NIPHA®

QUALITY THAT'S WORLD CLASS

HARROW DISCS | PLOUGH DISCS | COULTER DISCS | SPECIAL DISCS

A GLOBAL BRAND, having
more than 5 decades of
a strong **customer focused approach** & a
continuous quest for **improvements in quality**.

ABOUT US

The foundation of NIPHA was laid in 1960 when its founder & chairman Mr. G.D. Shah started out with a modest machine shop. Today it is an exclusively family business run by three generations.

Standing by its Philosophy & tagline QUALITY THAT'S WORLD CLASS, NIPHA has been accredited as a premier Manufacturing Export House and has also received various National Awards for excellence in export performance since 1975. It is also attributed as a RDSO Class A Foundry by the government. **Today it is the largest exporter of tillage tools and wear parts in India.**

NIPHA's product offerings include agricultural tillage tools and wear parts, ferrous and non- ferrous castings, forged components, agricultural implements, jute weaving looms, cotton ginning and pressing machinery, gear boxes and thrust housings, and components for track work and locomotives. Engineering excellence is always the focus at NIPHA; all our manufacturing activities take place under close supervision of experts who ensure the delivery of highly precise, durable and specialized products. Technological product advancements through continuous R&D, internationally established warehouses and sales teams for after sales services, and turnkey projects are regularly provided to customers which sets NIPHA apart from the competition.

NIPHA exports to different regions in the world including the United States of America, Canada, Europe (UK, Ireland, Germany, CZ, Poland, Spain & France), New Zealand, Australia, Africa, South East Asia, as well as other Asian countries. Today, NIPHA has emerged as a reliable source for OEMs in India & abroad. It is an Indian organisation with an international mark of excellence. NIPHA has been awarded numerous projects and contracts by multilateral funding agencies and government bodies like the World Bank, African Development Bank, Myanmar Railways and Indian Railways.

At NIPHA Group it was never only business. The NIPHA group has a unique way of functioning. All the directors have served as heads of various industry chambers and banks like EXIM & IDBI Bank. They have been part of various task forces for the government, led The Engineering Export Promotion Council, former directors of Export Import Bank of India and Presidents of Bharat Chamber of Commerce and Merchant Chamber of Commerce & Industry. The project closest to the family's heart is the JB Shah Girls' (Post-graduate) College, founded by G. D. Shah's father in 1982. It is the first women's college in Jhunjhunu, Rajasthan. Set in a sprawling 10-acre campus, the group has faithfully nurtured this college with financial help through its Charitable Trust and also provided strategic support by being involved in key management decisions.

> "The spirit of NIPHA is not just limited to smooth operations and being big. I started with only a modest machine shop in 1960. **The forte of this organization lies in its people and the values it cherishes.** Never lose sight of these two."

MANUFACTURING FACILITIES

ROLLING MILL

- In-house Rolling Mill for production of cross-sections as per customer specific needs
- Capacity of 1500 tons/ month
- Quality assurance and quality control at every stage of production

FORGING UNIT

- Drop Hammer
- Screw Press & Mechanical Press
- Closed Die Forging
- Induction Heating

TILLAGE TOOL DIVISION

- Hydraulic and mechanical presses ranging from 10 MT to 500 MT
- In-house heat treatment with oil and polymer quenching
- Bell Type and Conveyorized Tempering Furnaces
- Automatic Conveyorized shot Blasting and Powder Coating Plant
- VMCs, CNCs, SPMs on site
- Automatic Straightening Machines

FERROUS & NON FERROUS FOUNDRY

- Capacity of 6,000 tons a year
- Conveyorized Lines
- Ductile Iron (SGI)
- Aluminium Alloy and Copper Based Alloys
- Steel & Cast Iron
- Machine Moulding and Hand Moulding
- Ultrasonic Testing

NIPHA

DISC PLANT

- New greenfield factory (SOP Q1 2017)
- Located in SEZ with favorable export condition
- Annual capacity of 5000 MT or 280000 discs

THE PROCESS

Sheet Rolling

↓

Shearing

↓

Straightening

↓

Press Operation

↓

Forming, Heat Treatment

↓

Automatic Powder Coating

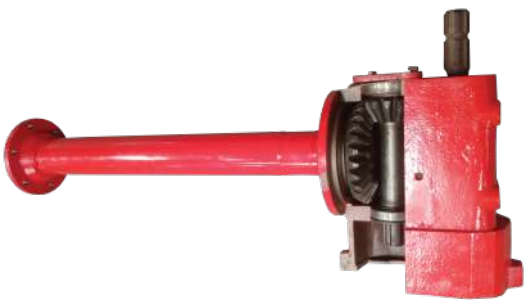
MACHINING DIVISIONS

- CNCs and VMCs for machining
- SPMs for welding and fabrication
- CMM to ensure error-free and accurate dimension

ASSEMBLY AND MACHINE BUILDING

- Jute Loom Machines
- Agricultural Implements such as Rotovators and Threshers
- Cotton Ginning Machines
- Gearboxes and Thrust Housing

GEARBOX DIVISION



- Gearboxes for Agricultural Machinery
- Gearboxes for Power Switching

NIPHA

STATE OF THE ART DISC MANUFACTURING FACILITY

SUITABLE FOR PLOUGHS, HARROWS & SEEDING MACHINES

Boron Steel (28MnB5 , 30MnB5) with 80% soluble boron to increase durability, reduce wear and tear and provide longer disc life.

Cross-Rolled sheets to provide uniform grain structure for longer life

Custom-design CNC machines to give uniform bevel

Highly controlled processes to monitor quality at each station

Uniform temperature maintained in every disc through conveyorized roller hearth furnace

Quench Pressed to ensure no deformation, uniform hardness and quality

5000 MT Annual capacity of 5000MT

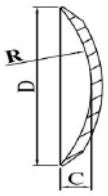
Automated conveyorized finishing line to ensure aesthetically superior product

Strict quality control on incoming raw material for chemical and physical properties

Quality tests include ball test, hardness test and flexibility test, among others.

Hardness of 50 +/- 2 HRC maintained with the use of an automated control heat treated system

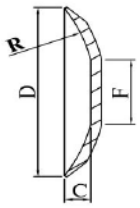
FULL CONCAVE DISC



CONCAVITY FEATURE

Sl. No.	DIE		0407	2342	2304	2305	2306	0740	1524
	R (mm)		407 ± 5	498 ± 8	600.5 ± 10	625.5 ± 10	685.5 ± 10	740 ± 10	1524 ± 20
	D (mm)		C (mm)	C (mm)	C (mm)	C (mm)	C (mm)	C (mm)	C (mm)
1	12”	305	29	24					
2	13”	330	35	28					
3	14”	356	41	33	27	26	23	22	
4	15”	380	47	37	31	29	27	25	
5	16”	405	54	43	35	34	30	28	
6	18”	460	71	56	46	44	40	37	
7	20”	510		70	57	54	49	45	21
8	22”	560		89	69	66	60	55	26
9	24”	610		104	83	79	71	66	31
10	26”	660		124	98	94	84	77	36
11	28”	710		148	116	110	99	90	42
12	30”	760			135	128	114	105	48
13	32”	810			156	148	132	120	55

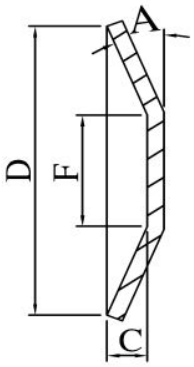
FLAT CENTER DISC



CONCAVITY FEATURE

Sl. No.	DIE		2304	2305		2306		0740	1524
	R (mm)		600.5 ± 10	625.5 ± 10		685.5 ± 10		740 ± 10	1524 ± 20
	D (mm)		150 ± 2	130 ± 2	150 ± 2	160 ± 2	170 ± 2	229 ± 1	152.4 ± 2
1	14”	356	29	22	21	19	18		
2	15”	380	35	26	25	22	21		
3	16”	405	41	30	29	26	25		
4	18”	460	47	40	39	35	34	28	
5	20”	510	54	51	49	44	44	36	
6	22”	560	71	62	61	55	54	46	24
7	24”	610		76	47	67	66	57	29
8	26”	660		90	89	80	79	68	34
9	28“	710		107	105	94	93	81	40
10	30”	760		125	123	110	109	96	46
11	32”	810		145	143	127	127	111	53
12	32”	810			156	148	132	120	55

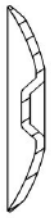
FLAT CENTER DISC



CONCAVITY FEATURE

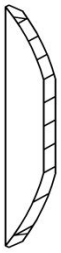
Sl. No.	DIE		1611
	A°		10.72
	R (mm)		110
	D (mm)		C (mm)
1	12”	317MM (ID)	19.6

FLAT CENTER HOLLOW DISC



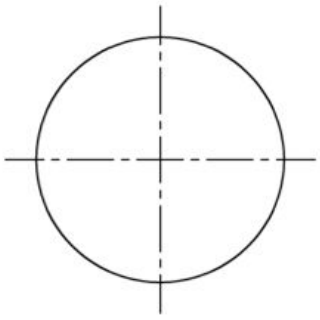
COULTER DISC

SPECIAL MINI NOTCHED DISC

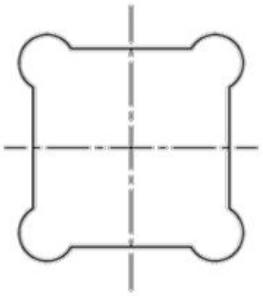


SPECIAL MULTI HOLE PLAIN DISC

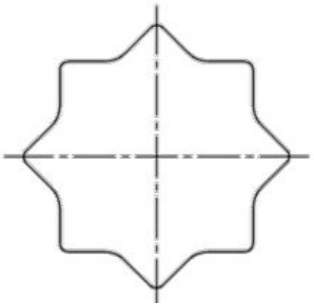
TYPES OF CENTER HOLE



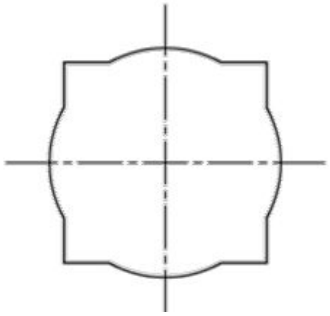
A. ROUND



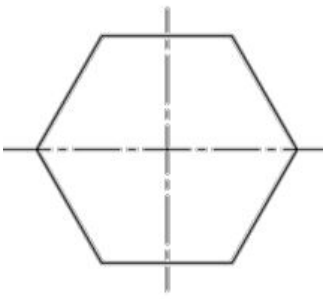
B. SQUARE



C. DOUBLE-SQ



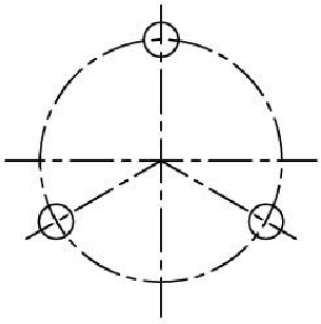
D. ROUND-SQ



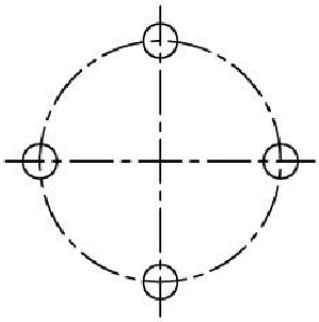
E. HEXAGONAL

TYPES OF FITMENT HOLE

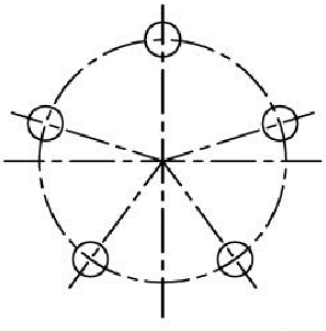
Round Fitment Hole



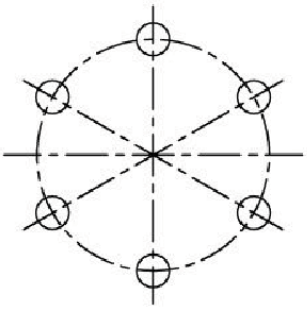
3 Nos.
Fitment Hole



4 Nos.
Fitment Hole

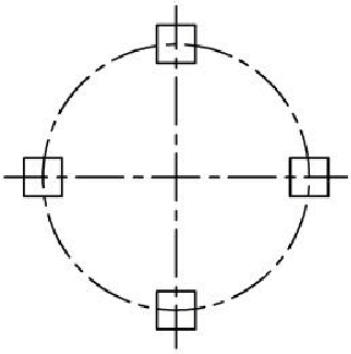


5 Nos.
Fitment Hole

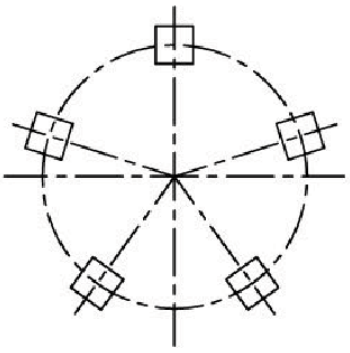


6 Nos.
Fitment Hole

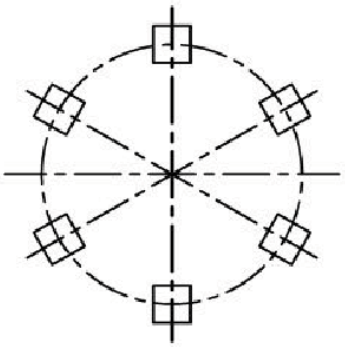
Square Fitment Hole



4 Nos.
Fitment Hole



5 Nos.
Fitment Hole



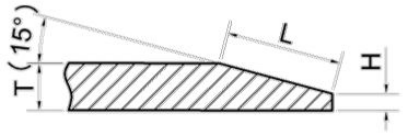
6 Nos.
Fitment Hole

DISC BEVELS

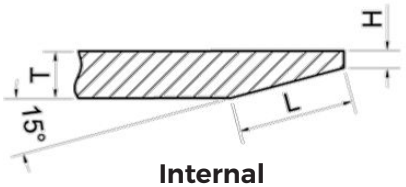
Both the notches and bevels play an important role in current working conditions. NIPHA designs the edges to be able to cut the stubble and penetrate well into the ground. An extremely sharpened edge can be cracked and broken, but an overly dull one will not penetrate into the ground or suitably cut the stubble.

EXTERNAL-INTERNAL SINGLE BEVEL

T (mm)	L (mm)	H (mm)
3	6.5	1.1
3.5	8	1.2
4	9	1.4
4.5	10.5	1.5
5	11	1.8
6	15	2.2



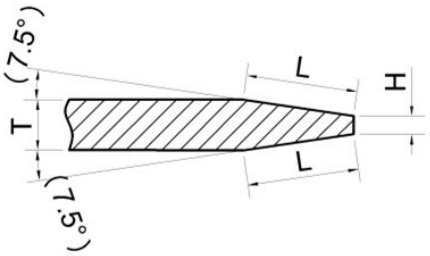
External



Internal

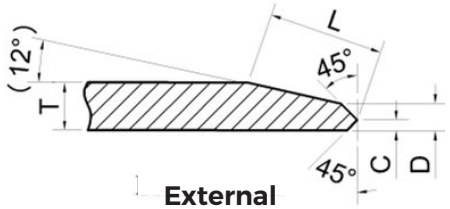
DOUBLE BEVEL

T (mm)	L (mm)	H (mm)
4	9	1.4
5	11	1.8
6	15	2.2



EXTERNAL - INTERNAL DOUBLE EDGE SHARP BEVEL

T (mm)	L (mm)	H (mm)	D (mm)
3	7	0.7	1.7
3.5	8	0.8	2
4	10	0.9	2.2
4.5	11	1	2.5
5	12	1.1	2.8
6	14	1.3	3.3
7	16	1.6	3.9
8	18	1.8	4.4



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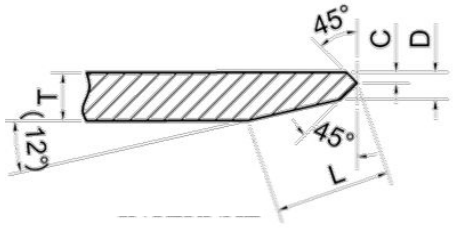
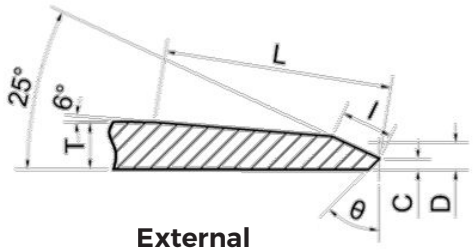


Internal

INTERNAL-EXTERNAL DOUBLE ANGLE BEVEL

T (mm)	L (mm)	I (mm)	θ	C (mm)	D (mm)
4	20	4.5	0°	1	2.8
4.5	23	5		1.1	3.2
5	24	5.5		1.2	3.5
6	25	6.5		1.3	4.3
7	26.5	8	45°	1.5	5
8	28	8.5		2.25	5.7



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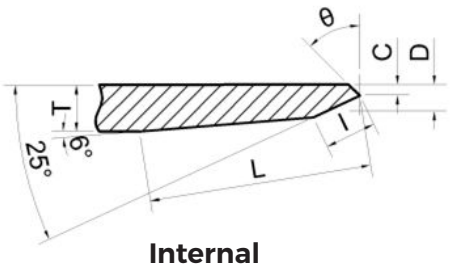
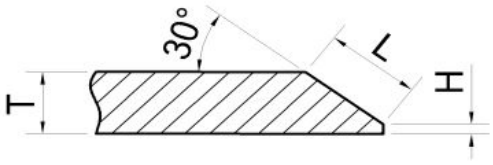


Internal

EXTERNAL BEVEL 30°

T (mm)	L (mm)	H (mm)
3	4	1
3.5	5	
4	6	
4.5	7	
5	8	
6	10	
7	11	1.5
8	13	



STANDARD DISC NOTCHES

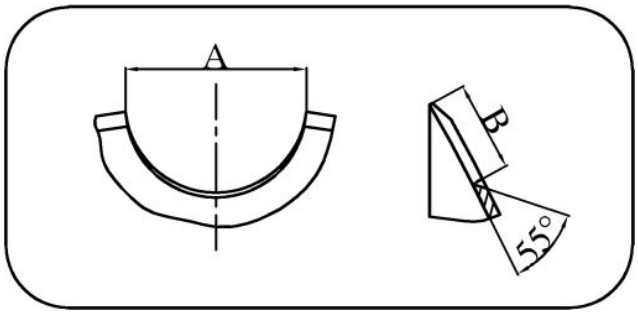
STANDARD DISC DIAMETER & NO. OF NOTCHES

DISC DIA.	14”	16”	18”	20”	22”	24”	26”	28”	30”	32”
NO. OF NOTCHES	7	8	9	10	11	12	13	14	14	15

STANDARD NOTCH

DISC DIAMETER					
14”	16”	18”	20”	22”	24”

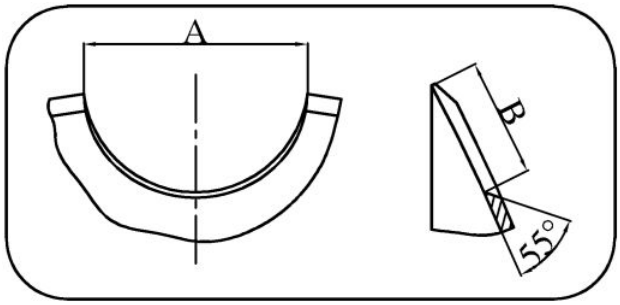
Sl. No.	A (mm)	B (mm)
1	70	20
2	75	25
3	80	30
4	85	40
5	90	45



LARGE NOTCH

DISC DIAMETER						
20”	22”	24”	26”	28”	30”	32”

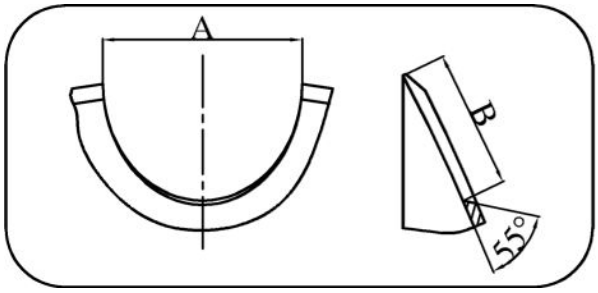
Sl. No.	A (mm)	B (mm)
1	85	25
2	90	30
3	95	41.5



EXTRA LARGE NOTCH

DISC DIAMETER						
20”	22”	24”	26”	28”	30”	32”

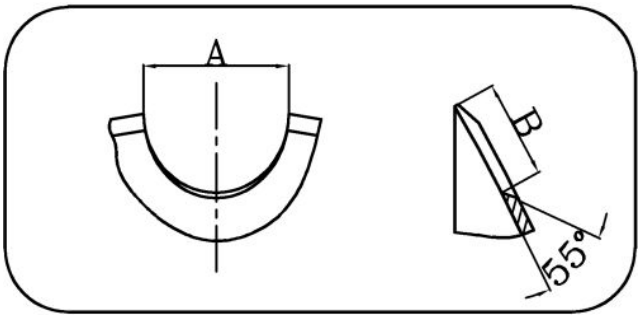
Sl. No.	A (mm)	B (mm)
1	80	40
2	85	50
3	90	55
4	95	60



SMALL NOTCH

DISC DIAMETER			
20”	22”	24”	26”

Sl. No.	A (mm)	B (mm)
1	55	25
2	60	30
3	65	35
4	70	40

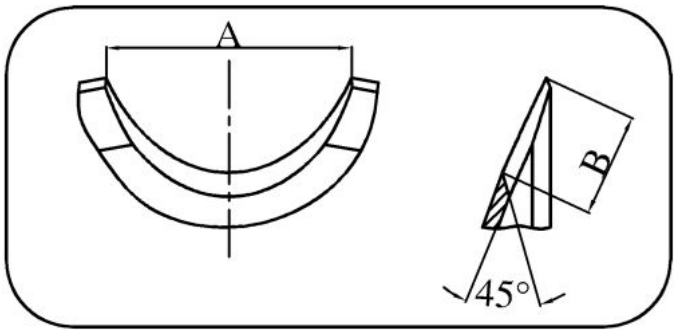


SPECIAL DISC NOTCHES

SPECIAL ANGLE - NOTCH

DISC DIAMETER					
22”	24”	26”	28”	30”	32”

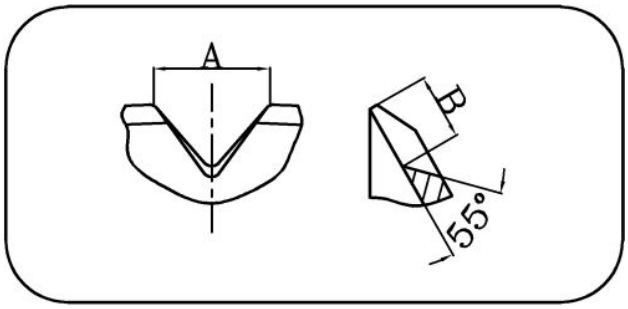
Sl. No.	A (mm)	B (mm)
1	85	25
2	90	35
3	95	47



V-NOTCH

DISC DIAMETER				
16”	18”	20”	22”	24”

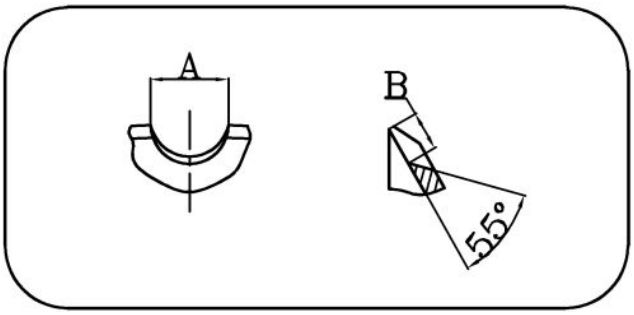
Sl. No.	A (mm)	B (mm)
1	40	20
2	50	25
3	55	30
4	65	35



MINI NOTCH

DISC DIAMETER				
14”	16”	18”	20”	22”

Sl. No.	A (mm)	B (mm)
1	20	10



No. of Notches for “MINI NOTCH” = 15-20

DISC WEIGHT RANGE

PLAIN DISC

Diameter		Thickness (mm)	Weight (kg)
(inch)	(mm)		
12”	305	3	1.7
12”	305	3.5	2
12”	305	4	2.3
13”	330	3	2.1
13”	330	3.5	2.4
13”	330	4	2.8
14”	356	3	2.4
14”	356	3.5	2.8
14”	356	4	3.2
16”	405	3	3.1
16”	405	3.5	3.6
16”	405	4	4.1
16”	405	4.5	4.5
18”	460	3	3.9
18”	460	3.5	4.6
18”	460	4	5.2
18”	460	4.5	5.8
18”	460	5	6.4
20”	510	3.5	5.7
20”	510	4	6.5
20”	510	4.5	7.3
20”	510	5	8
20”	510	6	9.5
22”	560	4	7.9
22”	560	4.5	8.9
22”	560	5	9.8
22”	560	6	11.7
24”	610	4	9.5
24”	610	4.5	10.7
24”	610	5	11.8
24”	610	6	14.1
26”	660	5	14.1
26”	660	6	16.8
26”	660	8	22
28”	710	6	19.8
28”	710	8	25.8
30”	760	8	29.3
32”	810	8	34.7

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Diameter		Thickness (mm)	Weight (kg)
(inch)	(mm)		
12”	305	3	1.5
12”	305	3.5	1.8
12”	305	4	2
13”	330	3	1.9
13”	330	3.5	2.2
13”	330	4	2.5
14”	356	3	2.2
14”	356	3.5	2.6
14”	356	4	2.9
16”	405	3	2.7
16”	405	3.5	3.1
16”	405	4	3.6
16”	405	4.5	4
18”	460	3	3.4
18”	460	3.5	3.9
18”	460	4	4.5
18”	460	4.5	5.1
18”	460	5	5.6
20”	510	3.5	5.1
20”	510	4	5.7
20”	510	4.5	6.4
20”	510	5	7.1
20”	510	6	8.4
22”	560	4	7
22”	560	4.5	7.8
22”	560	5	8.7
22”	560	6	10.4
24”	610	4	8.5
24”	610	4.5	9.5
24”	610	5	10.5
24”	610	6	12.5
26”	660	5	11.7
26”	660	6	13.9
26”	660	8	22
28”	710	6	16.7
28”	710	8	21.1
30”	760	8	25.9
32”	810	8	31.1

*Approximate Weight

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48, Ganga Jamuna, 28/1, Shakespeare Sarani, Kolkata 700 017, India .

nipha@niphaindia.com

+ 91 33 4021 4300

www.niphaindia.com