

QRs/Specifications of "T-Shirt Half Sleeves Round Neck Disruptive Pattern"

1. **Applicability**- These specifications relate to the manufacturing details of the T-Shirt Half Sleeves Round Neck Disruptive Pattern (Regular & Green Pattern)

2. Salient Features:

The salient features of the garment are: **Polyester T-Shirt**

3. Materials

The materials used in the manufacture and packing of the T-Shirt shall conform to the following Standard Specifications:

The T-Shirt shall be manufactured out of well and evenly single jersey knitted fabric. The constructional details of the fabric are as given under. The knitted fabric shall not be overloaded or pulled in length while calendaring.

S/N	Specifications	Specification/Parameter Proposed to be changed (No change to be written if no change proposed)	Test Method*
1.	Fibre Identification / Composition Except Neck For Neck (On Dry mass basis)	92 % Performance Polyester 8 % Lycra (Spandex)	AATCC 20:2011 and AATCC 20A:2012 IS 667/AATC-20 AATCC-20-A/IS:3416
2.	Yarn	Four span yarn	
3.	Seam Strength Wales wise Course wise.	250 N(Min) 175 N(Min)	
4.	Dimensional Stability	+ -2% (Both directions)	IS 2977-1989 IS 2977 : 1989 (RA 2020)/ ISO 6330 : 2021
5.	Fabric Weight	180±5 %	IS 1964 : 2001
6.	Colour fastness to Rubbing	Dry: 4 or better Wet: 4 or better	IS 766-1988 IS/ISO 105-X12:2001 RA 2016
7.	Colour fastness to light	4 or better	IS 2454 : 1985

S/N	Specifications	Specification/Parameter Proposed to be changed (No change to be written if no change proposed)	Test Method*
8.	Colour fastness to washing	4 or better	IS/ISO 105 C 10 D (4): 2006 IS/ISO 105 C 10:2006 RA 2017 Test A (1)
9.	Colour fastness to perspiration	4 or better	IS 971 : 1983 ISO 971:1983/ IS/ ISO 105 E04: 2008 RA 2019
10.	Stretch and Recovery test	20–40% crosswise stretch and moderate recover	ASTM D2594
11.	Spirality after one Wash	+4% Maximum	IS/ISO 16322-1: 2005 (Washing as per ISO 6330-2A at 60C followed by flat dry)
12.	Banned Azo Colorants	No Banned Azo Colorants	IS 15570 : 2005
13.	pH value of aqueous extract (Cold method)	6.0 - 8.5	IS 1390 : 1983 IS : 1390 2022
14.	Count per yarn, Ne	50 Denier	IS:3442-1980 IS 3442-1981 RA 2018
15.	Wales per Inch, Course per Inch,	No Change	Visual ASTM D 8007 – 15 (2019)
16.	Type of Knit	Single Jersey (Plain / Circular Knit)	Visual
17.	RET (Resistance to Evaporative Heat Transfer) (Breathability)	<3.5 m ² Pa/W or less	ISO 11092 – 2014 IS 17376-2020 / IS 17416:2018
18.	Thermal conductivity	0.3 W/mk or more	ASTM D 1518-14
19.	Anti-fungal	No fungal growth	AATCC 30 (Part III) - 2017

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20.	Anti-bacterial	Minimum Log 3 (99.9 %) reduction in Bacteria	JIS L 1902 : 2015/ ISO 20743
21.	Anti-viral	Minimum Antiviral Activity of 2 Mv (>99% inactivation rate)	ISO 18184
22.	Drying Rate	1 ml/hr or more	AATCC 201
23.	UV Protection	UPF 50 (98% blockage of UV-A and UVB radiation) or more	AATCC 183
24.	Absorbency	3 sec (Max)	AATCC-79
25.	Wicking	Time taken to reach 22 mm: 15 sec (Max)	AATCC-197
26.	Piling resistance	4 or better	IS 10971 (Part 1) 2011 RA 2017
27.	Bursting Strength N/cm ²	100+-10	IS 1966 (Part-I) 2009 RA 2018/ ISO: 13938-1 (Hydraulic Method)
28.	Moisture Vapour Transmission	Avg - 2800 g/m ² /day or more	ASTM E96/E96M:2016 (Water Method) Temp. (32+- 2)C, RH: (50+-2)% (Upright Method) Air velocity = 0.5-2.5 m/sec

4. **Design:** The T-Shirt shall be Round neck disruptive pattern (Regular & Green Pattern)

Portion to be stitched	Type of stitch	Thread in the Needles	Thread in the loopers
Round Neck- (Crew Neck) T-Shirt and armholes	Overlock & Flat Lock Stitches	80/120	80/120
Note: Ticket No.80/120 Spun Polyester are used in the needles and loopers.			

5. **Manufacture and Workmanship/Operation:**

S.No.	Operation	Stitch Code	Needle Size	Thread Size	Machine Used
1.	Front & Back Shoulder Joining	514	11-Ball Point	80/120	Four Thread Overlock Machines
2.	Sleeve Joining	514	11-Ball Point	80/120	Four Thread Overlock Machines
3.	Side Seam Joining	514	11-Ball Point	80/120	Four Thread Overlock Machines
4.	Neck Rib Joining	514	11-Ball Point	80/120	Four Thread Overlock Machines
5.	Top Stitch on Neck Rib	406	11-Ball Point	80/120	Two Needles Flat Lock Machines with needle gauge 4mm
6.	Sleeve & Bottom Hemming	406	11-Ball Point	80/120	Two Needles Flat Lock Machines with needle gauge 8mm

Note: The number of stitches shall not be less than 12 stitches per inches

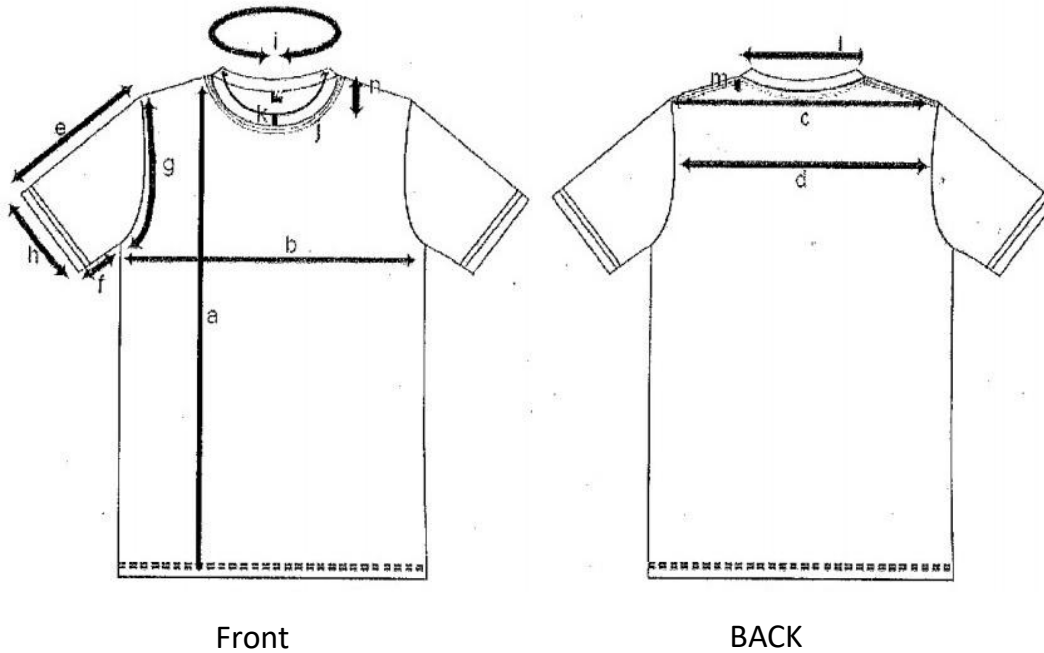
6. Shape and dimensions

The T-Shirt shall conform to the requirement given in (Annexure-A)

7. Packaging

S. no.	Materials	Dimension
1.	Re-Cycle Card-Board 300 gsm	26 cm x 22 cm
2.	Transparent Polybag (Printed on bag: Kindly dispose after used)	35 cm x 27 cm
3.	Plastic Packing Clip (U Shape)	4.0 cm x 7 cm x 3 cm
4.	Paper Strip/Fabric Ribbon strip	If required
5.	Wash Care Label, Stamp-Ink on Center Back Neck	Standard Size 3 cm x 4 cm

T-SHIRT DESIGN



Front

BACK

Size Specification of T-Shirt (half sleeves round neck)							
Sl. No.	Size	Size in inches					Tolerance
		S	M	L	XL	XXL	
a	length from (HSP)	28.5	29	29.5	30	31	±0.5
b	chest width round	40	42	44	46	48	±1.0
C	shoulder seam to seam	17.5	18	18.5	19	19.5	±0.25
d	across back 4" down from center back	16.5	17	17.5	18	18.5	±0.25
e	sleeve length	8.5	9	9.5	10	10.5	±0.25
f	inseam length	4	4.5	5	5.5	6	±0.25
g	arm hole curve round	19	20	21	22	23	±0.25
h	sleeve opening (round)	14	14	14.5	15	15.5	±0.25
	neck rib round	17.5	18	18.5	19	19.5	±0.25
	neck round on seam	23	23.5	24	24.5	25	±0.25
k	neck rib height					1	
	neck width shoulder seam to shoulder seam	7.75	8	8.25	8.5	8.75	±0.15
m	back neck drop	1/8	11/8	11/8	11/8	1/8	
n	front neck drop	3	3	3	3	3	±0.15