

Weekly Publication of



Cotton  
Association  
of India

# COTTON STATISTICS & NEWS

Edited & Published by Amar Singh

2023-24 • No. 30 • 24<sup>th</sup> October, 2023 Published every Tuesday

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## Textile Design - Principles and Applications

Part - 1

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The term textile is derived from the Latin word 'textilis' or French word, 'texere' to 'weave' and was used for woven clothes, yarns, cords, braids. The word design took its place when William Morrison, pioneer of the art and crafts movement in Britain elucidated the concept of Industrial design. Later he switched over to textiles and the concept of textile design was born in the 18th century.

Textile design or textile geometry is the creative and technical process of weaving fibres or yarns interlaced with each other to create a functional, flexible or decorative cloth or fabric which is either printed or otherwise adorned. Textile design is further broken into three major methods viz., Printed textile design, Woven textile design and Mixed media textile design, each of which use different methods to create surface ornamented for various use and fetch diverse markets. Textile design as a practice is linked to other disciplines viz., fashion interior

### EXPERT'S Column



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design and fine arts. It is a process of planning and management to create a fabric's appearance and structure.

Textile designers suggest the appropriate threads to weave together for a specific look. They dream up of designs that can be woven or knitted on fabric or cloth.

The design is an arrangement of colour, line, shape on paper. The exquisite forms created are embedded on surfaces to furnish a decorative look to the product. There are different types of designs viz., industrial design, graphic design and textile design.

We would be discussing here the methods and design management in fabric or cloth construction.

### Methods of Textile Design

#### Printed Textile Design:

Printing is a process by which textile fabrics are decorated using pigments, dyes and blocks. This is a popular medium of textile design. There are many established and enduring styles of designs in printing. These are grouped into four categories viz., floral, geometric, world cultures and conversational.

Anything design featuring flowers, plants or nature is considered floral; geometric or tessellations are synthetic and conceptual. Designs depicting world civilizations can be traced back to their geography, ethnic and anthropological origins. Finally, conversational pertains to imagery inferring reflections of specific time or period or which is original. There are a wide variety of distinct styles and designs within each of these groups.

Surface - embellished fabrics for diverse consumer markets are created through various applications viz., resist printing, letterpress printing, rotogravure, screen printing, transfer printing and digital printing. All these printing methods use different ink and dyes for creating aesthetic sense in the fabric, with frequently repeated patterns, motifs and styles. Textile designers also work in interior design sector (wall papers, carpets, ceramics), clothing and textiles industry, paper making industries (designing stationary paper and gift wrap).

Different fabrics need different dyes - silk and wool need acidic dyes while synthetic fibres require specialised dispersion dyes.

Each subfield of textile design has emerged with the advent of Computer Aided Design (CAD) like Adobe and Illustrator. But CAD has had the greatest impact on printed textile design. The tools have made the creation of designs quicker and easier for recurring patterns or patterns.

Floral or organic motifs, for example are created by uninterrupted repeats ideally unnoticeable whereas geometric designs represent apparent deliberate patterns. Additionally, digital tools help improve the patterns to avoid 'tracking' in which the eye is unconsciously pulled to the textiles which expose the discontinuities in textile and reveal its pattern. Together these methods and the emergence of digital Inkjet printing are making printing more scalable, efficient and environment friendly.

### Printing Methods Used in Different Applications

There are five basic printing methods viz., block, roller, screen, heat transfer and inkjet. The following methods are based on any of the above mentioned five basic principles.

**1. Block Printing:** Blocks of wood or assembly of thin metal stripes with a design is printed on the fabric. Different designs with different colours



are printed to create a pattern. This method has been practised since time immemorial. It is used in small scale cottage. Hence it is not suitable for high volume printing in textile industries.

**2. Perrotine Printing:** The Perrotine is a block -printing machine invented by Louis Jerome Perrot (1798 in Senlis and 1878 in Paris ) and is the only known mechanical device introduced for this purpose. This type of printing was not successful in England and most of the block printing methods have been replaced greatly by roller printers. This method uses three blocks with three different colour sieves and troughs,



imparting three different colours to the fabric. In block -printing, any number of colours with designs can be used and a repetition of patterns result in complex designs.

**3. Engraved Roller Printing:** This is a continuous process in which a heavy copper cylinder is engraved with the printed design and electroplated with chrome for its durability. It is also known as roller printing, machine printing or intaglio printing. It was invented by Thomas Graham Bell at the end of the 18th century. One engraved cylinder is required for each colour. Thus, roller printing is useful in printing large batches but is now facing stiff competition from rotary printing. This is the only mechanised device which is on a decline, covering lesser percentage in usage.



**Resist Printing:**

Here the fabric is first printed with a design using a chemical which resists the dye. The chemistry of dyeing leaves the fabric white in colour or of lesser colour than the base colour in the printed areas. One of the advantages in this method is any dye can be used for colour fastness.



**4. Relief Printing:** This is a family of printing methods wherein a printing block, mate and a matrix is treated with ink on the non - recessed surface on paper. The non - recessed area will leave ink on paper while the recessed area will not.

**5. Rotogravure:** This is a form of Intaglio printing wherein image is engraved on another imagery carrier. In gravure printing, the image is engraved onto a cylinder because, like offset printing and flexography, it uses a rotary printing press. The rotogravure process is used for commercial printing of magazines, postcards, card boards ( corrugated ), commercial products, packaging and other products inclusive of textiles.

**6. Screen Printing:** This is a technique of printing in which a woven mesh is used to support the stencil. The attached stencil is created to form open areas of the mesh so that the ink travels through the mesh and closed areas, blocking the transfer of ink below the substrate. The ink is placed on the upper side of the screen



mesh and a squeegee is used to move the ink across the screen and allow the ink to flow through so that it gets deposited on the substrate. The ink is then cured either by dry air or heat or both, so that the ink adheres to the substrate to form a semi- permanent or a permanent bond.

**Flat Screen Printing:** As the name suggests, Flat screening method uses a rectangular screen for printing. A woven mesh made of either polyester or polyamide is stretched on a wooden frame made of wood and nowadays of metal alloy which is light in weight and increasingly durable. About 23 percent of the textile printing is done by flat screen printing.

**Rotary Screen Printing:** This method uses cylindrical screens as opposed to flat screens. Again, separate screens are required for each colour of design to be printed. Many complex designs application require many colours. This printing method has a capacity of upto 20 screens. The screens rotate in contact with the substrate and the print paste is fed from inside the screen. The paste is forced out from inside of the screen by means of a metal squeegee blade. Worldwide 61 percentage of textile fabrics employ this method.

**7. Transfer Printing:** This involves sublimation of thermally stable dyes from a coloured design on a paper at high temperature followed by absorption of dye vapours by the synthetic fibres in the fabric. The paper is pressed on the fabric so that dye transfer occurs without any distortion of the pattern. This type of vapour printing was used in 1960s to print the fabrics made of synthetic fibres. Transfer printing and other related processes require that the design is first printed on a cheaper non flexible substrate like paper and then transferred to more expensive fabrics ensuring cost effectiveness.

**6. Discharge Printing:**

This is a method wherein the design is applied on the coloured fabric and printed with colour destroying agent, chloride or hydrosulphite, to bleach out the colour to white to get a light coloured pattern on the dark coloured background.



**8. Warp Printing:** This is a fabric technology which combines printing and weaving to produce a distinctly patterned unique fabric, usually silk. The warp threads of the fabric are printed before weaving to create a softly-blurred pastel coloured pattern. This method was usually used in the 17th century in France.

**9. Photographic Printing:** The fabric is treated with light - reactive solution. A negative is placed on the fabric. Light is transmitted and colour is developed. After stabilisation, the fabric is thoroughly washed and dried. The print is permanent on the fabric, as good as a photo. White or black or colour design can be used for printing. Printing a photo on a fabric is a simpler idea of creating unique patterns for knitted or woven fabrics. No special skills are required for creating exciting and personalised fabric. However, added efforts of using a camera and graphic paper are needed.

**10. Electrostatic Printing:** A plate with electro static charge (to attract powdered dyes and ink ) are placed behind the fabric and the stencil of the design is to be placed between the fabric and powdered ink, so that the powder supply is applied on the correct area.

A dye resin mixture is spread on a screen bearing the design and the fabric is passed on to the electrostatic field under the screen. The dye resin mixture is pulled by the electrostatic field through the pattern on to the fabric. The electric charge brings friction with a high resolution, creating multiple complex designs on fabrics.

**11. Pigment Printing:** Here, pigments are used instead of dyes. The pigments do not penetrate the fibre but gets affixed on the surface by means of synthetic resins which are cured after application to make them insoluble. The pigments are insoluble and the colours are fast and bright.



**12. Inkjet -Printing:** This is one of the most advanced modern printing of textile fabrics. This can be used commercially for textile

printing. There has been considerable interest in the technology surrounding non - impact surrounding, mainly for the graphic market. The reduction of time to making an original design to the final production has enhanced its usage in commercial textiles and carpet making.

**13. Carpet Printing:** Printing of carpets



came into prominence with the introduction of tufted carpets in the 1950s. Until then the market was dominated

with woven Wilton carpets and Axminster design was established. By the 1980s, the tufted carpet production accounted for 80 percent of the tufted carpet production in UK. Most tufted carpets are printed with tufting machines since limited designs are available.

**14. Jet Spray Printing:** This is a non - contact application of printing originally used for printing carpets. Now it is being increasingly used in the textile sector. Designs are imparted to fabrics by spraying colours in a controlled manner through a nozzle on the fabric.

**15. Blotch Printing:** This is a method in which the background colour is printed on the fabric rather than dyed. This is a direct type printing wherein one side is printed and the reverse side remains white. In this case both the background colour and design are printed in one operation. Any type of methods like block, roller, screen can be deployed. The background is transferred from the cylinder while the motifs retain the original hue on the cloth.

**16. Non -Fabric Printing:** Printing techniques can be used in pre- textiles stages of textile production viz., printing on sliver yarns or warp beams creating irregular patterns.

**17. Burn -Out Printing:** Here a raised design is

made on a sheer background . The design is applied with a special chemical on the





fabric woven with pairs of threads of different fibres. one of the fibres is located destroyed by chemical action. Burn out printing is quite often used on velvet and the result is known as burn-out design.

**18. Flock Printing:** This is a technique where small fibre particles called 'Flock' are fixed on the adhesive layer by electrostatic field which also orients the fibres perpendicular to the fabric creating a velvet-like surface. Many types of material can be fixed on the adhesives like finely chopped thin plastics to create a glitter effect or using metal film on the adhesive for making a metallic surface .

**19. Direct Printing:** In this method, colours of the desired designs are directly printed on the white or dyed cloth as distinguished from discharge printing or resist printing.

**20. Duplex Printing:** This is a method of printing the pattern on the face and the backside of the fabric with equal clarity. This is done either through cylinders by using printing machine in two strokes or by Duplex printing machine in one stroke.



**21. Stencil Printing:** Here, the design is first cut in with a sharp pointed knife on cardboard, wood or a metal. The stencils may have fine delicate designs or large spaces through which colours pass through into the fabric, while the uncut portion would not be coloured. The stencil is kept on the surface to be printed and a brush is used to colour through the interstices.

**22. Two - Phase Printing:** Here, the pattern setting and dyeing processes have been separated into two stages. For example, after printing the reactive dye and intermediate drying, the dye is fixed through continuous process through padding in alkaline solution. Similarly, vat dyes can be printed and fixed with reducing agents.

**23. All- Over Printing:** This is a special type of printing technology which allows the designs to be repeated to create a pattern of continuity. Mostly this method is used for printing denim shirts, woven garments, pants, gowns, etc.

**24. Space Dyeing:** This is a method of printing yarns by jet spray of colours. Space dyeing machines have 64 jets and eight colours can be accommodated. There is no repetition of designs when these yarns are woven or knitted and results in a special unique effect.

**25. Kalamkari:** This is an exquisite ancient art of painted and printed fabrics practiced since ages. Here, the painting on the fabrics is done by using a pen with the help of dyes and mordants.



The printing is done on the outline. Filling the painting with a pen (kalam) and printing on the outline is Kalamkari. Here both painting printing is combined to give a unique effect.

**26. Batik Printing:** In this process, wax is printed on the fabric to form a resist. During dyeing of the fabric, the waxy layer cracks and cracks appear with the dye, giving a characteristic appearance to the fabric.



**27. Tie-Dyeing:** Firm knots are tied in the cloth before immersing in the dye. The outside portion of the immersed fabric is dyed but colour does not pass through the tied knots.. There are various type of dyeing. Ikat dyeing wherein warps/ weft yarns are dyed before weaving. In plangi dyeing, the gathered, folded cloth are stretched for stitching to create a special pattern.

*(To be continued ....)*

*(The views expressed in this column are of the author and not that of Cotton Association of India)*

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## TEXPROCIL Celebrates 69th Foundation Day

The Cotton Textiles Export Promotion Council (TEXPROCIL) also known globally as the first Export Promotion Council set up in independent India in 1954, celebrated its 69th Foundation Day by organising a commemorative function at its head office in Mumbai on 4th October 2023. This included a webinar on Kasturi Cotton program held in hybrid format during which eminent speakers from the cotton fraternity led the discussions with more than 250 participants joining online from across India.

The welcome address by Shri. Sunil Patwari, Chairman, TEXPROCIL, was followed by a keynote address by Shri. Lalit K. Gupta, Chairman, Cotton Corporation of India. Shri. Suresh Kotak, Chairman, Textile Advisory Group gave a special address congratulating the



Council for the yeomen services to the trade and industry during the last seven decades.

Dr. Siddhartha Rajagopal, Executive Director, TEXPROCIL made a brief presentation in virtual mode on the Kasturi Cotton program.

This was followed by a round table with experts moderated by Shri. K.K. Lalpuria, Executive Director & CEO, Indo Count Industries

**Online WEBINAR**  
**04** OCTOBER **2023**  
**03.15 PM**

**INTERACTION ON KASTURI COTTON Program**

An initiative by: **TEXPROCIL**  
 THE COTTON TEXTILES EXPORT PROMOTION COUNCIL  
 (Sponsored by Government of India)  
 www.texprocil.org

**AGENDA FOR THE MEETING**

- > Introduction to 'Kasturi Cotton'
  - Unveiling the Program
- > Panel Discussion with Experts
  - Query Solving / Opinion
  - > Q&A Session
  - Find solution to your queries

For any further assistance about the Webinar, kindly write to us on email: [kasturi@texprocil.org](mailto:kasturi@texprocil.org)

**Speakers:**

- Shri Sunil Patwari, Chairman, TEXPROCIL
- Shri Lalit K. Gupta, Chairman, CCI
- Shri Suresh Kotak, Chairman, TAG
- Shri J. D. Burman, Director, Textiles Committee
- Shri Dharmendra Goyal, Director, Shreedhar Cotsyn
- Shri KK Lalpuria, Director & CEO, Indo Count
- Dr. M. K. Sharma, Director & CEO, Bajaj Steel
- Dr. Pradeep Mandhyan, CEO, Cotton (T&R), CAI
- Shri B S Rajpal, Director, Manjeet Cotton
- Dr. Siddhartha Rajagopal, ED, TEXPROCIL

Ltd. and Chairman of Madeups Subcommittee of TEXPROCIL.

The panel of industry experts that featured in the round table included Shri. Bhupendra Singh Rajpal, Director, Manjeet Cotton Pvt. Ltd.; Shri. Jayadratha Dev Barman, Director, Textile Committee; Dr. Pradeep Mandhyan, Chief Executive Officer, Cotton Testing and Research, Cotton Association of India; Dr. M.K.



Sharma, Whole-Time Director & CEO, Bajaj Steel Industries Ltd (BSIL); and Shri. Dharmendra Goyal, Director, Shreedhar Cotsyn Pvt. Ltd.

The discussions were followed by Q&A session in which all the queries from the participants were answered by the panel of experts. The event concluded with a vote of thanks by Dr. Siddhartha Rajagopal, Executive Director, TEXPROCIL.



UPCOUNTRY SPOT RATES								(Rs./Qtl)					
Standard Descriptions with Basic Grade & Staple in Millimetres based on Upper Half Mean Length [ By law 66 (A) (a) (4) ]								Spot Rate (Upcountry) 2022-23 Crop October 2023					
Sr. No.	Growth	Grade Standard	Grade	Staple	Micronaire	Gravimetric Trash	Strength /GPT	16th	17th	18th	19th	20th	21st
1	P/H/R 22mm	ICS-101	Fine	Below	5.0 – 7.0	4%	15	-	-	-	-	-	-
2	P/H/R (SG) 22mm	ICS-201	Fine	Below	5.0 – 7.0	4.5%	15	-	-	-	-	-	-
3	GUJ	ICS-102	Fine	22mm	4.0 – 6.0	13%	20	13357 (47500)	13357 (47500)	13301 (47300)	13273 (47200)	13273 (47200)	13273 (47200)
4	KAR	ICS-103	Fine	22mm	4.5 – 6.0	6%	21	14201 (50500)	14201 (50500)	14144 (50300)	14144 (50300)	14144 (50300)	14144 (50300)
5	M/M (P)	ICS-104	Fine	23mm	4.5 – 7.0	4%	22	15269 (54300)	15269 (54300)	15213 (54100)	15213 (54100)	15213 (54100)	15213 (54100)
6	P/H/R(U) (SG)	ICS-202	Fine	27mm	3.5 – 4.9	4.5%	26	-	-	-	-	-	-
7	M/M(P)/ SA/TL	ICS-105	Fine	26mm	3.0 – 3.4	4%	25	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)
8	P/H/R(U)	ICS-105	Fine	27mm	3.5 – 4.9	4%	26	-	-	-	-	-	-
9	M/M(P)/ SA/TL/G	ICS-105	Fine	27mm	3.0 – 3.4	4%	25	14594 (51900)	14538 (51700)	14454 (51400)	14397 (51200)	14397 (51200)	14341 (51000)
10	M/M(P)/ SA/TL	ICS-105	Fine	27mm	3.5 – 4.9	3.5%	26	15353 (54600)	15325 (54500)	15213 (54100)	15157 (53900)	15157 (53900)	15044 (53500)
11	P/H/R(U)	ICS-105	Fine	28mm	3.5 – 4.9	4%	27	-	-	-	-	-	-
12	M/M(P)	ICS-105	Fine	28mm	3.7 – 4.5	3.5%	27	15916 (56600)	15888 (56500)	15775 (56100)	15775 (56100)	15775 (56100)	15719 (55900)
13	SA/TL/K	ICS-105	Fine	28mm	3.7 – 4.5	3.5%	27	15860 (56400)	15832 (56300)	15719 (55900)	15719 (55900)	15719 (55900)	15663 (55700)
14	GUJ	ICS-105	Fine	28mm	3.7 – 4.5	3%	27	16253 (57800)	16169 (57500)	16028 (57000)	16028 (57000)	16028 (57000)	15944 (56700)
15	R(L)	ICS-105	Fine	29mm	3.7 – 4.5	3.5%	28	-	-	-	-	-	-
16	M/M(P)	ICS-105	Fine	29mm	3.7 – 4.5	3.5%	28	-	-	-	-	-	-
17	SA/TL/K	ICS-105	Fine	29mm	3.7 – 4.5	3%	28	-	-	-	-	-	-
18	GUJ	ICS-105	Fine	29mm	3.7 – 4.5	3%	28	-	-	-	-	-	-
19	M/M(P)	ICS-105	Fine	30mm	3.7 – 4.5	3.5%	29	-	-	-	-	-	-
20	SA/TL/K/O	ICS-105	Fine	30mm	3.7 – 4.5	3%	29	-	-	-	-	-	-
21	M/M(P)	ICS-105	Fine	31mm	3.7 – 4.5	3%	30	-	-	-	-	-	-
22	SA/TL/ K / TN/O	ICS-105	Fine	31mm	3.7 – 4.5	3%	30	-	-	-	-	-	-
23	SA/TL/K/ TN/O	ICS-106	Fine	32mm	3.5 – 4.2	3%	31	-	-	-	-	-	-
24	M/M(P)	ICS-107	Fine	34mm	2.8 - 3.7	4%	33	20528 (73000)	20528 (73000)	20387 (72500)	20387 (72500)	20387 (72500)	20387 (72500)
25	K/TN	ICS-107	Fine	34mm	2.8 - 3.7	3.5%	34	20809 (74000)	20809 (74000)	20668 (73500)	20668 (73500)	20668 (73500)	20668 (73500)
26	M/M(P)	ICS-107	Fine	35mm	2.8 - 3.7	4%	35	20809 (74000)	20809 (74000)	20668 (73500)	20668 (73500)	20668 (73500)	20668 (73500)
27	K/TN	ICS-107	Fine	35mm	2.8 - 3.7	3.5%	35	21090 (75000)	21090 (75000)	20949 (74500)	20949 (74500)	20949 (74500)	20949 (74500)

(Note: Figures in bracket indicate prices in Rs./Candy)

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Sr. No.	Growth	Grade Standard	Grade	Staple	Micronaire	Gravimetric Trash	Strength /GPT	16th	17th	18th	19th	20th	21st
1	P/H/R 22mm	ICS-101	Fine	Below	5.0 – 7.0	4%	15	14763 (52500)	14763 (52500)	14622 (52000)	14566 (51800)	14566 (51800)	14566 (51800)
2	P/H/R (SG) 22mm	ICS-201	Fine	Below	5.0 – 7.0	4.5%	15	14904 (53000)	14904 (53000)	14763 (52500)	14707 (52300)	14707 (52300)	14707 (52300)
3	GUJ	ICS-102	Fine	22mm	4.0 – 6.0	13%	20	-	-	-	-	-	-
4	KAR	ICS-103	Fine	22mm	4.5 – 6.0	6%	21	-	-	-	-	-	-
5	M/M (P)	ICS-104	Fine	23mm	4.5 – 7.0	4%	22	-	-	-	-	-	-
6	P/H/R (U) (SG)	ICS-202	Fine	27mm	3.5 – 4.9	4.5%	26	15353 (54600)	15269 (54300)	15129 (53800)	14988 (53300)	14904 (53000)	14847 (52800)
7	M/M(P)/ SA/TL	ICS-105	Fine	26mm	3.0 – 3.4	4%	25	-	-	-	-	-	-
8	P/H/R(U)	ICS-105	Fine	27mm	3.5 – 4.9	4%	26	15550 (55300)	15466 (55000)	15325 (54500)	15185 (54000)	15100 (53700)	15044 (53500)
9	M/M(P)/ SA/TL/G	ICS-105	Fine	27mm	3.0 – 3.4	4%	25	-	-	-	-	-	-
10	M/M(P)/ SA/TL	ICS-105	Fine	27mm	3.5 – 4.9	3.5%	26	-	-	-	-	-	-
11	P/H/R(U)	ICS-105	Fine	28mm	3.5 – 4.9	4%	27	15747 (56000)	15663 (55700)	15522 (55200)	15438 (54900)	15353 (54600)	15241 (54200)
12	M/M(P)	ICS-105	Fine	28mm	3.7 – 4.5	3.5%	27	-	-	-	-	-	-
13	SA/TL/K	ICS-105	Fine	28mm	3.7 – 4.5	3.5%	27	-	-	-	-	-	-
14	GUJ	ICS-105	Fine	28mm	3.7 – 4.5	3%	27	-	-	-	-	-	-
15	R(L)	ICS-105	Fine	29mm	3.7 – 4.5	3.5%	28	16141 (57400)	16085 (57200)	15944 (56700)	15803 (56200)	15803 (56200)	15747 (56000)
16	M/M(P)	ICS-105	Fine	29mm	3.7 – 4.5	3.5%	28	16422 (58400)	16394 (58300)	16253 (57800)	16225 (57700)	16197 (57600)	16085 (57200)
17	SA/TL/K	ICS-105	Fine	29mm	3.7 – 4.5	3%	28	16338 (58100)	16310 (58000)	16169 (57500)	16141 (57400)	16113 (57300)	16000 (56900)
18	GUJ	ICS-105	Fine	29mm	3.7 – 4.5	3%	28	16478 (58600)	16422 (58400)	16281 (57900)	16253 (57800)	16253 (57800)	16169 (57500)
19	M/M(P)	ICS-105	Fine	30mm	3.7 – 4.5	3.5%	29	16591 (59000)	16591 (59000)	16478 (58600)	16478 (58600)	16450 (58500)	16366 (58200)
20	SA/TL/K/O	ICS-105	Fine	30mm	3.7 – 4.5	3%	29	16506 (58700)	16506 (58700)	16394 (58300)	16394 (58300)	16366 (58200)	16281 (57900)
21	M/M(P)	ICS-105	Fine	31mm	3.7 – 4.5	3%	30	16759 (59600)	16759 (59600)	16647 (59200)	16647 (59200)	16619 (59100)	16535 (58800)
22	SA/TL/ K / TN/O	ICS-105	Fine	31mm	3.7 – 4.5	3%	30	16703 (59400)	16703 (59400)	16591 (59000)	16591 (59000)	16563 (58900)	16478 (58600)
23	SA/TL/K/ TN/O	ICS-106	Fine	32mm	3.5 – 4.2	3%	31	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)
24	M/M(P)	ICS-107	Fine	34mm	2.8 - 3.7	4%	33	-	-	-	-	-	-
25	K/TN	ICS-107	Fine	34mm	2.8 - 3.7	3.5%	34	-	-	-	-	-	-
26	M/M(P)	ICS-107	Fine	35mm	2.8 - 3.7	4%	35	-	-	-	-	-	-
27	K/TN	ICS-107	Fine	35mm	2.8 - 3.7	3.5%	35	-	-	-	-	-	-

(Note: Figures in bracket indicate prices in Rs./Candy)