27/64	17067
26.50★		7116	36.50★		17067
26.59	1.3/64	7279	36.51	1.7/16	17067
26.75		7279	36.91	1.29/64	17067
26.99	1.1/16★	7279	37.00★		17489
27.00★		7518	37.31	1.15/32	17489
27.25		7518	37.50★		18624
27.38	1.5/64	7541	37.70	1.31/64	18915
27.50★		7541	38.00★		18915
27.75		7541	38.10	1.1/2★	18915
27.78	1.3/32	7541	38.15	1.33/64	19505
28.00★		8246	38.89	1.17/32	19505
28.18	1.7/64	8269	39.00		20658
28.25		8269	39.29	1.35/64	20658
28.50★		8269	39.50		20658
28.57	1.1/8★	8269	39.69	1.9/16	20658
28.75		8519	40.00★		21189
28.97	1.9/64	8658	40.08	1.37/64	21538
29.00★		8658	40.48	1.19/32	21538
29.25		8658	40.50		22399
29.37	1.5/32★	8658	40.88	1.39/64	22399
29.50★		8692	41.00★		22399
29.75		8692	41.27	1.5/8	22399
29.77	1.11/64	8875	41.50		23277
30.00★		8875	41.67	1.41/64	23277
30.16	1.3/16	9370	42.00★		23277
30.25		10091	42.07	1.21/32	23277
30.50★		10091	42.47	1.43/64	23874
30.56	1.13/64	10254	42.50		23874
30.75		10254	42.86	1.11/16	24167
30.96	1.7/32	10254	43.00★		24734
31.00★		11411	43.26	1.45/64	24734
31.25★		11411	43.50		24734
31.35	1.15/64	11909	43.66	1.23/32	24734
31.50★		11909	44.00★		25606
31.75	1.1/4★	11909	44.05	1.47/64	25606
32.00★		13039	44.45	1.3/4	25606
32.15	1.17/64	13039	44.50		25606
32.50★		13039	44.85	1.49/64	26207
32.54	1.9/32	13039	45.00★		26207
32.94	1.19/64	13350	45.24	1.23/32	26207
33.00★		13350	45.50		27393
33.34	1.5/16	13350	45.64	1.51/64	27393
33.50		13809	46.00		27393

HSS TAPER SHANK TWIST DRILLS IS : 5103

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
46.04	1.13/16	27393	61.12	2.13/32	78546
46.43	1.53/64	28775	61.15		78546
46.50		28775	61.91	2.7/16	78546
46.83	1.27/32	28775	62.00★		78546
47.00		28775	62.50		78546
47.23	1.53/64	29378	62.71	2.15/32	79868
47.50		29378	63.00		79868
47.62	1.7/8	29378	63.50	2.1/2	79868
48.00★		32034	64.00		88274
48.02	1.57/64	32034	64.29	2.17/32	88274
48.42	1.29/32	32034	65.00★		88274
48.50		32268	65.09	2.9/16	88930
48.82	1.59/64	32268	65.88	2.19/32	88930
49.00★		32268	66.00		88930
49.21	1.15/16	32268	66.67	2.5/8	88930
49.50		32616	67.00		91101
49.61	1.61/64	32616	67.47	2.21/32	97790
50.00★		32616	68.00		97790
50.01	1.31/32	32873	68.26	2.11/16	97790
50.40	1.63/64	34350	69.00		105998
50.50		34350	69.06	2.23/32	105998
50.80	2★	34350	69.85	2.3/4	105998
51.00★		46638	70.00		105998
51.50		46638	70.64	2.25/32	114321
51.59	2.1/32	46638	71.00		114321
52.00★		46638	71.44	2.13/16	114321
52.39	2.1/16	46638	71.50		114321
52.50		60698	72.00		116528
53.00		60698	72.23	2.27/32	116528
53.18	2.3/32	60698	73.00		116528
53.50		60698	73.02	2.7/8	116528
53.97	2.1/8	60698	73.82	2.29/32	124018
54.00		60698	74.00		124018
54.50		63763	74.61	2.15/16	124018
54.77	2.5/32	63763	75.00★		125560
55.00★		63673	75.41	2.31/32	125560
55.50		63763	76.00		125560
55.56	2.3/16	63763	76.20	3	125560
56.00		66443	76.99	3.1/32	171773
56.36	2.7/32	66443	77.00		171773
56.50		66443	77.79	3.1/16	171773
57.00		66443	78.00		171773
57.15	2.1/4	66443	78.58	3.3/32	175197
57.50		72511	79.00		175197
57.94	2.9/32	72511	79.37	3.1/8	179848
58.00★		72511	80.00		179848
58.50		72511	80.17	3.5/32	192363
58.74	2.5/16	72511	80.96	3.3/16	192363
59.00		73896	81.00		192363
59.50		73896	81.76	3.7/32	197362
59.53	2.11/32	73896	82.00		197362
60.00★		73896	82.55	3.1/4	197362
60.32	2.3/8	73896	83.00		201440
60.50		78546	83.34	3.9/32	201440
61.00		78546	84.00		201440

HSS TAPER SHANK TWIST DRILLS IS : 5103

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
84.14	3.5/16	204789	92.07	3.5/8	260658
84.99	3.11/32	204789	93.00		260658
85.00		196442	93.66	3.11/16	270517
85.72	3.3/8	233594	94.00		270517
86.00		233594	95.00		270517
86.52	3.13/32	233594	95.25	3.3/4	270517
87.00		233594	96.00		279573
87.31	3.7/16	238476	96.84	3.13/16	279573
88.00		238476	97.00		279573
88.11	3.15/32	238476	98.00		284517
88.90	3.1/2	238476	98.42	3.7/8	288578
89.00		238476	99.00		288578
90.00		243340	100.00		288578
90.49	3.9/16	252416	100.01	3.15/16	293523
91.00		252416	101.00		293523
92.00		252416	101.60	4	293523
			102.00		293523

ITEMS MARKED ★ (ONLY IN RH) ARE EX-STOCK ITEMS. ALL REMAINING ITEMS IN (RH) WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50000/- NETT OR MOQ OF 5 NOS. PER SIZE WHICHEVER IS HIGHER.

IMPORTANT NOTES :

1. For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.
2. Quick Spiral or Slow Spiral Drills : **25% extra**
3. Oversize shank Drills to IS : 5104 in the following range **10% extra**
4. For **M35 = 40% & M42 = 80% extra**

SIZE RANGE		MT NO.	INSTEAD OF MT NO.
MM	INCH		
11.8 to 14.0	15/32 to 35/64	2	1
18.0 to 23.0	23/32 to 29/32	3	2
26.5 to 31.75	1.3/64 to 1.1/4	4	3
40.0 to 80.80	1.37/64 to 2	5	4
63.0 to 76.20	2.1/2 to 3	6	5

MORSE TAPER SHANK TWIST DRILLS (IS : 5103)

MORSE TAPER SHANK NO.	DRILL SIZE			
	MM		INCH	
	OVER	UPTO & INCL.	OVER	UPTO & INCL.
1	3.00	14.00	1/8	35/64
2	14.00	23.00	35/64	29/32
3	23.00	31.75	29/32	1.1/4
4	31.75	50.80	1.1/4	2
5	50.80	76.20	2	3
6	76.20	100.00	3	4

HSS TAPER SHANK 3 OR 4 FLUTED CORE DRILLS IS : 5366

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
7.94	5/16	1570	28.57	1.1/8	9861
8.00		1573	29.00		10320
9.52	3/8	1731	29.37	1.5/32	10320
10.00		1731	30.00		10961
10.32	13/32	1731	30.16	1.3/16	10961
11.00		1732	30.96	1.7/32	11379
11.11	7/16	1732	31.00		12793
11.91	15/32	1853	31.75	1.1/4	13357
12.00		1853	32.00		14637
12.70	1/2	1958	32.54	1.9/32	14637
13.00		2647	33.00		14944
13.49	17/32	2897	33.34	1.5/16	14944
14.00		2897	34.00		16389
14.29	9/16	2980	34.13	1.11/32	16389
15.00		3110	34.92	1.3/8	17309
15.08	19/32	3110	35.00		17309
15.87	5/8	3181	35.72	1.13/32	18617
16.00		3181	36.00		18617
16.67	21/32	3352	36.51	1.7/16	19640
17.00		3352	37.00		19640
17.46	11/16	3619	37.31	1.15/32	20198
18.00		3895	38.00		21609
18.26	23/32	3895	38.10	1.1/2	21609
19.00		4448	39.00		23697
19.05	3/4	4448	39.69	1.9/16	23697
19.84	25/32	4469	40.00		23697
20.00		4469	41.00		26117
20.64	13/16	4780	41.27	1.5/8	26117
21.00		4745	42.00		26891
21.43	27/32	5054	42.07	1.21/32	26891
22.00		5054	42.86	1.11/16	27757
22.22	7/8	5362	43.00		27757
23.00		5677	44.00		29337
23.02	29/32	5677	44.45	1.3/4	29337
23.81	15/16	6196	45.00		30374
24.00		6503	45.24	1.25/32	30373
24.61	31/32	6503	46.00		31499
25.00		7524	46.04	1.13/16	31499
25.40	1	7524	47.00		32734
26.00		8122	47.62	1.7/8	34420
26.19	1.1/32	8122	48.00		34420
26.99	1.1/16	8964	49.00		36755
27.00		8964	49.21	1.15/16	36755
27.78	1.3/32	9305	50.00		39553
28.00		9860	50.80	2	43734

HSS TAPER SHANK 3 OR 4 FLUTED CORE DRILLS IS : 5366

SIZE		PRICE (Rs.) EACH	SIZE		PRICE (Rs.) EACH
MM	INCH		MM	INCH	
51.00		44114	64.00		82613
52.00		48585	65.00		82613
52.39	2.1/16	48585	65.09	2.9/16	82613
53.00		56753	66.00		86619
53.97	2.1/8	56753	66.67	2.5/8	86619
54.00		56753	67.00		90235
55.00		59487	68.00		94616
55.36	2.3/16	59487	68.26	2.11/16	94616
56.00		62006	69.00		99240
57.00		62006	69.85	2.3/4	101099
57.15	2.1/4	62006	70.00		101099
58.00		67760	71.00		103100
58.74	2.5/16	67760	71.44	2.13/16	103100
59.00		69013	72.00		107812
60.00		69013	73.00		111809
60.32	2.3/8	69013	73.02	2.7/8	111809
61.00		73549	74.00		116036
61.91	2.7/16	73549	74.61	2.15/16	116036
62.00		73549	75.00		120312
63.00		75663	76.00		126091
63.50	2.1/2	75663	76.20	3	126091

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

IMPORTANT NOTES :

1. For non listed intermediate sizes. The higher price of the nearest listed size (INCH or MM) will be applicable.
2. Sizes upto 20 mm will be with 3 flutes and above 20 mm will be with 4 flutes unless otherwise specified.
3. Core drills with non-standard number of flutes - **10% extra**
4. For **M35 = 40% & M42 = 80% extra**

HSS SHELL DRILLS BS : 122 - 1964*

NOM DIA INCH	PRICE (Rs.) EACH	NOM DIA INCH	PRICE (Rs.) EACH
1	3928	2	8682
1.1/16	4147	2.1/8	9596
1.1/8	4395	2.1/4	10502
1.3/16	4665	2.3/8	11750
1.1/4	4871	2.1/2	14290
1.5/16	5108	2.5/8	16602
1.3/8	5399	2.3/4	18264
1.7/16	5636	2.7/8	20296
1.1/2	5840	3	22289
1.9/16	6174	3.1/8	24993
1.5/8	6444	3.1/4	27409
1.11/16	7315	3.3/8	29479
1.3/4	7483	3.1/2	31651
1.13/16	7776	3.5/8	37394
1.7/8	8010	3.3/4	39119
1.15/16	8397	3.7/8	45282
		4	50042

IMPORTANT NOTES

* For Metric sizes , price as per IS: 7772 - 1992 of the next listed size will be applicable.
ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50000/- NETT OR 5 NOS, PER SIZE WHICHEVER IS HIGHER.
For **M35 = 40% & M42 = 80% extra**

**HSS COMBINED DRILLS & COUNTERSINKS
(CENTRE DRILLS) IS : 6708 / TYPE 'A'**

PILOT DIA MM	BODY DIA MM	PRICE (Rs.) EACH	PILOT DIA MM	BODY DIA MM	PRICE (Rs.) EACH
1	3.15	258	4★	10	569
1.25	3.15	258	5	12.5	960
1.6★	4	258	6.3	16	1136
2★	5	258	8	20	1754
2.5★	6.3	298	10	25	2258
3.15★	8	461			

**HSS COMBINED DRILLS & COUNTERSINKS
(CENTRE DRILLS) IS : 6710 / TYPE 'R'**

PILOT DIA MM	BODY DIA MM	PRICE (Rs.) EACH	PILOT DIA MM	BODY DIA MM	PRICE (Rs.) EACH
2	5	257	5	12.5	960
2.5	6.3	298	6.3	16	1136
3.15	8	461	8	20	1754
4	10	570	10	25	2258

**HSS COMBINED DRILLS & COUNTERSINKS
(CENTRE DRILLS) IS : 6709 / TYPE 'B'**

PILOT DIA MM	BODY DIA MM	PRICE (Rs.) EACH	PILOT DIA MM	BODY DIA MM	PRICE (Rs.) EACH
1	4	424	4★	14	1697
1.25	5	453	5★	18	2426
1.6	6.3	528	6.3	20	2858
2	8	746	8	25	3699
2.5	10	953	10	31.5	4391
3.15	11.20	1268			

**HSS COMBINED DRILLS & COUNTERSINKS
(CENTRE DRILLS) BS : 328 (PART 2) 1950**

B.S. NO.	PILOT DIA INCH	BODY DIA INCH	OAL INCH	PRICE (Rs.) EACH
BS-1	3/64	1/8	1.1/2	258
BS-2★	1/16	3/16	1.3/4	258
BS-3★	3/32	1/4	2	298
BS-4★	1/8	5/16	2.1/4	461
BS-5★	3/16	7/16	2.1/2	603
BS-6★	1/4	5/8	3	1136
BS-7	5/16	3/4	3.1/2	1754

ITEMS MARKEDH ARE EX-STOCK ITEMS. ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50000/- NETT OR MOQ OF 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

**HSS TAPER SHANK TWIST DRILLS (LONG SERIES)
IS : 8305 - 1976 (TYPE - N)**

SIZE		OAL	PRICE (Rs.) EACH	SIZE		OAL	PRICE (Rs.) EACH
MM	INCH			MM	INCH		
5.00★		155	1495	12.50	215		3819
	13/64	155	1495	1/2	215		3819
5.20		155	1495	12.80	215		3819
5.50		161	1666	13.00★	215		3819
	7/32	161	1666	33/64	215		3819
5.80		161	1666	13.20	215		3820
	15/64	161	1666	17/32	223		4187
6.00★		161	1666	13.50	223		4187
6.20		167	1856	13.80	223		4355
	1/4	167	1855	35/64	223		4355
6.50		167	1856	14.00★	223		4356
	17/64	174	2001	14.25	245		5435
6.80		174	2001	9/16	245		5435
7.00		174	2001	14.50	245		5557
	9/32	174	2001	37/64	245		5557
7.20		174	2063	14.75	245		5557
7.50		174	2063	15.00	245		5557
	19/64	181	2182	19/32	251		5681
7.80		181	2182	15.25	251		5681
	5/16	181	2182	39/64	251		5681
8.00★		181	2182	15.50	251		5681
8.20		181	2226	15.75	251		5828
	21/64	181	2226	5/8	251		5828
8.50★		181	2226	16.00	251		5828
	11/32	188	2412	16.25	257		5930
8.80		188	2413	41/64	257		5930
9.00★		188	2413	16.50	257		5930
	23/64★	188	2470	21/32	257		6057
9.20		188	2470	16.75	257		6057
9.50		188	2470	17.00	257		6057
	3/8	197	2470	43/64	263		6576
9.80		197	2806	17.25	263		6576
	25/64	197	2806	11/16	263		6576
10.00★		197	2806	17.50	263		6576
10.20		197	2884	17.75	263		6592
	13/32	197	2884	45/64	263		6592
10.50		197	2884	18.00★	263		6592
	27/64	206	2947	18.25	269		6696
10.80★		206	2947	23/32	269		6696
11.00		206	2947	18.50	269		6696
	7/16	206	3057	47/64	269		6803
11.20★		206	3057	18.75	269		6803
11.50		206	3057	19.00	269		6803
	29/64	206	3057	3/4	275		6803
11.80		206	3057	19.25	275		6989
	15/32	215	3623	49/64	275		6989
12.00		215	3623	19.50	275		6989
12.20		215	3819	19.75	275		7104
	31/64	215	3819	25/32	275		7104

**HSS TAPER SHANK TWIST DRILLS (LONG SERIES)
IS : 8305 - 1976 (TYPE-N)**

SIZE		OAL	PRICE (Rs.) EACH	SIZE		OAL	PRICE (Rs.) EACH
MM	INCH	MM		MM	INCH	MM	
20.00		275	7104	28.25		351	17951
	51/64	282	7222	28.50		351	17951
20.25		282	7222				
20.50		282	7222		1.1/8	351	17951
	13/16	282	7356	28.75		351	18457
20.75		282	7356				
21.00*		282	7356	29.00		351	18457
	53/64	282	8547	29.25		351	18968
21.25		289	8546		1.5/32	351	18968
	27/32	289	8547	29.50		351	18968
21.50		289	8546	29.75		351	19506
21.75		289	8717	30.00		351	19506
	55/64	289	8717		1.3/16	360	19506
22.00		289	8717	30.25		360	20023
	7/8	289	9309	30.50		360	20023
22.25		289	9309	30.75		360	20023
22.50		296	9309		1.7/32	360	20023
	57/64	296	9758	31.00		360	20023
22.75		296	9758	31.25		360	20169
23.00		296	9758	31.50		360	20169
	29/32	296	11920	31.75	1.1/4	369	20947
23.25		319	11920	32.00		397	24128
	59/64	319	11920	32.50		397	25171
23.50		319	11920		1.9/32	397	25171
23.75		327	11920	33.00		397	25171
	15/16	327	11920		1.5/16	397	25171
24.00		327	11920	33.50		397	26267
	61/64	327	12441	34.00		406	26267
24.25		327	12441		1.11/32	406	27415
24.50		327	12441	34.50		406	27415
	31/32	327	12895		1.3/8	406	27415
24.75		327	12895	35.00		406	27415
25.00		327	12895	35.50		406	27415
25.25*		335	12895		1.13/32	416	30041
	1	335	12895	36.00		416	30041
25.50		335	12895	36.50		416	31165
25.75		335	13410		1.7/16	416	31165
26.00		335	13410	37.00		416	31165
	1.1/32	335	13796		1.15/32	416	33750
26.25		335	13796	37.50		416	33750
26.50		335	13796	38.00		426	33750
26.75		343	16352		1.1/2	426	33750
	1.1/16	343	16352	38.50		426	34857
27.00		343	16352		1.17/32	426	34857
27.25		343	16874	39.00		426	34857
27.50		343	16874	39.50		426	36237
27.75		343	17392		1.9/16	426	36237
	1.3/32	343	17392	40.00		426	36237
28.00		343	17932				

**HSS TAPER SHANK TWIST DRILLS (LONG SERIES)
IS : 8305 - 1976 (TYPE-N)**

SIZE		OAL	PRICE (Rs.) EACH	SIZE		OAL	PRICE (Rs.) EACH
MM	INCH	MM		MM	INCH	MM	
	1.19/32	436	36237		1.25/32		50097
40.50		436	36237	45.50		459	50097
41.00		436	36237	46.00			50097
	1.5/8	436	36237		1.13/16		50097
41.50		436	38091	46.50		459	52135
42.00		436	38091		1.27/32		52135
	1.21/32	436	40301	47.00			52135
42.50		436	40301	47.50		459	54769
	1.11/16	447	43294		1.7/8	470	57769
43.00		447	43294	48.00			54769
43.50		447	45638		1.29/32		59987
	1.23/32	447	45638	48.50		470	59987
44.00		447	45638	49.00			59987
	1.3/4	447	47515		1.15/16	470	59987
44.50		447	47515	49.50			59987
45.00		447	47515	50.00			63076

ITEMS MARKEDH ARE EX-STOCK ITEMS. ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50000/- NETT OR MOQ OF 5NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTE :

For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.

HSS TAPER SHANK TWIST DRILLS - EXTRA LONG IS : 7822 - 1975

SIZE		OVERALL LENGTH IN MILLIMETERS													
		200	225	250	275	300	315	325	350	375	400	PRICE EACH			
MM	INCH	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3.0	1/8	2103	2470	2737	3114	3532	-	4078	-	-	-	-	-	-	-
3.5		2160	2470	2814	3192	3622	-	4189	-	-	-	-	-	-	-
4.0	5/32	2160	2470	2814	3192	3622	-	4189	-	-	-	-	-	-	-
4.5		2217	2541	2814	3269	3841	-	4407	-	-	-	-	-	-	-
5.0	3/16	2217	2541	2814	3269	3841	-	4407	-	-	-	-	-	-	-
5.5	7/32	2217	2560	2951	3461	3922	-	4524	-	-	-	-	-	-	-
6.0		2228	2560	2980	3461	3922	4288	4524	-	-	-	-	-	-	-
6.5	1/4	2261	2640	2996	3635	4078	4423	4656	-	-	-	-	-	-	-
7.0		2464	2774	3113	3704	4266	4692	4891	-	-	-	-	-	-	-
7.5		2491	2843	3204	3770	4379	4798	4983	-	-	-	-	-	-	-
8.0	5/16	2603	2907	3331	3907	4489	4873	5122	-	-	-	-	-	-	-
8.5		2687	3015	3395	3977	4573	4934	5265	-	-	-	-	-	-	-

HSS TAPER SHANK TWIST DRILLS - EXTRA LONG IS : 7822 - 1975 (Contd.)

SIZE		OVERALL LENGTH IN MILLIMETERS													
		200	225	250	275	300	315	325	350	375	400	PRICE EACH			
MM	INCH	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
9.0		2730	3060	3477	3997	4607	5062	5309	-	-	-	-	-	-	-
9.5	3/8	2797	3095	3477	4107	4724	5131	5332	-	-	-	-	-	-	-
10.0		2806	3174	3580	4180	4815	5256	5479	6133	6915	7691	-	-	-	-
10.5		2884	3294	3819	4416	5062	5481	5757	6583	7396	8333	-	-	-	-
11.0		2948	3395	3858	4489	5155	5660	5906	6704	7517	8404	-	-	-	-
11.5	7/16	3057	3466	3956	4598	5281	5757	6017	6883	7713	8623	-	-	-	-
12.0		-	3623	4128	4781	5479	5980	6284	7104	7888	8849	-	-	-	-
12.5	1/2	-	3819	4266	4956	5649	6173	6456	7439	8397	9488	-	-	-	-

HSS TAPER SHANK TWIST DRILLS - EXTRA LONG IS : 7822 - 1975 (Contd.)

SIZE		OVERALL LENGTH IN MILLIMETERS															
		250	275	300	315	325	350	375	400	425	450	475	500				
MM	INCH	PRICE EACH															
13.0		5062	5798	6583	7146	7517	8553	9599	10782	-	-	-	-	-	-	-	-
13.5		5225	5914	6760	7322	7651	8716	9839	11055	-	-	-	-	-	-	-	-
14.0		5399	6091	6883	7469	7774	8887	10041	11266	-	-	-	-	-	-	-	-
14.5	9/16	5435	6174	6987	7508	7888	9058	10214	11484	13479	15044	16930	18986				
15.0		5557	6309	7155	7668	8081	9239	10356	11651	13418	15226	17099	19181				
15.5		5683	6455	7223	7819	8190	9379	10554	11811	13514	15373	17248	19346				
16.0	5/8	5828	6665	7368	7929	8337	9515	10719	12014	13795	15637	17459	19558				
16.5		5930	6651	7508	8081	8469	9690	10916	12306	14004	15803	17637	19679				
17.0		6057	6813	7586	8176	8584	9839	11062	12441	14170	15999	17807	19862				
17.5	11/16	-	-	7774	8333	8749	10028	11251	12590	14339	16184	18033	20049				
18.0		-	-	7888	8521	8887	10189	11447	12819	14519	16351	18220	20241				
18.5		-	-	8014	8623	9047	10279	11583	13020	14704	16541	18345	20438				

HSS TAPER SHANK TWIST DRILLS - EXTRA LONG IS : 7822 - 1975 (Contd.)

SIZE		OVERALL LENGTH IN MILLIMETERS															
		250	275	300	315	325	350	375	400	425	450	475	500				
MM	INCH	PRICE EACH															
19.0	3/4	-	-	8155	8749	9182	10448	11762	13193	14859	16728	18526	20554				
19.5		-	-	8257	8849	9272	10636	11993	13462	15044	16926	18748	20755				
20.0		-	-	8397	8993	9448	10759	12154	13656	15343	17099	18952	21009				
20.5		-	-	8553	9156	9581	10939	12306	13858	15528	17392	19245	21326				
21.0	13/16	-	-	8706	9047	9745	11175	12560	14086	15863	17689	19597	21658				
21.5		-	-	8887	9488	9907	11370	12801	14354	16098	18061	19951	22101				
22.0		-	-	9081	9742	10189	11583	13020	14596	16351	18343	20270	22450				
22.5	7/8	-	-	9321	9946	10407	11780	13193	14751	16634	18596	20618	22824				

HSS TAPER SHANK TWIST DRILLS - EXTRA LONG IS : 7822 - 1975 (Contd.)

SIZE		OVERALL LENGTH IN MILLIMETERS											
		300	315	325	350	375	400	425	450	475	500	525	
MM	INCH	PRICE EACH											
23.0		9757	10414	10794	12169	13481	15014	16874	18934	20923	23156	23156	-
23.5		10719	-	11920	13064	14360	15527	17447	19474	21556	23867	23867	-
24.0	15/16	10719	-	11920	13193	14547	16071	17995	20091	22142	24504	24504	-
24.5		11055	-	12441	13794	15044	16619	18588	20663	22791	25169	25169	-
25.0		-	-	12893	14302	15637	17130	19112	21262	23423	25872	25872	-
25.5	1	-	-	-	14743	16098	17641	19656	21817	24054	26476	26476	-
26.0		-	-	-	15343	16680	18213	20241	22463	24674	27184	27184	-
26.5		-	-	-	15803	17166	18721	20805	23035	25257	27847	27847	-
27.0	1.1/16	-	-	-	16351	17769	19274	21355	23612	25917	28497	28497	-
27.5		-	-	-	16874	18220	19751	21923	24208	26516	29138	29138	-
28.0		-	-	-	17392	18748	20329	22463	24792	27707	29844	29844	-
28.5	1.1/8	-	-	-	17953	19302	20833	22987	25394	27802	30459	30459	-

HSS TAPER SHANK TWIST DRILLS - EXTRA LONG IS : 7822 - 1975 (Contd.)

SIZE		OVERALL LENGTH IN MILLIMETERS											
		300	315	325	350	375	400	425	450	475	500	525	
MM	INCH	PRICE EACH											
29.0		-	-	-	18457	19830	21403	23567	26000	28389	31149	31149	-
29.5		-	-	-	18968	20329	21909	24128	26553	29031	31830	31830	-
30.0	1.3/16	-	-	-	19506	20876	22450	24674	27152	29641	32456	32456	-
31.0	1.1/4	-	-	-	20023	21398	22994	25287	27857	30414	33371	33371	-
32.0		-	-	-	20169	21817	24128	26516	29205	31830	34921	34921	37205
33.0	1.5/16	-	-	-	-	-	25169	27697	30508	33255	36447	36447	38884
34.0		-	-	-	-	-	26268	28873	31811	34695	38014	38014	40522
35.0	1.3/8	-	-	-	-	-	27416	30143	33122	36144	39564	39564	42162
36.0		-	-	-	-	-	28497	31285	34403	37536	41114	41114	43733
37.0	1.7/16	-	-	-	-	-	29583	32456	35714	38948	42610	42610	45372
38.0	1.1/2	-	-	-	-	-	30710	33749	37097	40406	44227	44227	47084
39.0		-	-	-	-	-	31830	35228	38275	41689	45549	45549	48483

HSS TAPER SHANK TWIST DRILLS - EXTRA LONG IS : 7822 - 1975 (Contd.)

SIZE		OVERALL LENGTH IN MILLIMETERS									
		400	425	450	475	500	525	PRICE EACH			
MM	INCH	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
40.0		33162	36237	39624	43099	47043	50011				
41.0	1.5/8	-	-	-	-	48601	-				
42.0		-	-	-	-	50762	-				
43.0		-	-	-	-	53014	-				
44.0		-	-	-	-	55225	-				
45.0	1.3/4	-	-	-	-	57476	-				
46.0	1.13/16	-	-	-	-	59909	-				
47.0		-	-	-	-	62331	-				
48.0	1.7/8	-	-	-	-	64759	-				
49.0	1.15/16	-	-	-	-	67141	-				
50.0		-	-	-	-	69846	-				

IMPORTANT NOTES :

- 1) Size 6 mm to 50 mm OAL 200,250,315,400 & 500 mm will be to IS 7822 - 1975. All other size to over standard. 2) For M35 = 40% & M42 = 80% extra
- 3) For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.
- 4) ITEMS MARKED * ARE EX-STOCK ITEMS, ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS.50000/- NETT OR MOQ OF 5 NOS PER SIZE WHICHEVER IS HIGHER.

HSS PARALLEL SHANK TWIST DRILLS EXTRA LONG TO OUR STANDARD

SIZE		OVERALL LENGTH IN MILLIMETERS														
		50	100	125	150	175	200	225	250	300	350	PRICE (Rs.) EACH				
MM	INCH															
0.5		886	-	-	-	-	-	-	-	-	-	-	-	-	-	
0.6		828	-	-	-	-	-	-	-	-	-	-	-	-	-	
0.8		567	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.0		-	548	-	-	-	-	-	-	-	-	-	-	-	-	
1.2	3/64	-	548	-	-	-	-	-	-	-	-	-	-	-	-	
-	1/16	-	-	677	808	-	-	-	-	-	-	-	-	-	-	
-	5/64	-	-	702	845	-	-	-	-	-	-	-	-	-	-	
3.0	1/8	-	-	-	1140	1396	1581	1879	2217	2765	-	-	-	-	-	
3.5		-	-	-	1295	1666	1666	2069	2491	3177	4312	-	-	-	-	
4.0	5/32	-	-	-	1112	1295	1666	2069	2491	3177	4381	-	-	-	-	
4.5		-	-	-	1398	1398	1666	2069	2491	3272	4381	-	-	-	-	
5.0	3/16	-	-	-	1139	1452	1804	2216	2615	3466	4597	-	-	-	-	
5.5	7/32	-	-	-	1246	1553	1927	2380	2785	3693	4791	-	-	-	-	
6.0		-	-	-	1246	1622	1985	2402	2883	3772	4971	-	-	-	-	
6.5	1/4	-	-	-	2030	2252	2352	2402	2934	3951	4971	-	-	-	-	
7.0		-	-	-	2292	2292	2292	-	3229	4466	5583	-	-	-	-	
7.5	9/32	-	-	-	2492	2492	2492	-	3432	4550	5583	-	-	-	-	
8.0		-	-	-	2492	2492	2492	-	3575	4652	5715	-	-	-	-	
8.5	11/32	-	-	-	2484	2484	2484	-	3648	4746	5810	-	-	-	-	
9.0		-	-	-	2484	2484	2484	-	3648	4746	5810	-	-	-	-	
9.5	3/8	-	-	-	2515	2515	2515	-	3671	4851	6103	-	-	-	-	
10.0		-	-	-	2725	2725	2725	-	3774	4851	6103	-	-	-	-	
10.5	13/32	-	-	-	2815	2815	2815	-	3774	4851	6103	-	-	-	-	
11.0	7/16	-	-	-	2815	2815	2815	-	4030	5256	6579	-	-	-	-	
11.5		-	-	-	2815	2815	2815	-	4169	5417	6741	-	-	-	-	
12.0	15/32	-	-	-	2815	2815	2815	-	4169	5417	6741	-	-	-	-	
12.5	1/2	-	-	-	2815	2815	2815	-	4376	5744	7326	-	-	-	-	
		-	-	-	2815	2815	2815	-	4513	5930	7813	-	-	-	-	

IMPORTANT NOTES :

- 1) Other details will be maintained as per IS: 7823-1983. 2) For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.
- 3) ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS.50000/- NETT OR 15 NOS, PER SIZE WHICHEVER IS HIGHER. 4) For M35 = 40% & M42 = 80% extra

SIZE		PANTHER PRICE (Rs.) 10 Nos.	NINJA PRICE (Rs.) 10 Nos.	SIZE		PANTHER PRICE (Rs.) 10 Nos.	NINJA PRICE (Rs.) 10 Nos.
MM	INCH			MM	INCH		
2.00		739	-	6.35	1/4	3230	4308
2.10		739	-	6.50		4120	5495
2.20		739	-	6.60		4120	5495
2.30		739	-	6.70		4120	5495
2.40		739	-	6.75	17/64	4120	5495
2.50		739	-	6.80		4120	5495
2.60		739	-	7.00		4510	6014
2.70		739	-	7.14	9/32	4510	6014
2.80		739	-	7.20		4510	
2.90		739	-	7.40		4761	
3.00		812	1081	7.50		4761	6348
3.10		966	1289	7.60		5154	
3.17	1/8	966	1289	7.80		5154	
3.20		1002	1332	7.94	5/16	5656	7544
3.30		1002	1332	8.00		5656	7544
3.40		1002	1332	8.10		5656	
3.50		1002	1332	8.20		5656	7544
3.57	9/64	1002	1332	8.30		6856	9142
3.60		1413		8.33	21/64	6856	9142
3.70		1413	1885	8.50		6856	9142
3.80		1413	1885	8.60		6856	9142
3.90		1413		8.70		6856	9142
3.97	5/32	1413	1885	8.80		7223	9629
4.00		1413	1885	9.00		7223	9629
4.10		1716	2285	9.30		7533	10048
4.20		1716	2285	9.40		7533	
4.30		1716		9.50		7533	10048
4.37	11/64	1716		9.52	3/8	8542	11388
4.40		1716		9.70		8542	
4.50		2252	3001	9.80		8542	
4.60		2252		10.00		9561	12749
4.76	3/16	2252	3001	10.20		9561	12749
4.80		2252		10.30		10364	13814
5.00		2445	3259	10.32	13/32	10364	13814
5.10		2445	3259	10.40		10364	13814
5.16	13/64	2445	3259	10.50		10364	13814
5.20		2445	3259	10.70		10970	
5.30		2637	3516	11.00		10970	14627
5.40		2637		11.11	7/16	12245	16327
5.50		2637	3516	11.50		12915	17220
5.56	7/32	2637		11.80		12915	17220
5.60		2637	3516	12.00		13793	18390
5.80		2967		12.50		14631	19507
6.00		2967	3956	12.70	1/2	15445	20596
6.10				12.80		15580	20775
6.20		3230	4308	13.00		15580	20775
6.30		3230					

MINIMUM ORDER VALUE OF RS. 50000/- NETT OR MOQ 50 NOS. PER SIZE WHICHEVER IS HIGHER.

IMPORTANT NOTE :
All sizes to be ordered in multiples of 10 only.

SIZE		PANTHER PRICE (Rs.) EACH	NINJA PRICE (Rs.) EACH	SIZE		PANTHER PRICE (Rs.) EACH	NINJA PRICE (Rs.) EACH
MM	INCH			MM	INCH		
9.52	3/8	1344	1791	16.67	21/32	3975	5303
10.00		1434	1913	16.75		3975	5303
10.20		1611	2147	17.00★		3975	5303
10.32	13/32	1558	2076	17.25		4042	5388
10.50		1908	2546	17.46	11/16★	4042	5388
11.00		1981	2639	17.50★		4195	5594
11.50		2044	2725	18.00★		4421	5895
12.00★		2066	2752	18.25		4421	5895
12.50		2066	2752	18.26	23/32	4421	5895
12.70	1/2★	2066	2752	18.50★		4421	5895
13.00★		2873	3830	18.75		4472	5964
13.20		2999	3997	19.00★		4472	5964
13.49	17/32	2999	3997	19.05	3/4★	4472	5964
13.50★		3210	4280	19.25		4699	6265
13.80		3210	4280	19.50★		4699	6265
13.89	35/64	3210	4280	19.84	25/32★	4699	6265
14.00★		3210	4280	20.00★		5052	6737
14.20		3451	4601	20.24	51/64	5112	6819
14.25		3451	4601	20.25		5112	6819
14.29	9/16★	3451	4601	20.50★		5112	6819
14.50★		3585	4779	20.64	13/16	5112	6819
14.75		3585	4779	21.00★		5332	7111
15.00★		3585	4779	21.50★		5634	7512
15.08	19/32	3585	4779	22.00★		5740	7651
15.25		3636	4848	22.22	7/8	5740	7651
15.50★		3636	4848	22.50★		6253	8339
15.87	5/8★	3636	4848	23.00★		6378	8501
16.00★		3745	4991	23.50★		7591	10118
16.25		3745	4991	24.00★		7813	10417
16.27	41/64	3745	4991	24.50		7945	10595
16.30		3975	5303	25.00★	63/64	8303	11070
16.50★		3975	5303	25.40	1★	8413	11218

ITEMS MARKED ★ (ONLY IN RH) ARE EX-STOCK ITEMS. ALL REMAINING ITEMS IN (RH) WILL ATTRACT MINIMUM ORDER VALUE - OF RS. 50000/- NETT OR MOQ 5 NOS PER SIZE WHICHEVER IS HIGHER.

HSS PARALLEL HAND REAMERS, HSS LONG FLUTED MACHINE REAMERS AND HSS PARALLEL/TAPER SHANK CHUCKING REAMERS

Price (Rs.) Each

SIZE		HAND REAMERS IS : 5444	LONG FLUTED MACHINE REAMERS IS : 5445	CHUCKING REAMERS	
MM	INCH			PARALLEL SHANK IS:5446	TAPER SHANK IS:5447
3.00		1346	1346	1345	1346
3.17	1/8	1346	1346	1346	1346
3.50		1346	1346	1346	1346
3.97	5/32	1346	1346	1346	1346
4.00		1346	1346	1346	1346
4.50		1346	1346	1346	1346
4.76	3/16	1346	1346	1346	1346
5.00		1346	1346	1346	1346
5.50		1346	1346	1346	1346
5.56	7/32	1346	1346	1346	1346
6.00		1563	1563	1563	1563
6.35	1/4	1563	1563	1563	1563
7.00		1565	1565	1565	1565
7.14	9/32	1565	1565	1565	1565
7.94	5/16	1777	1777	1777	1777
8.00		1777	1777	1777	1777
8.73	11/32	1853	1853	1853	1853
9.00		1853	1853	1853	1853
	23/64	1853	1853	1853	1853
9.52	3/8	2019	2019	2019	2019
	25/64	2238	2238	2238	2238
10.00		2238	2238	2238	2238
10.32	13/32	2238	2238	2238	2238
11.00		2512	2512	2512	2512
11.11	7/16	2512	2512	2512	2512
11.91	15/32	2613	2613	2613	2613
12.00		2613	2613	2613	2613
12.70	1/2	2711	2711	2711	2711
13.00		3298	3298	3298	3298
13.49	17/32	3298	3298	3298	3298
14.00		3298	3298	3298	3298
14.29	9/16	3298	3298	3298	3298
15.00		3320	3320	3320	3320
15.08	19/32	3320	3320	3320	3320
15.87	5/8	3320	3320	3320	3320
16.00		3320	3320	3320	3320
16.67	21/32	3822	3822	-	3822
17.00		3822	3822	-	3822
17.46	11/16	3822	3822	-	3822
18.00		4095	4095	-	4095
18.26	23/32	4351	4351	-	4351
19.00		4351	4351	-	4351
19.05	3/4	4351	4351	-	4351
20.00		4852	4852	-	4852
20.64	13/16	4940	4940	-	4940
21.00		5490	5490	-	5490
22.00		5490	5490	-	5490
22.22	7/8	5490	5490	-	5490
23.00		6408	6408	-	6408
23.81	15/16	7099	7099	-	7099
24.00		7099	7099	-	7099
25.00		7116	7116	-	7116
25.40	1	7245	7245	-	7245
26.00		8793	8793	-	8793
26.99	1.1/16	10056	10056	-	10056
27.00		10056	10056	-	10056
28.00		10056	10056	-	10056
28.57	1.1/8	10056	10056	-	10056
29.00		10668	10668	-	10668
30.00		11511	11511	-	11511
30.16	1.3/16	11511	11511	-	11511
31.00		12712	12712	-	12712
31.75	1.1/4	12712	12712	-	12712
32.00		12712	12712	-	12712
33.00		14436	14436	-	14436
33.34	1.5/16	14436	14436	-	14436
34.00		16218	16218	-	16218
34.92	1.3/8	17746	17746	-	17746
35.00		17746	17746	-	17746
36.00		17746	17746	-	17746
36.51	1.7/16	17876	17876	-	17876

HSS PARALLEL HAND REAMERS, HSS LONG FLUTED MACHINE REAMERS AND HSS TAPER SHANK CHUCKING REAMERS

Price (Rs.) Each

SIZE		HAND REAMERS IS : 5444	LONG FLUTED MACHINE REAMERS IS:5445	CHUCKING REAMERS TAPER SHANK IS:5447
MM	INCH			
37.00		19479	19479	19479
38.00		19479	19479	19479
38.10	1.1/2	19479	19479	19479
39.00		21526	21526	21526
39.69	1.9/16	23529	23529	23529
40.00		23529	23529	23529
41.00		23729	23729	23729
41.27	1.5/8	27965	27965	27965
42.00		27965	27965	27965
42.86	1.11/16	27965	27965	27965
43.00		27965	27965	27965
44.00		27965	27965	27965
44.45	1.3/4	27965	27965	27965
45.00		32772	32772	32772
46.00		32772	32772	32772
47.00		35385	35385	35385
47.62	1.7/8	38004	38004	38004
48.00		38004	38004	38004
49.00		38004	38004	38004
49.21	1.15/16	38004	38004	38004
50.00		38004	38004	38004
50.80	2	38004	38004	38004
51.00		38004	38004	38004
52.00		45299	45299	-
52.39	2.1/16	45299	45299	-
53.00		45299	45299	-
53.97	2.1/8	45299	45299	-
54.00		45299	45299	-
55.00		52600	52600	-
55.56	2.3/16	52600	52600	-
56.00		52600	52600	-
57.00		52600	52600	-
57.15	2.1/4	52600	52600	-
58.00		56280	56280	-
58.74	2.5/16	56280	56280	-
59.00		56280	56280	-
60.00		66773	66773	-
60.32	2.3/8	66773	66773	-
61.00		66773	66773	-
61.91	2.7/16	66773	66773	-
62.00		66773	66773	-
63.00		66773	66773	-
63.50	2.1/2	66773	66773	-
64.00		66773	66773	-
65.00		-	80620	-
65.09	2.9/16	80620	80620	-
66.00		-	83341	-
66.67	2.5/8	83341	83341	-
67.00		83341	83341	-
68.00		-	89344	-
68.26	2.11/16	89344	89344	-
69.00		-	89344	-
69.85	2.3/4	89344	89344	-
70.00		-	89344	-
71.00		89344	89344	-
71.44	2.13/16	93871	93871	-
72.00		-	109145	-
73.00		-	109145	-
73.02	2.7/8	109145	109145	-
74.00		-	109145	-
74.61	2.15/16	109145	109145	-
75.00		-	114612	-
76.00		-	114612	-
76.20	3	114612	114612	-

ITEM MARKED ★ ARE EX-STOCK ITEMS. ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS 50000/- NETT OR MOQ OF 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.

HSS TAPER SHANK EXTRA LONG MACHINE REAMERS

SIZE MM	PRICE (Rs.) EACH
8 x 125 x 200	2571
8 x 175 x 250	2749
8 x 200 x 300	3015
9 x 125 x 200	2510
9 x 175 x 250	2890
9 x 225 x 300	3781
10 x 125 x 200	3231
10 x 175 x 250	3445
10 x 200 x 300	3657
10 x 300 x 400	3909
12 x 160 x 250	3828
12 x 200 x 300	4034
13 x 200 x 300	4614
14 x 160 x 250	4300
14 x 200 x 300	5050
15 x 200 x 300	5128
15 x 300 x 400	5738
16 x 200 x 300	5128
16 x 300 x 400	5738
17 x 200 x 300	5787
18 x 200 x 300	6360
19 x 200 x 300	6756
20 x 200 x 300	7498
20 x 300 x 400	8469
22 x 200 x 300	8513
25 x 200 x 325	11054
25 x 275 x 400	12414
26 x 275 x 400	15350
28 x 275 x 400	17631

HSS TAPER SHANK EXTRA LONG MACHINE REAMERS

SIZE INCH MM MM	PRICE (Rs.) EACH
5/16 x 125 x 200	2571
5/16 x 175 x 250	2749
5/16 x 200 x 300	3015
3/8 x 125 x 200	3231
3/8 x 175 x 250	3445
3/8 x 200 x 300	3657
7/16 x 160 x 250	3828
7/16 x 200 x 300	4034
1/2 x 125 x 200	4319
1/2 x 200 x 300	4364
9/16 x 200 x 300	5128
9/16 x 250 x 350	5434
5/8 x 200 x 300	5128
5/8 x 250 x 350	5487
5/8 x 300 x 400	5738
11/16 x 200 x 300	6366
3/4 x 200 x 300	6756
3/4 x 300 x 400	7192
13/16 x 200 x 300	8513
7/8 x 200 x 300	10086
7/8 x 300 x 400	10303
1 x 200 x 325	11054
1 x 275 x 400	12414
1.1/8 x 275 x 400	18861

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.

**HSS TAPER PIN REAMERS (TAPER 1:50)
HAND IS 5881 - 1984, MACHINE IS : 5918 - 1984**

NOMINAL DIA MM	PRICE (Rs.) EACH	NOMINAL DIA MM	PRICE (Rs.) EACH
3	2887	16	6540
4	2887	20	10172
5	2887	25	10794
6	2887	30	14524
8	3909	32	15958
10	4335	40	28536
12	5234	50	49458
14	5876		

**HSS TAPER PIN REAMERS (TAPER 1:48)
HAND/MACHINE - BS : 122 : 12 : 1964**

NOMINAL DIA INCH	PRICE (Rs.) EACH	NOMINAL DIA INCH	PRICE (Rs.) EACH
3/16	2691	13/32	4207
7/32	2691	7/16	4332
1/4	2691	1/2	4897
9/32	2944	9/16	5661
5/16	3259	5/8	6299
11/32	3679	3/4	7938
3/8	3717	7/8	9795

ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 35,000/- NETT MOQ OF 15 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

R.H. Cutting with straight flutes will be supplied as standard for hand taper pin reamer.

R.H. Cutting with L.H. helical flutes will be supplied as standard for Machine Taper Pin Reamer.

HSS MACHINE JIG REAMERS IS : 11002-1989

SIZE MM	PRICE (Rs.) EACH	SIZE MM	PRICE (Rs.) EACH
10	2873	33	17549
11	2873	35	20209
12	3292	36	21681
13	3911	39	23181
14	3911	40	26647
15	4301	41	26647
16	4301	43	29770
17	4965	44	32711
19	5562	45	35521
20	6066	46	35521
22	6997	47	38726
23	6997	48	42117
24	9011	49	42117
25	9765	50	46823
27	10915	-	-
28	11861	-	-
30	12908	-	-
32	14944	-	-

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.

HSS SOCKET REAMERS :
PARALLEL SHANK - IS : 5882 / TAPER SHANK - IS 5907.
***TYPE 'A' (ROUGHING), TYPE 'B' (PRE - FINISHING) ,**
TYPE 'C' (FINISHING)

MORSE TAPER NO	PARALLEL SHANK PRICE (Rs) EACH	TAPER SHANK PRICE (Rs) EACH
0	3087	3665
1	3398	3865
2	4732	5737
3	6875	8601
4	11374	13548
5	23181	24901
6	40906	57035

* Type required to be specified in order.

HSS MACHINE BRIDGE REAMERS - IS 5919

SIZE MM	PRICE (Rs.) EACH	SIZE MM	PRICE (Rs.) EACH	SIZE MM	PRICE (Rs.) EACH
11	3415	20	7689	31	14700
11.5	3990	21	8543	32	14700
12	3990	21.5	8543	33	15816
13	4351	22	8543	35	16966
13.5	4351	23	9318	36	18107
14	4351	23.5	9318	37	19301
15	5050	25.0	10133	40	30689
17	6230	27	11422	43	36322
17.5	6230	28	12362	49	49402
19	6997	30	13345	-	-

HSS MACHINE BRIDGE REAMERS BS: 122 (Part 2) : 1964

SIZE INCH	PRICE (Rs.) EACH	SIZE INCH	PRICE (Rs.) EACH	SIZE INCH	PRICE (Rs.) EACH
7/16	3415	13/16	7432	1.3/16	12812
1/2	3693	7/8	8543	1.1/4	14292
9/16	4351	15/16	9318	1.5/16	15129
5/8	5050	1	10133	1.3/8	16218
11/16	6230	1.1/16	11026	1.7/16	17334
3/4	6997	1.1/8	11846	1.1/2	19301

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.

HSS SHELL REAMERS IS : 5926 : 1970
(WITH 1: 30 TAPER HOLE)

SIZE MM	PRICE (Rs.) EACH	SIZE MM	PRICE (Rs.) EACH	SIZE MM	PRICE (Rs.) EACH
21	4430	42	8369	66	18951
22	4430	43	8369	67	20792
23	4430	44	8490	68	20792
24	4430	45	8856	70	20792
25	4430	46	8856	72	23120
26	4695	47	9276	73	23120
27	4695	49	9526	76	25371
28	5036	50	9915	79	28464
30	5302	52	10981	80	31199
32	5551	54	10981	82	31199
33	5828	56	12049	85	33652
35	6132	57	12049	89	36046
36	6388	58	13508	91	42634
38	6727	60	13508	92	42634
39	7062	62	16322	95	44567
40	7062	63	16322	98	51452
41	7376	65	18951	99	56956
				100	56956

HSS COUNTERSINKS WITH TAPER SHANK
BS: 122 (PART 2): 1964 (INCLUDED ANGLE 60 OR 90)

BODY DIA INCH	PRICE (Rs.) EACH	BODY DIA INCH	PRICE (Rs.) EACH	BODY DIA INCH	PRICE (Rs.) EACH
1/2★	2361	1.1/8★	7295	2	21921
5/8★	3136	1.1/4	9181	2.1/4	24852
3/4	3552	1.3/8	10734	2.1/2	30842
7/8	4485	1.1/2	12721	2.3/4	36403
1★	5644	1.3/4	18811	3	44025

HSS TAPER SHANK COUNTERBORES IS : 5710 - 1988

CUTTER DIA MM	PRICE (Rs.) EACH	CUTTER DIA MM	PRICE (Rs.) EACH
13.5	3566	34	16929
14.5	4007	36	18399
16.5	4602	37	19173
17.5	4950	39	20773
19.5	5845	41	22527
20.0	6126	43	23291
22.0	7013	46	26515
23.0	8049	48	28785
25.0	9744	51	32491
26.0	10798	53	35299
28.0	12059	55	38857
29.0	12712	57	42691
31.0	13858	59	47306
33.0	15878	61	52705

Counterbores will be supplied without pilots and grub screws. Pilot holes and grub screw holes, will however, be provided.

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.

**HSS TAPER SHANK COUNTER BORES
BS : 122 (PART 2) : 1964**

CONTERBORE DIA INCH	PRICE (Rs.) EACH	CONTERBORE DIA INCH	PRICE (Rs.) EACH
1/2	3146	1.1/8	12059
9/16	3911	1.1/4	13858
5/8	4367	1.3/8	16929
11/16	4950	1.1/2	19665
3/4	5562	1.5/8	22540
13/16	6166	1.3/4	25537
7/8	7013	1.7/8	28367
15/16	8241	2	31320
1	9744	-	-

IMPORTANT NOTES :

- Counterbores upto and including 1/2" dia. Are supplied without integrated pilots, the diameter of which should be specified at the time of order.
- Counterbores above 1/2" dia. Will be provided with pilot holes and grub screw holes. The pilots & grub screws will not be supplied by us.
- For non listed intermediate sizes, the higher price of the nearest listed size (INCH or MM) will be applicable.

HSS CYLINDRICAL CUTTER IS : 6309

DIA MM	BORE MM	WIDTH MM	PRICE (Rs.) EACH	DIA MM	BORE MM	WIDTH MM	PRICE (Rs.) EACH
40	16	20	3202	80	32	80	15531
40	16	32	4004	80	32	100	17880
40	16	50	4982	100	40	40	12907
40	16	70	6680	100	40	70	19549
50	22	25	4102	100	40	90	24220
50	22	40	4857	100	40	110	34027
50	22	63	6379	100	40	125	41449
50	22	80	8257	125	50	50	29135
63	27	32	5843	125	50	80	41328
63	27	50	7366	125	50	110	55619
63	27	70	9697	125	50	125	62220
63	27	90	11383	125	50	140	69206
80	32	36	8257	160	60	125	103528
80	32	63	13125	-	-	-	-

HSS HELICAL CYLINDRICAL CUTTERS BS: 122 (PART 1) : 1953

PRICE (Rs.) EACH

LENGTH OF CUTTER INCH	DIAMETER OF CUTTER		
	3	4	5
2	14570	21392	35676
3	18443	28615	48060
4	24800	36441	60482
5	35830	52717	72712
6	45434	62034	85248

IMPORTANT NOTE

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

**HSS HIGH POWER CYLINDRICAL CUTTERS
BS: 122 (PART 1) : 1953**

PRICE (Rs.) EACH

LENGTH OF CUTTER INCH	DIAMETER OF CUTTER				
	2.1/2	3	3.1/2	4	4.1/2
1	5220	6584	7296	9225	13302
2	7730	10133	12167	16151	22337
3	10285	13762	16987	23057	31551
4	12814	17493	21869	29386	41328
5	15450	24600	32162	40800	50881
6	18081	36552	38271	47698	60469
7	20628	36552	44455	56865	70805
8	24155	41752	50641	64774	79786

IMPORTANT NOTE

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS SIDE & FACE CUTTERS - IS : 6308 - 1982

PRICE (Rs.) EACH

DIA MM	BORE MM	WIDTH MM	STRAIGHT TEETH TYPE "B"	STAGGERED TEETH TYPE "A"
50	16	5	3754	4670
		6	3900	4857
		8	4004	4992
		10	4252	5314
63	22	6	4599	5944
		8	4857	6484
		10	5285	6680
		12	5513	7197
		14	5679	7722
		16	5957	8329
80	27	18	6353	8576
		6	5035	6321
		8	5581	6876
		10	5957	7870
		12	6353	8329
		14	6756	8936
100	★★	16	7069	9117
		18	7870	10326
		20	8210	10830
		6	7197	8728
100	32	8	7695	9341
		10	8506	10011
		12	9117	11128
		14	9660	11383
		16	10326	12281
		18	11013	12625
		20	11859	13331
		22	12414	15244
25	13489	16621		
125	★★	6	10090	12519
		8	10830	13488
		10	11604	15696
125	32	12	13224	16297
		14	14324	17409
		16	14933	18081
		18	16014	20623
		20	16582	22248
		22	18312	24177
		25	20024	25141
28	22549	28783		

HSS SIDE & FACE CUTTERS - IS : 6308 - 1982

PRICE (Rs.) EACH				
DIA MM	BORE MM	WIDTH MM	STRAIGHT TEETH TYPE "B"	STAGGERED TEETH TYPE "A"
150	★★	6	12281	15792
		8	13360	17084
		10	14494	18410
		12	16786	21204
		14	17952	22549
		16	19131	23915
		18	21481	26527
		20	21481	26527
		22	23848	29391
		25	26145	32370
		28	28327	35494
		32	30444	38723
160	★★	6	16710	18663
		8	17762	19842
		10	18816	21016
		12	19847	22162
160	40	14	20893	23349
		16	22124	24517
		18	23691	27127
		20	24875	27127
		22	26342	30070
		25	28432	34866
		28	30444	36307
		32	33139	39584
200	★★	6	21869	24257
		8	23597	26123
		10	25539	28708
		12	29519	32457
		14	31441	34728
200	40	16	33386	37039
		18	37256	41998
		20	37662	43277
		22	41127	47076
		25	44997	51695
		28	47374	54904
		32	52657	61538
225	★★	8	30750	33631
		10	33472	36228
		12	38968	42525
		14	41773	45978
		16	44627	49394
		18	50344	57244
		20	50344	57244
		22	55578	63387
		25	60863	69327
		28	66270	74932
32	71666	80507		
250	★★	10	38702	41580
		12	45270	49575
		14	49011	53420
		16	52622	57244
		18	59480	66221
		20	59480	66221
		22	65824	73364
		25	72573	79912
		28	78891	88421
32	85141	96963		

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 3 NOS. PER SIZE WHICHEVER IS HIGHER.

IMPORTANT NOTE

★★ BORE REQUIRED FOR THESE SIZES TO BE SPECIFIED WHILE ORDERING.

**HSS STRAIGHT TEETH SIDE & FACE CUTTERS
BS : 122 (PART 1) : 1953**

WIDTH OF CUTTER EDGE & BOSS INCH	DIAMETER OF CUTTER				
	2.1/2"	3"	3.1/2"	4"	5"
	PRICE (Rs) EACH				
1/4	4599	5097	6057	7179	10090
5/16	4817	5355	6400	7695	10830
3/8	5035	5680	6806	8210	11604
7/16	5263	5944	7209	8728	12414
1/2	5488	6257	7562	9117	13224
5/8	5884	6862	8382	10326	14933
3/4	6286	7366	9181	11383	16582
7/8	6707	8198	9898	12414	18312
1	7179	8858	10889	13488	20024
1.1/4	8069	9782	12317	15331	23127
1.1/2	8990	11178	13879	16886	26310

**HSS STRAIGHT TEETH SIDE & FACE CUTTERS
BS : 122 (PART 1) : 1953**

WIDTH OF CUTTER EDGE & BOSS INCH	DIAMETER OF CUTTER				
	6"	7"	8"	9"	10"
	PRICE (Rs) EACH				
1/4	12281	18212	21869	28170	-
5/16	13360	19706	23597	30749	-
3/8	14494	21202	25539	33472	38702
7/16	15638	22619	27524	36078	41593
1/2	16786	24430	29518	38969	45269
5/8	19122	27352	33386	44627	52622
3/4	21481	30333	37257	49443	59480
7/8	23847	33349	41128	55578	65826
1	26144	36328	44997	60862	72574
1.1/4	30444	42264	52648	71666	85141
1.1/2	34728	48277	60299	82499	98727
1.3/4	-	-	-	101171	119893

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 3 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

★★ BORE REQUIRED FOR THESE SIZES TO BE SPECIFIED WHILE ORDERING.

IMPORTANT NOTE :

Cutter of width of 3/4" and above will be supplied with Left hand Helical Flutes.

**HSS STAGGERED TEETH SIDE & FACE CUTTERS
BS : 122 (PART 1) 1953**

WIDTH OF CUTTER EDGE & BOSS INCH	DIAMETER OF CUTTER					
	3"	4"	5"	6"	7"	8"
	PRICE (Rs) EACH					
1/4	6400	8728	12519	15792	20629	24288
5/16	6806	9341	13489	17084	23677	26123
3/8	7605	9898	15696	18410	25540	28708
7/16	7730	10503	15973	19784	26818	30585
1/2	7870	11127	16297	21204	28032	32457
5/8	8809	12281	18081	23915	32877	37039
3/4	9359	14015	20629	26527	36776	42124
7/8	10206	15244	23915	29391	40462	47076
1	11013	16619	25141	32348	44077	51682

HSS STAGGERED TEETH SIDE & FACE CUTTERS BS : 122 (PART 1) : 1953		
WIDTH OF CUTTER EDGE & BOSS INCH	DIAMETER OF CUTTER	
	9"	10"
	PRICE (Rs) EACH	
5/16	33631	38522
3/8	36228	41580
7/16	39871	43493
1/2	42580	49575
5/8	49394	57244
3/4	57244	66221
7/8	63387	73384
1	65805	79912
1.1/4	80507	96963
1.1/2	92022	111412
1.3/4	112243	133883

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 3 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

★★ BORE REQUIRED FOR THESE SIZES TO BE SPECIFIED WHILE ORDERING.

HSS SINGLE ANGLE CUTTERS IS : 6324 - 1971				
DIA MM	BORE MM	WIDTH MM	ANGLE DEGREES	PRICE (Rs) EACH
50	16	12	60, 65, 70, 75, 80 & 85	3546
63	22	18	60, 65, 70, 75, 80 & 85	5285
63	22	26	70, 75 & 80	6285
80	22	32	70, 75 & 80	8257
100	27	36	70, 75 & 80	12388

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 15 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS SINGLE ANGLE CUTTERS - BS : 122 (PART 1) : 1953				
WIDTH OF CUTTER INCH	ANGLE DEGREES	PRICE (Rs) EACH		
		DIAMETER OF CUTTER		
		2.3/4"	3"	
5/16	30	4395	4858	
7/16	30, 40	4817	5496	
1/2	45, 50, 60, 70, 80	5097	5754	
5/8	50, 60, 70, 80	5679	6400	

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 15 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS DOUBLE ANGLE CUTTERS BS : 122 (PART 1) : 1953			
★ Angle in degrees			
DIA INCH	BORE INCH	WIDTH INCH	PRICE (Rs) EACH
2.3/4	1	5/8	5097
3	1.1/4	3/4	6400

★ Angle required to be specified at the time of order.

HSS EQUAL ANGLE CUTTER - BS : 122 (PART 1) : 1953			
WIDTH OF CUTTER INCH	INCLUDED ANGLE IN DEGREES	DIAMETER OF CUTTER	
		2.3/4"	3"
		PRICE (Rs) EACH	
5/16	30, 40	4395	4858
7/16	30, 40	4599	5097
1/2	45, 60, 90	4599	5097
5/8	60, 90	5097	5580

HSS EQUAL ANGLE CUTTERS - IS : 6326				
DIA MM	BORE MM	WIDTH MM	ANGLE DEGREES	PRICE (Rs) EACH
56	16	10	45	3900
63	22	12		4395
80	22	16		5580
100	27	18		8111
56	16	12	60	4080
63	22	16		4858
80	22	20		6058
100	27	25		9490
56	16	14	90	4395
63	22	18		5097
80	22	22		6585
100	27	28		10285

HSS DOUBLE (Unequal) ANGLE CUTTER - IS 6325				
DIA MM	BORE MM	WIDTH MM	ANGLE DEGREES	PRICE (Rs) EACH
50	16	12	55 X 12	3900
			60 X 15	3900
			65 X 15	3900
			70 X 15	3900
			75 X 15	3900
			80 X 15	3900
50	16	14	90 X 20	4253
50	16	16	100 X 25	4599
63	22	18	55 X 12	5339
			60 X 15	5339
			63 X 15	5339
			70 X 15	5339
			75 X 15	5339
			80 X 15	5339
63	22	20	90 X 20	5592
63	22	22	100 X 25	6045
80	22	32	65 X 15	8257
			70 X 15	8257
			75 X 15	8257
100	27	36	70 X 15	12388
			75 X 15	12388
			80 X 15	12388

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 20 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS CONVEX CUTTERS IS : 6323 : 1982				
DIA MM	BORE MM	WIDTH MM	RADIUS MM	PRICE (Rs) EACH
50	22	3	1.6	4684
50	22	4	2	4684
56	22	5	2.5	5543
56	22	6	3	5543
63	22	8	4	5884
63	22	10	5	6484
70	22	12	6	6990
70	22	16	8	7695
90	27	18	9	10285
90	27	20	10	10830
90	27	22	11	11934
90	27	24	12	12790
100	27	28	14	16312
110	32	32	16	20629
110	32	36	18	27234
125	40	40	20	30201

HSS CONCAVE CUTTERS IS : 6322 : 1982				
DIA MM	BORE MM	WIDTH MM	RADIUS MM	PRICE (Rs) EACH
56	22	8	1.6	5884
56	22	9	2	6182
56	22	10	2.5	6361
63	22	12	3	6911
63	22	16	4	7110
63	22	20	5	8341
70	22	24	6	9942
70	22	28	7	10433
80	27	32	8	13637
90	27	36	9	16297
90	27	40	10	18081
100	27	42	11	21086
100	27	44	12	21796
100	27	46	12.5	22221
100	27	50	14	24451
110	32	56	16	33658
125	32	62	18	45853
125	32	70	20	48277

HSS CONVEX / CONCAVE CUTTERS : BS : 122 (PART 1) : 1953						
DIA OF CUTTER INCH	DIA OF CURCLE INCH	DIA OF BORE INCH	CONVEX CUTTER		CONCAVE CUTTER	
			WIDTH OF CONVEX CUTTER INCH	PRICE (Rs) EACH	WIDTH OF CONCAVE CUTTER INCH	PRICE (Rs) EACH
2.1/4	1/8 3/16 1/4	1	1/8 3/16 1/4	4982 5314 5554	5/16 3/8 1/2	5884 6101 6500
2.1/2	5/16 3/8 7/16 1/2	1	5/16 3/8 7/16 1/2	5884 6270 6496 6996	5/8 3/4 7/8 1	7121 7722 8341 8895
2.3/4	9/16 5/8	1	9/16 5/8	7121 7730	1.3/16 1.3/16	10433 10698
3	11/16 3/4	1	11/16 3/4	7868 8248	1.3/8 1.3/8	7868 8248
3.1/4	13/16 7/8	1	13/16 7/8	10170 10830	1.9/16 1.9/16	15531 15792
3.1/2	15/16 1	1	15/16 1	12131 12687	1.3/4 1.3/4	18479 18741
4	1.1/8 1.1/4	1.1/4	1.1/8 1.1/4	16312 17952	1.15/16 2.1/8	22912 24451
4.1/4	1.3/8 1.1/2	1.1/4	1.3/8 1.1/2	24710 26730	2.5/16 2.1/2	32223 36924

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.
For M35 = 40% & M42 = 80% extra

HSS SINGLE / DOUBLE CORNER ROUNDING CUTTERS BS : 122 (PART 1) : 1953						
DIA OF CUTTER INCH	CORNER RADIUS INCH	DIA OF BORE INCH	SINGLE CUTTER		DOUBLE CUTTER	
			WIDTH OF CUTTER INCH	PRICE (Rs) EACH	WIDTH OF CUTTER INCH	PRICE (Rs) EACH
2.1/4	1/16 3/32 1/8	1	5/16 5/16 5/16	5220 5220 5220	7/16 7/16 7/16	7379 7379 7379
2.1/2	5/32 3/16 7/32 1/4	1	7/16 7/16 1/2 1/2	5884 5884 6220 6220	5/8 5/8 3/4 3/4	8301 8301 8895 8895
2.3/4	9/32 5/16	1	5/8 5/8	7296 7296	15/16 15/16	10583 10583
3	11/32 3/8	1	11/16 11/16	8647 8647	1.1/16 1.1/16	12325 12325
3.1/4	13/32 7/16	1	3/4 3/4	9791 9791	1.3/16 1.3/16	14149 14149
3.1/2	15/32 1/2 9/16 5/8	1	7/8 7/8 1 1	11638 11638 12814 12814	1.3/8 1.3/8 1.5/8 1.5/8	17084 17084 19110 19110
3.3/4	11/16 3/4	1	1.1/8 1.1/8	18850 18850	1.7/8 1.7/8	26999 26999

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 35,000 / - NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.
For M35 = 40% & M42 = 80% extra

HSS SINGLE CORNER ROUNDING CUTTERS IS : 6314 - 1982				
DIA MM	BORE MM	WIDTH MM	RADIUS MM	PRICE (Rs) EACH
56	22	4	1.6	4982
56	22	5	2.5	4982
63	22	6	3	5754
63	22	8	4	6021
63	22	10	5	6416
70	22	12	6	6862
70	22	14	7	7209
80	27	16	8	8936
90	27	18	9	10788
90	27	20	10	11720
100	27	22	12	19002
100	27	22	12.5	19002
100	27	25	14	20126
110	32	28	16	21627
125	32	31	18	27654
125	32	35	20	29403

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.
For M35 = 40% & M42 = 80% extra

HSS PARALLEL SHANK END MILL IS : 6353 (STANDARD SERIES)

DIA MM	PRICE (Rs.) EACH	IS : 6353 - 1971		IS : 6353 - 1991	
		CEL (MM)	OAL (MM)	CEL (MM)	OAL (MM)
3★	776	10	42	8★	40
3.5	776	-	-	10	42
4★	776	11	43	11★	43
5★	776	13	47	13★	47
6★	868	16	52	13★	57
7★	976	-	-	16★	60
8★	976	-	-	19★	63
9★	976	-	-	19★	69
10★	976	22	67	22★	72
11★	976	22	67	22★	79
12★	1008	26	76	26★	83
13	1139	26	76	26	83
14	1250	26	76	26★	83
16★	1460	32	88	32★	92
17	1596	32	88	32	92
18★	1775	32	88	32★	92
19	1775	32	88	32	92
20★	1962	38	101	38★	104
21	2202	38	101	38	104
22★	2226	38	101	38★	104
24	2413	38	101	45	121
25★	2595	45	116	45★	121
26	2692	45	116	45	121
27	3166	45	116	45	121
28	3694	45	116	45	121
29	3694	45	116	45	121
30★	4066	45	116	45★	121
32★	4434	63	140	53★	133
33	4913	63	140	53	133
35	5355	70	160	53	133
36	5839	70	160	53	133
37	6293	70	160	53	133
38	6708	70	160	63	155
39	7114	70	160	63	155
40	7556	70	160	63	155
41	7556	70	160	63	155
43	8601	80	180	63	155
45	9636	80	180	63	155
46	9636	90	200	63	155
49	10598	90	200	75	177
50	11660	90	200	75	177
51	11660	90	200	75	177
53	14353	90	200	75	177
54	17004	100	220	75	177
56	20446	100	220	75	177
57	23781	100	220	75	177
59	23781	100	220	75	177
61	25390	110	250	90	192
63	26431	110	250	90	192

ITEM MARKED ★ ARE EX-STOCK ITEMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/- NETT MOQ OR 5 NOS. PER SIZE. WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

- For non-listed intermediates sizes, the higher price of the nearest listed size will be applicable.
- LH End Mill Dia 17 mm & above on special request - 25 % extra
- Long series End Mills, if required, can be supplied at 30 % extra subject to the order value being minimum Rs. 50,000/-NETT, per size or minimum 5 Nos. per size whichever is higher.

HSS TAPER SHANK END MILLS IS : 6354 (STANDARD SERIES)

DIA MM	PRICE (Rs.) EACH	IS:6354-1971 TANGED END		IS:6354-1991 TAPPED END		MT No.
		CEL (MM)	OAL (MM)	CEL (MM)	OAL (MM)	
6	1292	16	90	13	83	1
7	1292	-	-	16	86	1
8	1292	19	93	19	89	1
9	1398	-	-	19	89	1
10	1398	22	96	22	92	1
11	1537	-	-	22	92	1
12	1537	26	100	26	96	1
12★	2007	26	118	26	111	1
14	2123	26	100	26	96	2
14★	2261	26	118	26	111	1
16	2263	32	124	32	117	2
18	2763	32	124	32	117	2
20	3189	38	130	38	123	2
20★	3485	38	150	38	140	3
22	3347	38	130	38	123	2
22★	3653	-	-	38	140	3
25	3944	45	157	45	147	3
26	4912	45	157	45	147	3
28	5493	45	157	45	147	3
30	6041	53	165	45	147	3
32	6412	53	165	53	155	3
32★	6412	53	183	53	178	4
33	7753	53	165	53	155	3
33★	8504	-	-	53	178	4
35	8504	53	165	53	155	3
35★	8504	-	-	53	178	4
36	9240	70	210	53	155	3
36★	10080	-	-	53	178	4
38	10164	63	203	63	188	4
38★	11817	-	-	63	221	5
40	11817	63	203	63	188	4
40★	11817	63	203	63	221	5
41	11817	63	203	63	188	4
41★	12993	-	-	63	221	5
43	12993	63	203	63	188	4
43★	12993	-	-	63	221	5
44	13574	63	203	63	188	4
44★	13574	-	-	63	221	5
45	14598	63	203	63	188	4
45★	14598	-	-	63	221	5
46	14942	63	203	63	188	4
46★	15476	-	-	63	221	5
48	15476	63	203	75	200	4
48★	17403	-	-	75	233	5
50	17403	75	215	75	200	4
50★	17403	75	250	75	233	5
51	17403	75	250	75	200	4
51★	24384	-	-	75	233	5
53	24385	75	250	75	200	4
53★	30815	-	-	75	233	5
56	30813	75	250	75	200	4
56★	30813	-	-	75	233	5
60	32339	-	-	75	200	4
60★	32339	75	250	75	233	5
63	38777	90	265	90	248	5

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

★ These sizes will be supplied with the smaller MT Shank unless otherwise specified.

IMPORTANT NOTES :

THE FOLLOWING IF REQUIRED, CAN BE SUPPLIED SUBJECT TO THE ORDER VALUE BEING Rs. 50,000/-NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

- Standard Series Type 'B' Tapped End as per IS:6354 - 1971at the same rate.
- Long Series End Mill, Tanged End or Tapped End if required can be supplied at 30 % extra subject to the order value being minimum Rs. 50,000/- per size or minimum 5 Nos. each whichever is higher.
- For non-listed intermediates sizes, the higher price of the nearest listed size will be applicable subject to order value being minimum. Rs.50,000/- per size or minimum 5 Nos. each whichever is higher.
- Left Hand Cutter at 25 % extra.
Dia 6.0 mm to 12.0 mm in Tapped End & Tanged End Not Possible

HSS END MILLS BS : 122 (PART 1) 1953

DIA INCH	PARALLEL SHANK PRICE (Rs.) EACH	TAPER SHANK PRICE (Rs.) EACH
1/8	776	1207
5/32	776	1207
3/16	776	1207
7/32	776	1207
1/4★	868	1207
9/32	976	1235
5/16★	976	1235
3/8★	976	1343
7/16	976	1360
1/2★	1008	1537
9/16	1250	2123
5/8★	1460	2263
11/16	1632	2551
3/4★	1775	2693
13/16	1962	3060
7/8	2226	3351
15/16	-	3638
1★	2595	3913
1.1/8	3694	5457
1.1/4	4434	6412
1.3/8	5355	8504
1.1/2	6270	10164
1.5/8	7556	11817
1.3/4	9636	13574
1.7/8	10623	15476
2	11634	17403
2.1/16	14353	-
2.1/8	17004	24118
2.3/16	20446	-
2.1/4	22122	30811
2.5/16	23781	-
2.3/8	25390	33624
2.1/2	28628	38777

ITEM MARKED ★ ARE EX-STOCK ITEMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/- NETT MOQ OR 5 NOS. PER SIZE. WHICHEVER IS HIGHER.

IMPORTANT NOTES :

1. Taper Shank End Mills with Tapped End for size 9/16" and over, if required, can be supplied at the same rate as the Tanged End.
2. Intermediate sizes (non-listed) price of the next larger listed size.
3. Left Hand Cutter at 25 % extra.
in case of Taper Shank End Mill Dia 11/16" & above with MOQ.
4. For M35 = 40% & M42 = 80% extra

HSS PARALLEL SHANK SLOT MILLING CUTTERS IS : 6352 (SHORT SERIES)

DIA MM	PRICE (Rs) EACH	IS:6352-1971		IS:6352-1991	
		CEL (MM)	OAL (MM)	CEL (MM)	OAL (MM)
3	942	6	40	5	37
3.5	942	6	40	6	38
4	942	6	40	7	39
5	942	8	45	8	42
6★	1008	8	45	8★	52
7	1008	10	50	10	54
8★	1008	10	50	11★	55
9	1008	10	50	11	61
10	1046	12	56	13	63
11	1046	12	56	13	70
12	1141	16	63	16	73
14	1460	16	63	16	73
16	1643	18	70	19	79
18	2022	18	70	19	79
20	2022	20	80	22	88
22	2358	22	90	22	88
25	2797	25	100	26	102
28	4634	25	100	26	102
32	4855	28	110	32	112
35	5839	32	118	32	112
36	6270	32	118	32	112
38	6761	36	125	38	130
40	7237	36	125	38	130
41	8185	-	-	38	130
42	8185	-	-	38	130
43	9100	-	-	38	130
44	9100	-	-	38	130
45	9100	-	-	38	130
46	10104	-	-	38	130
47	10104	-	-	38	130
48	10104	-	-	45	147
49	11080	-	-	45	147
50	11080	-	-	45	147

ITEM MARKED ★ ARE EX-STOCK ITEMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/- NETT MOQ OR 5 NOS. PER SIZE. WHICHEVER IS HIGHER.

IS : 6352 - 1971 1) TYPE 'A' - FLATE FACE HELICAL FLUTED
IS : 6352 - 1991 1) TYPE 'A' - FLATE FACE HELICAL FLUTED

IMPORTANT NOTES :

1. Type 'A' will be supplied unless otherwise specified.
2. Other Type if required can be supplied at the same rate.
3. Left Hand Cutter at 25 % extra.
4. Standard Series Slot Milling Cutter if required can be supplied a 30 % extra, subject to the order value being minimum Rs. 50,000/- NETT. Or 5 Nos. per size whichever is higher.
5. For M35 = 40% & M42 = 80% extra

HSS TAPER SHANK SLOT MILLING CUTTERS IS : 6388 (SHORT SERIES)

DIA MM	PRICE (Rs.) EACH	IS : 6388 - 1971			IS : 6388 - 1991		MT NO.
		CEL MM	(TANGED END)	(TAPPED END)	(TAPPED END)		
			OAL MM	OAL MM	CEL MM	OAL MM	
6	1439	-	-	-	8	78	1
7	1439	16	90	-	10	80	1
8	1582	16	90	-	11	81	1
9	1582	16	90	-	11	81	1
10	1616	16	90	-	13	83	1
11	1616	16	90	-	13	83	1
12	1804	16	90	-	16	86	1
12★	2110	-	-	-	16	101	2
14	2263	16	90	-	16	86	1
14★	2349	-	-	-	16	101	2
16	2349	18	110	100	19	104	2
18	2693	18	110	100	19	104	2
20	2693	20	114	104	22	107	2
20★	3331	20	-	-	22	124	3
22	3345	22	118	108	22	107	2
22★	3986	-	-	-	22	124	3
25	3984	25	143	130	26	128	3
26	5497	25	143	130	26	128	3
28	5823	25	143	130	26	128	3
32	6981	28	148	135	32	134	3
32★	8416	-	-	-	32	157	4
35	9046	32	179	164	32	134	3
35★	10475	-	-	-	32	157	4
36	10550	32	179	164	32	134	3
36★	10550	-	-	-	32	157	4
38	10550	36	186	171	38	163	4
38★	14522	-	-	-	38	196	5
40	12041	36	186	171	38	163	4
40★	16023	-	-	-	38	196	5

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

★ These sizes will be supplied with the smaller MT Shank unless otherwise specified.

IS : 6352 - 1971 1) TYPE 'A' & 'D' - FLATE FACE HELICAL FLUTED
2) TYPE 'B' & 'F' - FLATE FACE STRIGHT FLUTED

IS : 6352 - 1991 1) TYPE 'D' - FLATE FACE HELICAL FLUTED

IMPORTANT NOTES :

1. Type 'A' (IS:6388 - 1971) and Type 'D' (IS:6388 - 1991) will be supplied Unless otherwise specified.
2. Other Type if required can be supplied at the same rate.
3. For non-listed intermediates sizes, the higher price of the nearest listed size will be applicable.
4. Left Hand Cutter at 25 % extra from Dia 14.0 mm & above only.
5. Standard Series Slot Milling Cutters if required can be supplied at 30 % extra.

HSS SLOT DRILLS BS : 122 (PART 1) : 1953

DIA INCH	PARALLEL SHANK PRICE (Rs.) EACH	TAPER SHANK PRICE (Rs.) EACH
1/8	942	1294
5/32	942	1294
3/16	942	1294
7/32	1005	1418
1/4	1008	1491
5/16	1008	1582
3/8	1008	1582
7/16	1030	1616
1/2	1141	1804
9/16	1460	2263
5/8	1643	2349
11/16	1857	2553
3/4	2022	2693
13/16	2358	3345
7/8	2358	3345
1	2797	3984
1.1/8	3982	5823
1.1/4	4855	6981
1.3/8	5839	9046
1.1/2	6761	10550
1.5/8	8370	-
1.3/4	9100	-
1.7/8	10104	-
2	11079	-

- 1) Straight flute, Flat Faced, will be supplied unless otherwise specified.
- 2) Spiral Fluted, Flate faced same rate. 3) Left hand Cutter 25 % extra.

HSS TAPER SHANK T-SLOT CUTTERS - BS : 122 (PART 1) : 1953

NOMINAL SIZE OF BOLT INCH	DIA OF CUTTER INCH	WIDTH OF CUTTER INCH	MT SHANK NO.	TAPPED END PRICE (Rs.) EACH
1/4	37/64	1/4	2	5078
5/16	45/64	5/16	2	5726
3/8	53/64	23/64	2	6261
7/16	61/64	27/64	2	6635
1/2	1.5/64	15/32	2	8015
5/8	1.21/64	37/64	3	12975
3/4	1.33/64	11/16	3	16110
7/8	1.45/64	51/64	3	19000
1	1.61/64	29/32	4	23529
1.1/8	2.1/8	1.1/16	4	30372
1.1/4	2.5/16	1.3/16	4	36129
1.3/8	2.1/2	1.5/16	5	44595
1.1/2	2.3/4	1.7/16	5	57096

HSS TAPER SHANK T - SLOT CUTTERS (STAGGERED TEETH) IS : 2668 : 1992

NOMINAL OF T-SLOT MM	DIA OF CUTTER MM	WIDTH MM	PRICE (Rs.) EACH
10★	18	8	6321
12★	21	9	6907
14★	25	11	13276
18★	32	14	16621
22	40	18	22267
28	50	22	28717
36	60	28	51749
42	72	35	62800

★ These sizes will be supplied with the smaller MT Shank unless otherwise specified.

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS WOODRUFF KEYSLOT CUTTERS - IS 2669 - 1971
(Straight Teeth Type)

DIA MM	WIDTH MM	NOM SIZE OF KEY MM	PRICE (Rs) EACH
16.5	5	5 x 6.5	2312
19.5	5 6	5 x 7.5 6 x 7.5	2629 2629
22.5	5 6 8	5 x 9 6 x 9 8 x 9	2991 2991 2991
28.5	6 8 10	6 x 11 8 x 11 10 x 11	4852 4852 4852
32.5	7 8 10	7 x 13 8 x 13 10 x 13	5737 5737 5737
45.5	10	10 x 16	9744

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 15 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS CUTTER FOR WOODRUFF KEYSEATS - BS : 122 (PART 1) 1953

B. S. Cutter & KEY No.	PRICE (Rs.) EACH	B. S. Cutter & KEY No.	PRICE (Rs.) EACH	B. S. Cutter & KEY No.	PRICE (Rs.) EACH
606	2884	609	5065	1011	7295
607	3386	809	5065	1211	7295
807	3386	1009	5102	812	8241
608	4095	810	5993	1012	8241
808	4095	1010	5993	1212	8241
1008	4095	1210	5993		

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 15 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS FACE CUTTERS :
(As per Table No 19 of BSS : 122 : 1938)

DIAMETER OF CUTTER INCH	OVERALL LENGTH OF CUTTER INCH	DIAMETER OF BORE INCH	PRICE (Rs.) EACH
1.3/4	1.1/4	3/4	5221
2	1.1/4	3/4	6021
2.1/2	1.1/4	3/4	7605
3	1.11/16	1.1/8	10889
4	1.3/4	1.1/8	18212
5	2	1.1/2	30631

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS KEYWAY MILLING CUTTERS FORM RELIEVED
IS : 6355 (STRAIGHT TEETH TYPE)

DIA MM (js 16)	BORE MM (H7)	WIDTH MM (d9)	PRICE (Rs) EACH
50	16	5	3405
		6	3682
		8	3907
		10	4080
63	22	6	3998
		8	4181
		10	4599
		12	4993
		14	5285
		16	5679
80	27	18	6104
		6	5592
		8	5959
		10	6361
		12	7121
		14	7695
100	32	16	8176
		18	8636
		20	9181
		6	6585
		8	7068
		10	7695
125	32	12	8380
		14	9016
		16	9702
		18	10267
		20	10491
		22	11720
160	40	25	12519
		8	10090
		10	11036
		12	12037
		14	13266
		16	14149
200	40	18	15331
		20	16236
		22	17294
		25	18932
		32	20523
		10	18183
200	40	12	19144
		14	20398
		16	21840
		18	23243
		20	24800
		22	26407
200	40	25	28668
		28	30269
		32	34255
		12	28154
		14	29743
		16	31631
200	40	18	33860
		20	36247
		22	38948
		25	41987
		28	45502
		32	50648
200	40	36	55788
		40	61085

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 15 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS SLOTTING CUTTERS - BS : 122 (PART 1) : 1953 (STRAIGHT TEETH)

WIDTH OF CUTTER INCH	DIAMETER OF CUTTER PRICE (Rs.) EACH					
	2.1/2"	3"	3.1/2"	4"	5"	6"
1/4	2768	3163	3946	4758	7605	9825
5/16	3000	3405	4332	5314	8329	10890
3/8	3202	3663	4684	5800	9061	11942
7/16	3386	4004	5036	6755	9825	13008
1/2	3577	4206	5399	6806	10585	14094
5/8	4004	4736	6148	8509	12037	16231
3/4	4286	5160	6680	8636	13224	17999
7/8	4587	5696	7209	9942	14434	19784
1	4858	6285	7730	10237	15638	21630

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 15 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS SHELL END MILLS - IS : 6257 - 1982

DIA MM (js 16)	BORE (H7)	WIDTH (js 16)	PRICE (Rs.) EACH
40	16	32	6058
50	22	36	7366
63	27	40	9697
80	27	45	14324
100	32	50	21869
125	40	56	36667
160	50	63	69206

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS SHELL END MILL - BS : 122 (PART 1) : 1953

DIA OF CUTTER INCH	LENGTH OF CUTTER INCH	DIA OF BORE INCH	PRICE (Rs.) EACH
1.1/4	1	1/2	4167
1.1/2	1.1/8	1/2	5097
1.3/4	1.1/4	3/4	6057
2	1.3/8	3/4	6886
2.1/4	1.1/2	1	8303
2.1/2	1.5/8	1	9657
2.3/4	1.5/8	1	10978
3	1.3/4	1.1/4	12780
3.1/2	1.7/8	1.1/4	15936
4	2.1/4	1.1/2	23436
4.1/2	2.1/4	1.1/2	28099
5	2.1/4	1.1/2	36667
5.1/2	2.1/4	2	42893
6	2.1/4	2	49470

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS HAND AND SHORT MACHINE TAPS (COARSE PITCH) - NON SERIAL IS 6175: 1992 :PART I, PART II & PART III AND HSS NUT TAPS - IS : 6175 - 1991 (PART V) (6H TOLERANCE)

NOM DIA X PITCH	PRICE Rs. / EACH							NUT TAPS
	PART I STR FLUTES	PART II			PART III			
	STR FLUTES	STR FLUTES	SPIRAL POINT*	SPIRAL FLUTES	STR FLUTES	SPIRAL POINT*	SPIRAL FLUTES	
M2.0x0.40	567							
M2.2x0.45	567							
M2.3x0.40	567							
M2.5x0.45	567							
M3x0.5		343	434	469	375	473	553	
M3.5x0.6		343	434	469	375	473	553	
M4x0.7		343	434	469	375	473	553	
M4.5x0.75		371	457	498	398	498	559	
M5x0.8		370	457	498	398	498	559	
M6x1.0		370	457	498	408	513	563	785
M8x1.25		437	530	578	460	585	664	886
M10x1.5		536	659	717	541	722	789	1177
M12x1.75					837	1010	1132	1816
M14x2.00					1187	1467	1728	2525
M16x2.00					1187	1467	1728	2525
M18x2.5					1922	2314	2630	4053
M20x2.5					2450	2932	3531	5412
M22x2.5					2624	3125	3670	5537
M24x3.0					2883	3480	3982	6239
M25x3.0					3567			7443
M27x3.0					4432			9565
M30x3.5					4962			11929
M33x3.5					6038			13168
M36x4.0					8398			17034
M39x4.0					9858			20521
M42x4.5					11503			24202
M45x4.5					15477			29185
M48x5.00					16501			34463
M52x5.0					20717			
M56x5.5					29481			
M60x5.5					31071			
M64x6.0					32678			
M68x6.0					40777			

ITEM MARKED ★ ARE EX-STOCK ITEMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/-NETT OR MOQ OF 5 NOS. PER SIZE. WHICHEVER IS HIGHER.

NOTES :

- Sizes upto M 10 will be supplied as per Part II unless otherwise specified.
- A Set Consist of Taper, Second & Bottoming.
- Serial Taps can be supplied at the same price.
- Left Hand Taps at 25% Extra.
- For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES : (NUT TAPS - MOQ)

UPTO M10 (50 NOS EACH) OVER M10 - M28 (25 NOS EACH) OVER M28 - M35 (15 NOS EACH) OVER M35 (10 NOS EACH)

HSS HAND AND SHORT MACHINE TAPS (FINE PITCH) - NON SERIAL IS 6175 : 1992 : (6H TOL) PART II & PART III (6H-TOL) AND HSS NUT TAPS - IS : 6175 - 1991 (PART V)

PRICE Rs. / EACH

NOM DIA X PITCH	PART II			PART III			NUT TAPS
	STR FLUTES	SPIRAL POINT*	SPIRAL FLUTES	STR FLUTES	SPIRAL POINT*	SPIRAL FLUTES	
M3.0x0.35	508	683					
M3.5x0.35	508	683					
M4x0.5	508	618					
M4.5x0.5	498	618					
M5x0.5	498	602					
M6x0.75	504	683	647	557	607	719	887
M7x0.75	583	683	769	583	694		1127
M8x0.75							
M8x1.0	527	630	691	583	638	766	1022
M9x1.0							
M10x1.0	600	724	830	672	725	917	1346
M10x1.25	600	724	830	672	725	917	1346
M12x1.0							2114
M12x1.25				976	1109	1310	2114
M12x1.5				976	1109	1310	2114
M14x1.0							3152
M14x1.25				1248	1492	1799	3152
M14x1.5				1205	1492	1745	3152
M16x1.0							3152
M16x1.5				1205	1492	1752	3152
M18x1.0							4682
M18x1.5				2185	2450	2935	4682
M18x2.0				2185	2450	2935	4682
M20x1.5				2727	3068	3751	6003
M20x2.0				2727	3068	3751	6003
M22x1.5				2954	3360	4111	6371
M22x2.0				2954	3360	4111	6371
M24x1.5				3299	3700	4560	7577
M24x2.0				3299	3700	4560	7577
M25x1.5				3534			8521
M25x2.0				3534			
M26x1.5				3685			
M26x2.0				3685			
M27x1.5				4948			10736
M27x2.0				4948			
M28x1.5				4948			13369
M28x2.0				4948			
M30x1.5				5567			13369
M30x2.0				5567			13369
M30x3.0				5567			
M32x1.5				5900			
M32x2.0				5900			
M33x1.5				6796			
M33x2.0				6796			14825
M33x3.0				6796			

HSS HAND & SHORT MACHINE TAPS (FINE PITCH) NON SERIAL IS : 6175 : 1992 : PART III (6H-TOL)

PRICE Rs. / EACH

NOM DIA X PITCH	STRAIGHT FLUTES
M35x1.5	9423
M36x1.5	9423
M36x2.0	9423
M36x3.0	9423
M39x1.5	11736
M39x2.0	11736
M39x3.0	11736
M42x1.5	13001
M42x2.0	13001
M42x3.0	13001
M42x4.0	13001
M45x1.5	18092
M45x2.0	18092
M45x3.0	18092
M45x4.0	18092
M48x1.5	18791
M48x2.0	18791
M48x3.0	18791
M48x4.0	18791
M50x1.5	20798
M50x2.0	20798
M50x3.0	20798
M52x1.5	23401
M52x2.0	23401
M52x3.0	23401
M52x4.0	23401
M56x1.5	32093
M56x2.0	32093
M56x3.0	32093
M56x4.0	32093
M60x1.5	33943
M60x2.0	33943
M60x3.0	34561
M60x4.0	34561
M64x1.5	36287
M64x2.0	36287
M64x3.0	36782
M64x4.0	36782
M68x1.5	45917
M68x2.0	45917
M68x3.0	46286
M68x4.0	46286
M72x6.0	55020
M76x6.0	67156
M80x6.0	81279
M85x6.0	100041
M90x6.0	124998
M95x6.0	157328
M100x6.0	194373

ITEM MARKED ★ ARE EX-STOCK ITMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/-NETT OR MOQ OF 5 NOS. PER SIZE. WHICHEVER IS HIGHER.

NOTES :

- Sizes upto M 10 will be supplied as per Part II unless otherwise specified.
- Serial Taps can be supplied at the same price.
- A Set Consist of Taper & Bottoming.
- Left Hand Taps at **25% Extra**.
- For **M35 = 40% & M42 = 80% extra**

NOTE: (NUT TAPS - MOQ)

UPTO M10 - (50 NOS EACH)
OVER M10 - M28 (25 NOS EACH)
OVER M28 - M35 (15 NOS EACH)
OVER M35 (10 NOS EACH)

HSS LONG SHANK MACHINE TAPS (COARSE PITCH)
IS 6175 : 1991 : PART IV (6H - TOL)

PRICE Rs. / EACH			
NOM DIA X PITCH	STR FLUTES TYPE 'A', 'C', 'D'	SPIRAL POINT TYPE 'B'	SPIRAL FLUTES TYPE 'C'
M3x0.5	753	869	882
M4x0.7	753	869	882
M5x0.8	544	638	664
M6x1.0	582	685	720
M8x1.25	630	753	778
M10x1.5	799	917	975
M12x1.75	1116	1296	1421
M14x2.0	1607	1869	2152
M16x2.0	1607	1869	2152
M18x2.5	2483	2870	3236
M20x2.5	3085	3544	3855
M22x2.5	3426	3982	3882
M24x3.0	3783	4420	4820
M27x3.0	5511		
M30x3.5	6252		
M33x3.5	7373		
M36x4.0	9936		
M39x4.0	11624		
M42x4.5	13608		
M45x4.5	17856		
M48x5.0	20010		
M52x5.0	23144		
M56x5.5	30687		
M60x5.5	35158		
M64x6.0	39663		
M68x6.0	55279		

ITEM MARKED ★ ARE EX-STOCK ITEMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/-NETT OR MOQ OF 5 NOS. PER SIZE. WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

MACHINE TAPS

Type 'A' - 5 Deg Taper angle with Longer taper lead

Type 'B' - 10 Deg Taper angle with Spiral point

Type 'C' - 20 Deg Taper angle with Shorter taper lead

Type 'D' - 10 Deg Taper angle without Spiral point

HSS LONG SHANK MACH. TAPS TO DIN - 2183
BSW / UNC / BSF / UN / NF (TYPE A, B & C)

SIZE INCH	PRICE (Rs.) EACH TYPE 'A' & 'C'	PRICE (Rs.) EACH TYPE 'B'
1/8	532	622
3/16	585	667
1/4	593	706
5/16	689	799
3/8	828	1042
7/16	985	1165
1/2	1168	1345
5/8	1712	1978
3/4	2244	3068
7/8	3597	4020
1	4506	4754
1.1/8	6005	6429
1.1/4	7241	7821
1.1/2	11285	11796
1.3/8	11285	11796
1.5/8	13482	14011
1.3/4	15658	16221
1.7/8	19130	19643
2	22614	23108

HSS LONG SHANK MACHINE TAPS (FINE PITCH)
IS 6175 : 1991 : PART IV : (6H -TOL)

PRICE Rs. / EACH

NOM DIA X PITCH	STRAIGHT FLUTES TYPE 'A', 'C', 'D'	SPIRAL POINT TYPE 'B'
M3x0.35	1022	1097
M3.5x0.35	1022	1097
M4x0.5	1022	1097
M4.5x0.5	661	776
M5x0.5	661	776
M6x0.75	661	776
M7x0.75	757	876
M8x1.0	695	829
M10x1.0	837	969
M10x1.25	851	985
M12x1.25	1212	1400
M12x1.5	1212	1400
M14x1.25	1586	1875
M14x1.5	1586	1875
M16x1.5	1553	1910
M18x1.5	2731	3315
M18x2.0	2731	3315
M20x1.5	3571	4216
M20x2.0	3571	4216
M22x1.5	3703	4378
M22x2.0	3703	4378
M24x1.5	4138	4881
M24x2.0	4138	4881
M25x1.5	5268	6225
M25x2.0	5268	6225
M26x1.5	5385	6357
M26x2.0	5385	6357
M27x1.5	6490	7418
M27x2.0	6490	7418
M28x1.5	7055	8044
M28x2.0	7055	8044
M30x1.5	7303	
M30x2.0	7303	
M30x3.0	7303	
M32x1.5	8021	
M32x2.0	8021	
M33x1.5	8833	
M33x2.0	8833	
M33x3.0	8833	
M35x1.5	12347	
M36x1.5	12347	
M36x2.0	12347	
M36x3.0	12347	
M39x1.5	15181	
M39x2.0	15181	
M39x3.0	15181	
M40x1.5	16231	
M40x2.0	16231	
M40x3.0	16231	
M42x1.5	16715	
M42x2.0	16715	
M42x3.0	16715	
M42x4.0	16715	
M45x1.5	23303	
M45x2.0	23303	
M45x3.0	23303	
M45x4.0	23303	
M48x1.5	24562	

HSS LONG SHANK MACHINE TAPS (FINE PITCH)
IS 6175 : 1991 : PART IV : (6H -TOL)

PRICE Rs. / EACH

NOM DIA X PITCH	STRAIGHT FLUTES TYPE 'A', 'C', 'D'
M48x2.0	24562
M48x3.0	24562
M48x4.0	24562
M50x1.5	28390
M50x2.0	28390
M50x3.0	28390
M52x1.5	30365
M52x2.0	30365
M52x3.0	30365
M52x4.0	30365

ITEM MARKED ★ ARE EX-STOCK ITEMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/- NETT OR MOQ OF 5 NOS. PER SIZE. WHICHEVER IS HIGHER.

HSS PIPE TAPS
NPS NPT NPSF - BS : 949 - 1969
BSP BS : 949 - 1957
BSPT BS : 949 PART III - 1982

PRICE Rs. / EACH

TAP SIZE	PRICE Rs. / EACH					
	PARALLEL THREAD			TAPER THREAD		
INCH	BSP	NPS	NPSF	BSPT	NPT	NPTF
1/16					701	701
1/8	573	651	789	732	756	901
1/4	894	1127	1391	1311	1375	1698
3/8	1318	1386	1717	1734	1816	2056
1/2	1921	2064	2497	2492	2616	2963
5/8	2174	-	-	-	-	-
3/4	3095	3247	3993	4050	4109	4749
7/8	3861	-	-	-	-	-
1	4865	5421	6629	6295	6462	7387
1.1/4	7307	8541	-	9228	9343	10882
1.1/2	9118	10554	-	11318	12066	-
1.3/4	13947	-	-	-	-	-
2	16367	18860	-	19883	20896	-
2.1/4	28309	-	-	-	-	-
2.1/2	40845	-	-	59617	60550	-
2.3/4	45584	-	-	-	-	-
3	52921	-	-	78002	78636	-
3.1/2	68875	-	-	102817	102993	-
4	86576	-	-	129603	132000	-

ITEM MARKED ★ ARE EX-STOCK ITEMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/- NETT OR MOQ OF 5 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

BSP(P), BSP(T), NPS NPT NPTS NPTF

A set consists of 2 Taps (Taper & Bottoming)

we can also supply BSP (P) Taps to new

BS 949:Part - III- 1982 (G Series) at the same rate as per order.

HSS HAND TAPS BA - BS : 949 : 1969 AND HSS NUT TAPS BA - BA : 949 :1969

PRICE (Rs) EACH

SIZE BA	PRICE (Rs) EACH		
	STRAIGHT FLUTES	SPIRAL POINT	NUT TAPS
0	423	529	863
1	423	529	863
2	359	481	749
3	359	481	749
4 ★	359	481	749
5	359	481	828
6	398	517	918

ITEM MARKED ★ ARE EX-STOCK ITEMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/- NETT OR MOQ OF 50 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS GROUND THREAD TAPS :
STANDARD HAND & SHORT MACHINE TAPS :
B.S.B.(BRITISH STANDARD BRASS) WHITWORTH FORM
B.S.CY.(BRITISH STANDARD CYCLE) 60° THREAD FORM
B.S. 949 - 1969

B. S. CY SIZE INCH	TPI	PRICE (Rs) EACH	
		STR. FLUTES	SPIRAL POINTED
3/16	32	404	494
1/4	26	436	504
5/16	26	544	620
3/8	26	661	756
7/16	26	830	997
1/2	26	1028	1199
9/16	26	1645	1818
1	24	3427	-
1.370	24	7244	-

B. S. B SIZE INCH	TPI	PRICE (Rs) EACH	
		STR. FLUTES	SPIRAL POINTED
1/4	26	424	497
5/16	26	560	640
3/8	26	640	734
7/16	26	849	1010
1/2	26	1046	1218
9/16	26	1632	1797
5/8	26	1632	-
3/4	26	2219	-
1	26	3415	-

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 15 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

HSS GROUND THREAD TAPS :
STANDARD HAND & SHORT MACHINE TAPS :
B.S. CON (BRITISH STANDARD CONDUIT) WHITWORTH FORM
B.S. : 949 --1969 (ZONE - 3)

B. S. CON SIZE INCH	TPI	PRICE (Rs) EACH	
		STR. FLUTES	SPIRAL POINTED
1/2	18	1098	1098
-	-	-	-
5/8	18	1679	-
3/4	16	2333	-
1	16	3638	-
1.1/4	16	5282	-
-	-	-	-
1.1/2	14	8448	-
2	14	14770	-

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NET OR 10 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

PRICES FOR LPG CYLINDER 3/4 NGT TAPS :		EACH (Rs.)
1. 3/4" - 14 NGT tap interrupted 5 flutes to our Drg.No. M22 - 531		5243
2. 3/4" - 14 NGT tap interrupted 5 flutes to our Drg.No. M22 - 574		5773
3. 3/4" - 14 NGT tap interrupted 5 flutes to our Drg.No. M22 - 535		5011
4. 3/4" - 14 NGT tap NON-interrupted 4 flutes to our Drg.No. M22 - 535		4008

PRICES FOR LPG CYLINDER BSGT TAPS :		EACH (Rs.)
0.715" x 14 TPI - BSGT Tap Interrupted 5 flutes to our Drg. No. SKT-012		5886
0.715" x 14 TPI -BSGT Tap NON-Interrupted 4 flutes to our Drg. No. SKT- 012		5135

IMPORTANT NOTE :

ALL NGT & BSGT TAPS ARE SUBJECT TO ORDER VALUE BEING MINIMUM OF Rs. 50,000/- NETT. OR 15 NOS. PER SIZE WHICHEVER IS HIGHER.

Prices for all TiN and TiAlN Taps will be given on specific request.

**HSS HAND TAPS BSW ,BSF,UNC,UNF AND
HSS NUT TAPS BS : 949 : 1969**

SIZE INCH	PRICE (Rs) EACH			
	STRAIGHT FLUTES	SPIRAL POINT	SPIRAL FLUTES	NUT TAPS
1/8	360	430		
3/16	360	442		776
1/4	374	449	523	880
5/16	423	524	579	1102
3/8	514	630	718	1453
7/16	658	811	943	1801
1/2	832	999	1152	2502
9/16	1205	1469	1772	2502
5/8	1205	1469	1772	3247
11/16				3409
3/4	1907	2283	2700	4008
7/8	2630	3168	3689	5490
1	3326	3843	4411	7140
1.1/8	4504			9614
1.1/4	5414			11917
1.3/8	6992			14182
1.1/2	8394			16994
1.5/8 (BSF ONLY)	9891			19127
1.3/4	11634			23906
2	16499			34069
2.1/4	24596			
2.1/2	32364			
2.3/4	40374			
3	54211			

ITEM MARKED ★ ARE EX-STOCK ITEMS ALL REMAINING ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF RS. 50,000/- NETT OR MOQ OF 50 NOS. PER SIZE. WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra

IMPORTANT NOTES :

A Set Consist of Taper, Second & Bottoming.

**HSS NIB TAPS (CORSE PITCH)
TO OUR STANDARD**

NOM DIA X PITCH	STRIGHT FLUTES PRICE (Rs.) EACH
M4x0.7	508
M5x0.8	544
M6x1.0	607
M8x1.25	634
M10x1.5	798
M12x1.75	935
M14x2.0	1623
M16x2.0	1623
M18x2.5	2673
M20x2.5	3574
1/8" BSW	543
5/32" BSW	555
3/16" BSW	555
1/4" BSW	566
5/16" BSW	634
3/8" BSW	798
7/16" BSW	1120
1/2" BSW	1120
9/16" BSW	1623
5/8" BSW	1623

ALL ABOVE ITEMS WILL ATTRACT MINIMUM ORDER VALUE OF Rs. 50,000/- NETT OR 25 NOS. PER SIZE WHICHEVER IS HIGHER.

For M35 = 40% & M42 = 80% extra



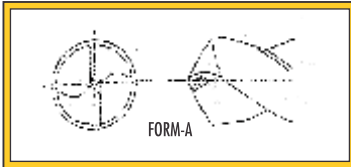
**HSS (M42) NINJA SERIES TAPS
TO IS : 6175 - PART - II & PART - III**

	NOM DIA X PITCH	IS 6175 - PART II & III				
		SPPT	Spiral	Cast Iron	Fluteless	Fluteless Oil Grooves
Bright / Steam Tempered	M3 X 0.5	793	890	660		
	M4 X 0.7	793	890	660		
	M5 X 0.8	829	939	696		
	M6 X 1.0	829	939	696		
	M8 X 1.25	693	1346	767		
	M10 X 1.25					
	M10 X 1.5	1146	1319	955		
	M12 X 1.75	1798	2075	1522		
	M14 X 1.5	2461	2825	2049		
	M14 X 2.0	2448	2794	2034		
	M16 X 1.5	3581	2817	2047		
	M16 X 2.0	2448	2794	2034		
	Tin- Coating	M3 X 0.5	871	978	722	
M4 X 0.7		871	978	722		
M5 X 0.8		909	1031	762		
M6 X 1.0		909	1031	762		
M8 X 1.25		1017	1162	843		
M10 X 1.25						
M10 X 1.5		1258	1445	1045		
M12 X 1.75		1969	2271	1668		
M14 X 1.5		2697	3215	2246		
M14 X 2.0		2682	3064	2231		
M16 X 1.5		2692	3407	2242		
M16 X 2.0		2682	3064	2231		
TiCN / Ti(A)N		M3 X 0.5	947	1066	784	
	M4 X 0.7	947	1066	784		
	M5 X 0.8	989	1121	827		
	M6 X 1.0	989	1121	827		
	M8 X 1.25	1106	1266	916		
	M10 X 1.25					
	M10 X 1.5	1364	1571	1137		
	M12 X 1.75	2142	2467	1812		
	M14 X 1.5	2930	3484	2439		
	M14 X 2.0	2915	3334	2423		
	M16 X 1.5	2926	3675	2437		
	M16 X 2.0	2915	3334	2423		

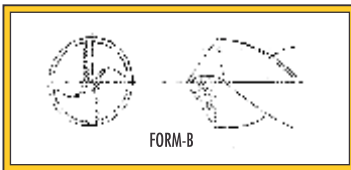
HSS PARALLEL SHANK END MILL IS : 6353

DIA (MM)	PANTHER PRICE (Rs.) EACH	NINJA PRICE (Rs.) EACH	IS : 6353 - 1991	
			CEL (MM)	OAL (MM)
3 ★	1049	1397	8 ★	40
4 ★	1049	1397	11 ★	43
5 ★	1049	1397	13 ★	47
6 ★	1171	1561	13 ★	57
7 ★	1317	1756	16 ★	60
8 ★	1317	1756	19 ★	63
9 ★	1317	1756	19 ★	69
10 ★	1317	1756	22 ★	72
11 ★	1317	1756	22 ★	79
12 ★	1360	1815	26 ★	83
14	1687	2249	26 ★	83
16 ★	1970	2627	32 ★	92
18 ★	2395	3194	32 ★	92
20 ★	2649	3532	38 ★	104
22 ★	3005	4007	38 ★	104
25 ★	3504	4673	45 ★	121
28	4988	6650	45	121
32 ★	5986	7982	53 ★	133
36	7883	10510	53	133

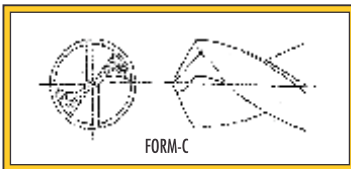
POINT ENHANCEMENT



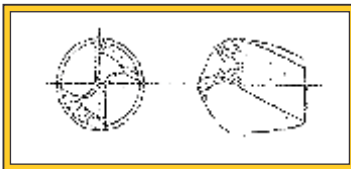
FORM A
Web thinning (thinned chisel)
Improves penetration
Ideal for long series



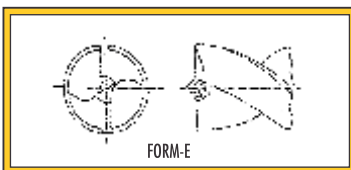
FORM B
Web thinned + Lips corrected
Optimized to heavy duty.
Ideal for deep hole drilling.



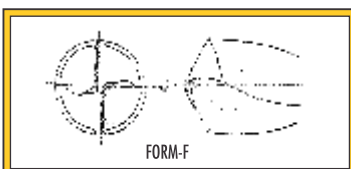
FORM C
Split point
Eases chip removal & penetration.
Ideal for crank shaft drilling.



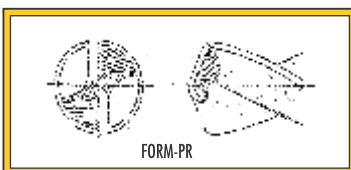
FORM D
Cast iron point
90 peripheral point + web thinning
Ideal for cast iron and abrasive plastics.



FORM E
Brad point
flat point + central drill
Ideal for sheet metal drilling.

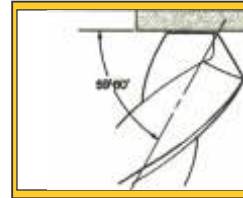


FORM 4F
Fusion of form A & B (Four faces)
A high performing point for long chips
Ideal for stainless & high nickel.



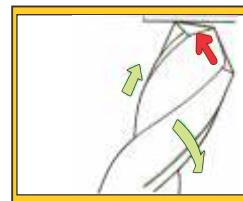
FORM R
Helical thinning
curls and breaks the chips.
Ideal for long chip type.

POINT GRINDING TECHNIQUES



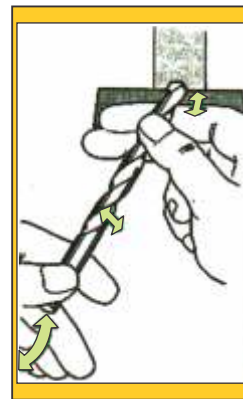
STEP - 1

Keep the cutting lip parallel to the grinding face
With an angle of 59° to the axis of drill body.



STEP - 2

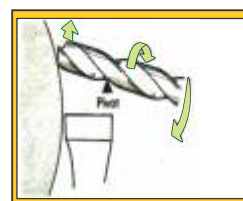
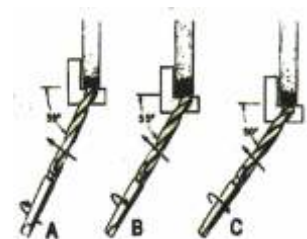
Start grinding from the lip down to heelside.
Simultaneously rotate the drill clockwise.



STEP - 3

Gradually co-ordinate these three movements :

- Clockwise rotation of the drill point.
- Downward movement of shank-end of drill.
- Left swing movement of the shank-end.
59° to 55° and 50° by the end of grinding.



← SIDE VIEW of the point grinding

ITM Quick Guidelines for drilling different materials

Material	Character	Point angle	Helix / Flute	Modification	Coolant	Speed	Feed	Remarks / Recommendations
Carbon & Alloy Steels	Normalised / Forged / Cast	118°	Standard	None	Soluble Oil	10 to 24	0.1 to 0.5	Feed range for 5 mm to 25 mm dia.
		126°				15 to 21		
Cast Iron	Grey / SG Iron / Malleable / Cast	90° / 118°	Standard	Web thinned	Compressed Air	24 to 30	0.1 to 0.5	Double point angle. Only carbide drills works on this.
		118°				15 to 21		
Manganese Steels	Tough	130°	Slow	Web thinned	Dry	3 to 3.5	0.04 to 0.1	Apply feed before contact No use of punch / no interruption.
		135°				6 to 12		
Stainless Steel	Austenitic / Martensitic	118°	Quick / Standard	Split / Web thin	Suff / CI Sol.Oil / Soluble Oil	6 to 12	0.15 to 0.6	Blued rigid / donot use punch. Feetrange for 5 mm to 25 mm dia.
		118°				12 to 18		
Monel metal	Work hardening	110° to 115°	Standard	Split	Soluble Oil	6 to 15	0.15 to 0.6	Use Thick web / Short / Rigid Drill
		110° to 115°				3 to 6		
High Nickel / Nimonic (rotary drill)	Soft / Hard	100° / 130°	Quick / Wide / as above	None	Soluble Oil	30 to 46	0.1 to 0.5	Point angle as per chip behaviour.
		130°				21 to 30		
Bronze / Brass	Cast & neval / yellow brass / Hard type	118°	Slow / Wide / Standard	Ground lip / None	Soluble Oil	30 to 60	0.1 to 0.5	Short chips / Lip grd. For large size. Continuous long chips type
		130°				21 to 30		
Magnesium & Alloys	Freecutting	118°	Standard	None	Soluble Oil	60 to 90	0.1 to 0.5	Dia cast alloys.
		130°				30 to 60		
Aluminium	Long chip / Short chip	130° / 100°	Quick / Standard	None	Paraffin / Lard Oil / Kerosene	30 to 60	0.1 to 0.5	Pure aluminium / Alloys and high silicon grades, W35.
		100°				21 to 30		
Titanium	Poor conductivity	118° to 140°	Web thinned	Copious Sol. Oil	None	4.5 to 9	0.05 to 0.3	Thick web / obtuse angle to larger.
		130° to 140°				6 to 45		
Plastics	Thermoplastics / Thermosetting	130° to 140° / 60° to 90°	Quick / Slow	None	Soap Soln. / Dry	6 to 45	0.2 to 0.5	Speed / Feed by material (PVC/CA) Powdery abrasive mat. (Bakelite)
		60° to 90°				27 to 45		
Granite / Concrete	Mesonary	Std.	Standard	None	Dry	21 to 30	0.2 to 0.5	Use Masonary Drills / Carbide Tip.
		Std.				21 to 30		

* Only popular material addressed in this chart, others may be related according to characteristics.

TROUBLE SHOOTING (DRILLS)

	PROBLEM	CAUSES	REMEDIES
1	Oversize hole	1. Unequal lip angles 2. Unequal lip lengths	Regrind drill point to correct angle with proper relief
2	Irregular & poor finish	1. Loose hold. 2. Chocking of chips 3. Excessive feed rate	Check the holder and run-out Increase the force & volume of coolant. Decrease the feed rate.
3	Bucking of the drill	Axial deflection of drill	Use correct guide bushes.
4	Chattering of drill	1. Hard/tough workpiece 2. Torsional deflection	Use a shorter drill with thick web to improper sturdiness
5	Breaking of the drill	1. Poor rigidity of fixture. 2. Improper speed and feed. 3. Insufficient chip removal 4. Excessive web-thickness	Use rigid fixture and chucks. Select speed and feed as per job. Remove the chips frequently Web thinning & proper point grinding.
6	Breakage in deep hole	1. Blockage of chips 2. Non-uniform back-taper 3. Runout on OD	Try wood-pecking system. Check back taper uniformity Check concentricity
7	Rubbing	1. Improper Point relief 2. Non-uniform back taper	Regrind drill-point with proper relief. Check for negative back-taper on body.
8	Burning / Land washes off	1. Insufficient coolant flow 2. Inappropriate coolant 3. Hard work-piece	Ensure proper coolant flow Use proper coolant recommended. Select the right drill suitable for job.
9	Splitting of drills	1. Axial play in spindle 2. Springy clamping of job 3. Excessive feed	Correct the spindle play. Ensure rigid clamping. Reduce the feed.
10	Tang breakage	1. Slipping chuck 2. Defect in inner surface of Morse taper	Modify the inner surface of the holder or change the holder.

TROUBLE SHOOTING (TAPS)

	PROBLEM	CAUSES	REMEDIES
1	Tap breakage	1. Incorrect tap 2. Incorrect chamfer symmetry 3. Small hole 4. Hits at bottom of hole 5. Tool hardness, geometry 6. Blunt tap	- Choose suitable type tap - Ensure proper centre align - Select proper hole size - Use slipping clutch / shorten - Check the hardness of job - Regrind the tap
2	Poor tap life chipping / wear	1. Surface hardening of hole 2. Chip congestion 3. Thread surface 4. Ineffective coolant supply 5. High cutting speed 6. Smaller hole size 7. Cold welding/irregular job micro	- Work hardening material, Lower speed - Check speed. Use alternate type - Ensure proper geometry - Improper the efficiency of coolant - Lower the existing speed - Refer the chart for correct hole size - Improper lubrication & speed
3	Larger Thread (Oversize cutting)	1. Incorrect type of tap 2. Smaller hole size 3. Improper alignment 4. Spindle restriction 5. Built up edges 6. High speed	- Use specified tap for application - Use the recommended hole size - Check the alignment & eccentricity - Check the spindle condition / run out - Improper lubrication - Lower the speed
4	Smaller thread (undersize cutting)	1. Incorrect tap selection 2. Inaccurate setup 3. Rigid spindle 4. Tolerance	- Check the correctness of tap used - Recheck the alignment - Ensure spindle movement smooth - Ensure geometrical tolerances
5	Bell mouth Hole	1. Incorrect starting pressure	- Use a sprindle with axial float
6	Unsatisfactory finish (Poor finish)	1. Blunt tap 2. Badly reground 3. Coolant improper quality / qty.	- Resharpen the tap. - Grind properly. - Use ample supply of right lubricant

SPEED & FEEDS FOR H.S.S. DRILLS

Work-Pieces Material	Cutting Speed in m/min	Drill Diameter mm								
		1	2	5	8	12	16			
Steel	30-35	f	0.05	0.12	0.2	0.25	0.3	0.4	0.5	
	*45 Kg mm2	f	12000	6000	2400	1500	1000	750	300	190
Steel	15-25	f	HAND	0.05	0.12	0.2	0.25	0.3	0.4	0.5
	*45-70 Kg mm2	f	HAND	10000	5000	2100	1300	850	640	410
Steel	8-15	f	HAND	0.04	0.1	0.15	0.2	0.25	0.3	0.4
	*above 70 Kg mm2	f	HAND	8000	4000	1600	995	680	500	318
Alloy Steel	20-30	f	HAND	0.06	0.1	0.15	0.2	0.25	0.3	0.3
	*above 100 Kg mm2	f	HAND	1840	735	455	305	230	145	90
Cast Iron	5-15	f	HAND	0.07	0.12	0.2	0.3	0.4	0.5	0.6
	*above 18 Kg mm2	f	HAND	8000	4000	1600	1000	660	500	320
Cast Iron	3-5	f	HAND	0.1	0.2	0.3	0.4	0.5	0.6	0.6
	*above 18-30 Kg mm2	f	HAND	1600	635	400	265	200	130	80
Mang Steel	6-12	f	HAND	0.05	0.08	0.1	0.1	0.15	0.2	0.2
	*above 15%	f	HAND	1300	650	255	160	110	80	50
Stainless Steel	80-100	f	HAND	0.05	0.1	0.12	0.15	0.2	0.2	0.3
	50-60	f	HAND	1400	570	360	240	180	110	70
Brass - Brittle	50-70	f	HAND	0.08	0.02	0.25	0.3	0.4	0.5	0.6
	50-70	f	HAND	8700	3500	2200	1500	1100	700	440
Copper & Zine alloy	80-120	f	HAND	0.04	0.14	0.18	0.22	0.25	0.3	0.45
	80-120	f	HAND	8000	3200	2000	1325	1000	650	400
Aluminium Long Chipfeed	120-160	f	HAND	0.05	0.14	0.2	0.25	0.3	0.4	0.45
	120-160	f	HAND	16000	6350	4000	2650	2000	1280	800
Aluminium Short Chipped	120-160	f	HAND	0.06	0.16	0.25	0.35	0.4	0.5	0.65
	120-160	n	HAND	19000	7600	4800	3200	2400	1520	1000

ENHANCEMENT (METALLURGICAL)

SURFACE TREATMENTS :

STEAM TEMPERING : Gives a strongly adhering blue oxide surface that acts to retain cutting fluid and prevent chips welding to cutting edges. More effective on drills and taps.

NITRIDING : This process can increase the surface wear resistance. Particularly useful on taps and drills used on abrasive material like cast iron and backlite.

SURFACE COATING :

TIN - TITANIUM NITRIDE : (GOLDEN COLOUR) :

Ceramic coating applied by physical vapour deposition (PVD) gives high hardness and low friction properties, improve the performance and considerably longer life to HSS tools. Mainly for drills and taps. Hardness : 2300 HV.

TIAN - TITANIUM ALUMINIUM NITRIDE : (VIOLET COLOUR)

Multi-layer PVD coating improves tool life substantially. Higher toughness and oxidation stability permits dry machining, Ideal for drills and taps used at higher speeds and feeds. (hardness : 3300 HV)

TICN - TITANIUM CARBO-NITRIDE : (BLUISH GREY)

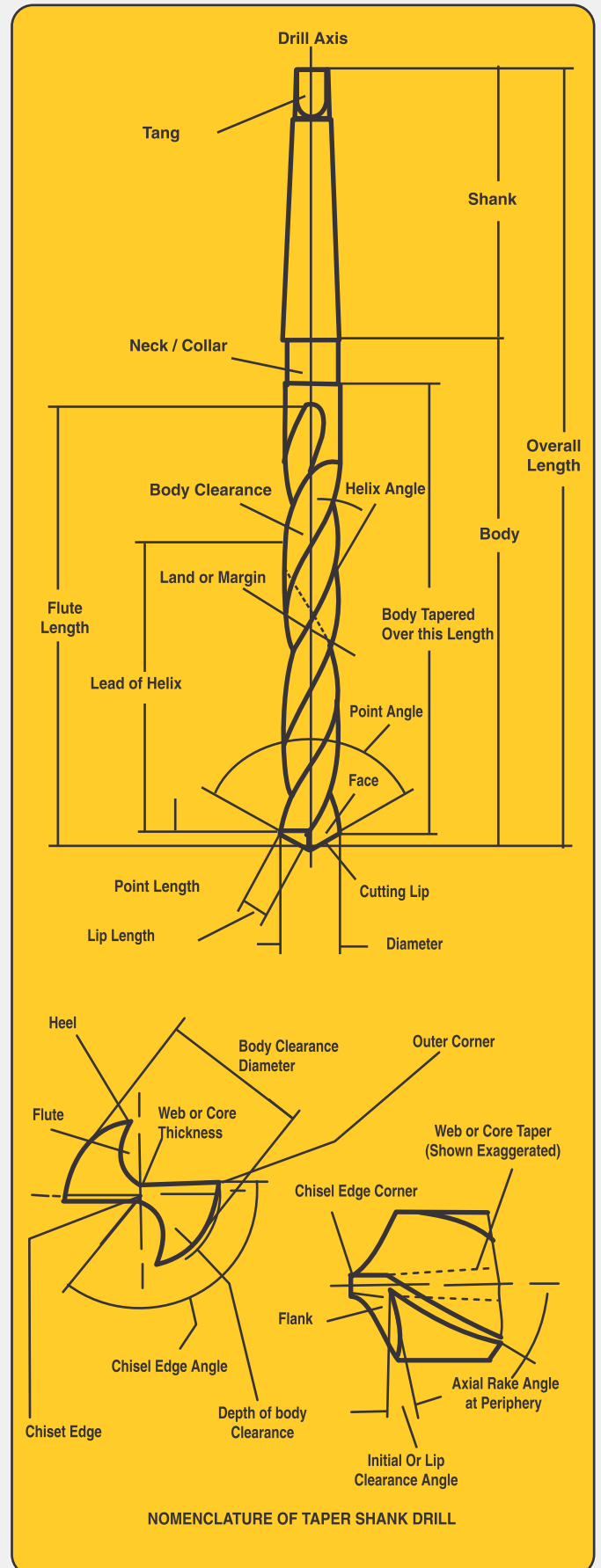
This coating is harder than TiN with lower coefficient of friction. Ideal for milling cutters. (hardness : 3000 HV) (other coatings : Titanium Diboride-TiB₂, Chromium nitride-CrN, Zirconium nitride-ZrN, Diamond like coat-DLC, Tungsten carbide - WC/C, Aluminium chromium nitride-AlCrN, Diamond coating - crystalline & multi layers)

THERMAL TREATMENTS :

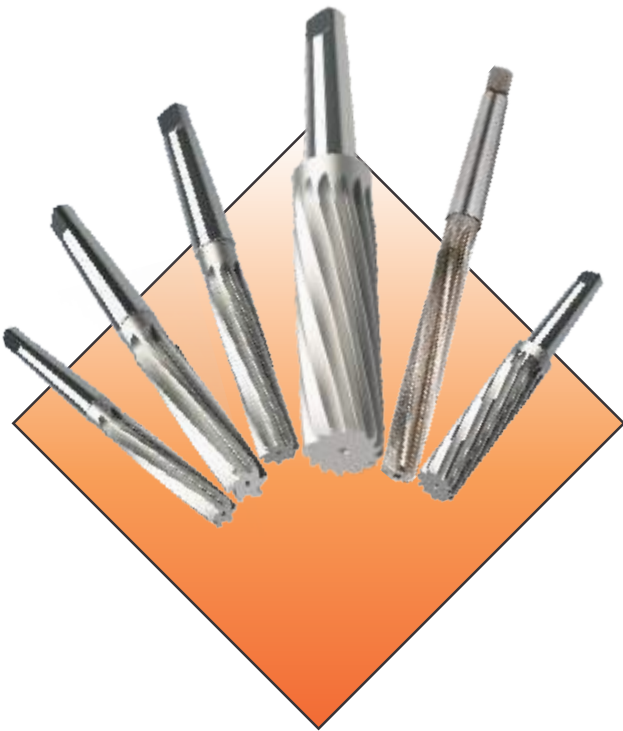
CRYOGENIC TEMPERING : Sub zero treatment of tools at very low temperatures (-190°C) using liquid nitrogen, enhances the properties in micro levels. This considerably improves the endurance and performance of tool

CHOICE OF HSS GRADES :

- M2 -Molybdenum grade - Popular for all general purpose-%6W:5Mo:2V (6:5:2)
 - M35 -5% Cobalt grade - For tougher application & RED hardness - %6W:5Mo:2V:5Co (6:5:2:5)
 - M42 -8% Cobalt grade - Better than M35 -%2W:10Mo:1V : 8Co (2:10:1:8)
 - T42 -10% Cobalt grade - For Tool Bits -%10W:4Mo:3V 10Co (10:4:3:10)
- (*Only popular grades addressed here)



HSS REAMERS



Available in a wide range of diameters and manufactured to suit specific reaming operations to provide perfect accuracy and optimum surface Finish.

RANGE :

Type : Parallel hand reamers, long fluted machine reamers, Chucking reamers with parallel shank or taper shank, Bridge reamers, Taper pin reamers, Socket reamers, Machine Jig reamers, Centre reamers, Shell reamers etc.

Size :

Range : 3.0mm - 76.2mm : 1/8" - 3"

Material : HSS-M2

Note : Reamers can also be supplied as per specific Customers needs as follows :

- Non standard and special as per Customers drawing.
- Intermediate diameters.
- In different grades of HSS like M35, M42 etc.
- Various surface coating like TiN, TiNAIN etc.



Birla Precision Technologies Ltd.

**INDIAN TOOL
MANUFACTURERS**
(DIVISION)

DAGGER BRAND[®]





Birla Precision Technologies Ltd.
**INDIAN TOOL
 MANUFACTURERS**
 (DIVISION)



QUALITY POLICY

We at ITM are committed to manufacture Quality Cutting Tools by continual improvements in process, by adapting our skills, knowledge, innovation & creativity and by implementation of quality systems through involvement of all employees.

We shall strive to achieve Customers' satisfaction through continual improvements in

TIMELY DELIVERY OF QUALITY PRODUCTS AND SERVICES."

VEDANT BIRLA

(Chairman & Managing Director)

Dealer