# TECHNICAL PROCUREMENT SPECIFICATION (TPS)

### **FOR**

## **OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS**

### **FOR**

PACKING BHARAT NPK 20:20:0:13

## FACT UDYOGAMANDAL COMPLEX

## **KOCHI**

## **INDIA**

TPS No.UCTS/TPS/2022-12 R0



UCTS/TPS/2022-12 R0

TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 20:20:0:13

PAGE 1 of 5

No	Description	Details
1.0	INSIDE DIMENSIONS	915 MM X 610 MM
1.1	TOLERANCE	+ 30 MM, -0.00 (-NIL ON BOTH WIDTH AND LENGTH.)
2.0	CAPACITY	50 KGS.
3.0	BAG WEIGHT	
3.1	WEIGHT OF INDIVIDUAL BAG	130 GMS. TOLERANCE ± 3%
3.2	WEIGHT OF A BALE (350 BAGS)	45.5 KGS. (NET WT.)  TOLERANCE +3%/- 0.00% (No negative tolerance)
4.0	BREAKING STRENGTH	TESTING OF BREAKING STRENGTH SHALL BE DONE USING RAVELLED STRIP METHOD (CONSTANT RATE OF TRAVERSE) AND THE RATE OF TRAVERSE SHALL BE 300 MM/MINUTE.
4.1	i) WIDTHWISE ii) WIDTHWISE (Lamination Joint)	91.8 KGF 91.8 KGF
4.2	LENGTHWISE	91.8 KGF
4.3	BOTTOM SEAM	40.8 KGF
5.0	DROP TEST	THE DROP TEST SHALL BE CARRIED OUT FOR EACH LOT SUPPLIED BY THE BAG SUPPLIER. FOR THIS TEST 4 nos. BAGS SHALL BE RANDOMLY SELECTED FROM EACH LOT. ALL BAGS SHALL BE SUBJECTED TO DROP TEST FROM A HEIGHT OF 3 MTRS FROM BOTH SIDES (4 DROP PER BAG). BAGS DURING DROP TEST WILL DROPPED ON THE STOMACH. NO BAGS SHOULD RUPTURE WHEN SUBJECTED TO MINIMUM 04 NOS. DROPS.
6.0	FABRIC	BAGS MADE OUT OF SINGLE PIECE OF LAMINATED PP FABRIC WOVEN ON CIRCULAR LOOM AS PER IS 9755. ANY MIDDLE SEWN OR JOINTED BAGS WILL NOT BE ACCEPTABLE. THE FABRIC USED SHALL BE FREE FROM ALL MAJOR WEAVING DEFECTS LIKE GAPS, PICK POINTS, MISSING TAPES ETC. PP GRANULE

0	24/11/22	ENQUIRY	SUJITH	NIBU	JAISON
REV. NO.	DATE	STATUS	PREP'D	CHECKED	APPR'D



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### OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 20:20:0:13

PAGE 2 of 5

8.0	BAG MOUTH	NEATLY SCISSOR CUT. EDGES SHOULD NOT BE ROUGH
7.0	LAMINATION	FABRIC SHALL BE LAMINATED OUTSIDE WITH PP GRANULES (GRADE H350EG/H350FG OR EQUIVALENT) 23 GMS/M2(CORRESPONDING TO 100 GUAGE NOMINAL) WITH AN OVERLAP/OVERHANG OF 5- 15MM. VIRGIN PP GRANULES SHALL BE USED AND THE LAMINATION SHALL BE FREE FROM PIN HOLES, PATCHES, BLISTERS, TEARS ETC. THE LAMINATION SHOULD COVER THE ENTIRE OUTSIDE AREA OF THE FABRIC USED. COLOR OF LAMINATION OF BAGS SHALL BE TRANSPARENT
6.5.3	TOLERANCE	RANGE: 15 to 25 % ON BOTH WIDTHWISE & LENGTHWISE.
6.5.2	WIDTHWISE	20%
6.5.1	LENGTHWISE	20%
6.5	ELONGATION AT BREAK OF FABRIC	(5.0 CM X 20 CM STRIP METHOD)
6.4	PICKS PER DM	40. TOLERANCE ± 2
6.3	ENDS PER DM	40. TOLERANCE ± 2
6.2	MESH	10 x 10 PER SQ. INCH.
6.1	TAPE	MONOAXIALLY ORIENTED PP TAPES HAVING 1000 DENIER AND MINIMUM WIDTH OF2.5MM. THE FABRIC SHALL BE WOVEN FROM PP TAPES <b>CONFORMING TO IS: 11197.</b> THE ELONGATION OF TAPES WHILE TESTING BREAKINGSTRENGTH SHALL BE IN THE RANGE OF 15 to 25%. TOLERANCE FOR DENIER: ±10% DENIER.
		FOR FABRIC & UV MASTER BATCH- Grade H030SG OR  EQUIVALENT. MIN 3% of 20% UV MASTER BATCH TO BE USED  AND THE PP WOVEN FABRIC OF SACK SHALL BE MADE OUT OF  UV STABILISED MATERIAL AND SHALL HAVE AT LEAST 50% OF  ORGINAL BREAKING STRENGTH WHEN TESTED AFTER THE  SAME HAS BEEN EXPOSED TO UV RADIATION AND WEATHERING  AS PER METHOD GIVEN IN ANNEXURE-D OF IS 9755 /2016.  FABRIC COLOUR- LIGHT BLUE (HEX CODE: ADD8E6).

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OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 20:20:0:13

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9.0	BRANDING/PRINTING	MULTI COLOUR, SINGLE SIDE AS PER MONOGRAM SPECIFIED BY FACT. THE FOLLOWING INK (FERTILISER GRADE) SHALL BE USED: HINDUSTAN INK BY HINDUSTAN INKS AND RESINS LTD., DAMAN.OR VARSHA INK OF VARSHA PRINTING INK MFG. CO., NAGPUR. SHADE OF THE BRANDING SHALL BE UNIFORM AND MATCHING FACT'S REQUIREMENTS.
	THE INK USED SHOULD HAVE SCRATCH RESISTANT AIDS, GLOSSY, HIGH TECH/POLYAMIDE QUALITY, ALKALI RESISTANT, SMUDGE FREE, BRIGHT IN COLOR, SHOULD NOT SMEAR IN CONTACT WITH WATER AND SHOULD NOT AFFECT THE FABRIC. ART WORK WILL BE PROVIDED BY FACT. PRINTING QUALITY SHALL BE CORONA TREATED SCUFF RESISTANT/VERY SHARP PRINT,NAIL PROOF/TAPE PROOF & EVEN COLORS THROUGHOUT THE LOT(PREFERABLY POLYAMIDE) ON ROLL TO ROLL PRINTING MACHINE. 3 SAMPLES OF THE BAGS OF THE REQUIRED COLOUR AS PER FACT REQUIREMENT SHALL BE SUBMITTED BEFORE STARTING BULK MANUFACTURING OF BAGS.ALL THE SAMPLES WILL BE SIGNED AND APPROVED SAMPLE WILL BE RETURNED WITH SIGNATURE OF THE AUTHORIZED REPRESENTATIVE OF FACT. ANY LOT SUPPLIED, IF FOUND DEVIATING IN COLOUR AS COMPARED TO APPROVED COLOUR WILL NOT BE ACCEPTED.  EACH SACK SHALL BE COMPULSORILY MARKED WITH VISIBLE RECYCLING LOGO (PP) AS SHOWN IN IS 9755:2016, IN THE BOTTOM OF THE BAG.  THE ENTIRE LOT OF PP BAGS SHALL BE LIABLE FOR REJECTION IN CASE THE TEST SAMPLES FAIL TO PASS THE TAPE TEST, ALKALI TEST AND STANDARD TEST FOR ABRASION RESISTANCE OF PRINTED MATERIALS BY SUTHERLAND RUB TESTER: AS PER	
10.0	STITCHING	SINGLE FOLD, DOUBLE STITCH WITH UV STABILISED THREAD/MULTIFILAMENT YARN OF 1200 DENIER. STITCHING SHALL BE DONE AS PRESCRIBED IN IS 9755. FOLD SHOULD OCCUR ON THE OPPOSITE SIDE OF THE PRINTING MADE ON THE BAG.
11.0	PACKING	350 BAGS IN A BALE. BALES SHALL BE WRAPPED WITH HDPE/PP FABRIC OR HESSIAN CLOTH AND STITCHED PROPERLY TO WITHSTAND HAZARDS OF TRANSPORTATION. EACH BALE SHALL BE MARKED WITH NAME OF SUPPLIER, TYPE AND SIZE OF BAG, SERIAL NO. OF BALE, NO. OF BAGS IN THE BALE AND THE BALE WEIGHT

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OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 20:20:0:13

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12	2.0	ASH	CONTENT	WHICH INCLUE CONTENT IN IMPURITIES). II WILL BE REJE	DES MAINLY CALCIUM ( BAGS SHALL BE 2 N CASE ASH CONTEN CTED. SAMPLES SHAL	TESTED FOR ASH CONTENT CARBONATE CONTENT. ASH .2% MAX (INCLUDING ALL IT IS ABOVE 2.2% THE LOT L BE TAKEN OUT FROM THE OR TESTING ASH CONTENT		
13	3.0		ERIA FOR FORMITY		S FOR ACCEPTANCE	AS CONFORMING TO THE FOLLOWING		
		i.	PICKS AND	DIMENSIONS IS UP	F DEFECTIVE SACKS IN CASE OF VISUAL INSPECTIONS, ENDS, ENSIONS IS UP TO 10% OF THE SAMPLE SIZE AFTER ROUNDING TON TO NEXT HIGHER INTEGER.			
		ii.			LE OF 350 SACKS LIMIT. HIGHER WEIGH	WEIGHS LESS THAN THE T CAN BE ACCEPTED		
		iii. THE AVERAGE BREAKING STRENGTH OF FABRIC IN BOTH LENGTHW WIDTHWISE AND WIDTHWISE (LAMINATION JOINT) IS NOT LESS THAN THE VA SPECIFIED AND NONE OF THE INDIVIDUAL VALUES IS MORE THAN 10% BEI THE SPECIFIED VALUE. THE SAMPLES SELECTED FOR BREAKING STRENTESTS SHALL BE FREE FROM DEFECTS IN VISUAL INSPECTION, DIMENSION PICKS AND MASS REQUIREMENTS.			NOT LESS THAN THE VALUE S MORE THAN 10% BELOW FOR BREAKING STRENGTH			
		iv.	LESS THAN MORE THAN FOR SEAM	THE VALUE SPECIFING 10 PERCENT BELOWN STRENGTH TESTS	IED AND NONE OF THI W THE SPECIFIED VAL	C AT BOTTOM SEAM IS NOT E INDIVIDUAL BAG VALUE IS UE. THE SAMPLE SELECTED ROM DEFECTS IN VISUAL EQUIREMENTS.		
		V.		HE SAMPLE SACKS S OUTSIDE THE SPECIF		AGE ELONGATION AND ASH		
		vi. NONE OF THE PP SACK SAMPLES AFTER EXPOSING TO UV RADIATION A WEATHERING SHALL HAVE BREAKING STRENGTH LESS THAN 50 PERCENT THE ORIGINAL BREAKING STRENGTH.						
		vii. NONE OF THE P		HE PP SACK SAMPLE	S SHALL FAIL IN THE D	ROP TEST		
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OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 20:20:0:13

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	viii. NONE OF THE PP SACK TEST SAMPLES SHALL FAIL IN THE TAPE TEST, ALKALI TEST AND STANDARD TEST FOR ABRASION RESISTANCE OF PRINTED MATERIALS BY SUTHERLAND RUB TESTER: AS PER ASTM D5264-98 (RE APPROVED 2004)		
14.0	APPLICABLE STANDARD	APPLICABLE STANDARD SHALL BE IS 9755: 2016 FOR PP WOVEN SACKS FOR PACKING FERTILISERS. HOWEVER, IN CASES WHERE REQUIREMENTS IN THIS SPECIFICATION DIFFER FROM THOSE IN IS 9755:2016, REQUIREMENTS IN THIS SPECIFICATION SHALL PREVAIL OVER THOSE IN IS 9755:2016.	

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# TECHNICAL PROCUREMENT SPECIFICATION (TPS)

### **FOR**

## **OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS**

## FOR

PACKING BHARAT NPK-20.5:0:0:23

## FACT UDYOGAMANDAL COMPLEX

## **KOCHI**

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OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK-20.5:0:0:23

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No	Description	Details
1.0	INSIDE DIMENSIONS	889 MM X 533 MM
1.1	TOLERANCE	+ 30 MM, -0.00 (-NIL ON BOTH WIDTH AND LENGTH.)
2.0	CAPACITY	50 KGS.
3.0	BAG WEIGHT	
3.1	WEIGHT OF INDIVIDUAL BAG	115 GMS. TOLERANCE ± 3%
3.2	WEIGHT OF A BALE (400 BAGS)	46.0 KGS. (NET WT.)  TOLERANCE +3%/- 0.00% (No negative tolerance)
4.0	BREAKING STRENGTH	TESTING OF BREAKING STRENGTH SHALL BE DONE USING RAVELLED STRIP METHOD (CONSTANT RATE OF TRAVERSE) AND THE RATE OF TRAVERSE SHALL BE 300 MM/MINUTE.
	i) WIDTHWISE	91.8 KGF
4.1	ii) WIDTHWISE (Lamination Joint)	91.8 KGF
4.2	LENGTHWISE	91.8 KGF
4.3	BOTTOM SEAM	40.8 KGF
5.0	DROP TEST	THE DROP TEST SHALL BE CARRIED OUT FOR EACH LOT SUPPLIED BY THE BAG SUPPLIER. FOR THIS TEST 4 nos. BAGS SHALL BE RANDOMLY SELECTED FROM EACH LOT. ALL BAGS SHALL BE SUBJECTED TO DROP TEST FROM A HEIGHT OF 3 MTRS FROM BOTH SIDES (4 DROP PER BAG). BAGS DURING DROP TEST WILL DROPPED ON THE STOMACH. NO BAGS SHOULD RUPTURE WHEN SUBJECTED TO MINIMUM 04 NOS. DROPS.
6.0	FABRIC	BAGS MADE OUT OF SINGLE PIECE OF LAMINATED PP FABRIC WOVEN ON CIRCULAR LOOM AS PER IS 9755. ANY MIDDLE SEWN OR JOINTED BAGS WILL NOT BE ACCEPTABLE. THE FABRIC USED SHALL BE FREE FROM ALL MAJOR WEAVING DEFECTS LIKE GAPS, PICK POINTS, MISSING TAPES ETC. PP GRANULE

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		FOR FABRIC & UV MASTER BATCH- Grade H030SG OR
		EQUIVALENT. MIN 3% of 20% UV MASTER BATCH TO BE USED AND THE PP WOVEN FABRIC OF SACK SHALL BE MADE OUT OF UV STABILISED MATERIAL AND SHALL HAVE AT LEAST 50% OF ORGINAL BREAKING STRENGTH WHEN TESTED AFTER THE SAME HAS BEEN EXPOSED TO UV RADIATION AND WEATHERING AS PER METHOD GIVEN IN ANNEXURE-D OF IS 9755 /2016. FABRIC COLOUR- LIGHT BLUE (HEX CODE: ADD8E6).
6.1	TAPE	MONOAXIALLY ORIENTED PP TAPES HAVING 1000 DENIER AND MINIMUM WIDTH OF2.5MM. THE FABRIC SHALL BE WOVEN FROM PP TAPES <b>CONFORMING TO IS: 11197.</b> THE ELONGATION OF TAPES WHILE TESTING BREAKINGSTRENGTH SHALL BE IN THE RANGE OF 15 to 25%. TOLERANCE FOR DENIER: ±10% DENIER.
6.2	MESH	10 x 10 PER SQ. INCH.
6.3	ENDS PER DM	40. TOLERANCE ± 2
6.4	PICKS PER DM	40. TOLERANCE ± 2
6.5	ELONGATION AT BREAK OF FABRIC	(5.0 CM X 20 CM STRIP METHOD)
6.5.1	LENGTHWISE	20%
6.5.2	WIDTHWISE	20%
6.5.3	TOLERANCE	RANGE: 15 to 25 % ON BOTH WIDTHWISE & LENGTHWISE.
7.0	LAMINATION	FABRIC SHALL BE LAMINATED OUTSIDE WITH PP GRANULES (GRADE H350EG/H350FG OR EQUIVALENT) 23 GMS/M2(CORRESPONDING TO 100 GUAGE NOMINAL) WITH AN OVERLAP/OVERHANG OF 5- 15MM. VIRGIN PP GRANULES SHALL BE USED AND THE LAMINATION SHALL BE FREE FROM PIN HOLES, PATCHES, BLISTERS, TEARS ETC. THE LAMINATION SHOULD COVER THE ENTIRE OUTSIDE AREA OF THE FABRIC USED. COLOR OF LAMINATION OF BAGS SHALL BE TRANSPARENT
8.0	BAG MOUTH	NEATLY SCISSOR CUT. EDGES SHOULD NOT BE ROUGH

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PAGE 3 of 5

9.0	BRANDING/PRINTING	MULTI COLOUR, SINGLE SIDE AS PER MONOGRAM SPECIFIED BY FACT. THE FOLLOWING INK (FERTILISER GRADE) SHALL BE USED: HINDUSTAN INK BY HINDUSTAN INKS AND RESINS LTD., DAMAN.OR VARSHA INK OF VARSHA PRINTING INK MFG. CO., NAGPUR. SHADE OF THE BRANDING SHALL BE UNIFORM AND MATCHING FACT'S REQUIREMENTS.	
	THE INK USED SHOULD HAVE SCRATCH RESISTANT AIDS, GLOSSY, HIGH TECH/POLYAMIDE QUALITY, ALKALI RESISTANT, SMUDGE FREE, BRIGHT IN COLOR, SHOULD NOT SMEAR IN CONTACT WITH WATER AND SHOULD NOT AFFECT THE FABRIC. ART WORK WILL BE PROVIDED BY FACT. PRINTING QUALITY SHALL BE CORONA TREATED SCUFF RESISTANT/VERY SHARP PRINT, NAIL PROOF/TAPE PROOF & EVEN COLORS THROUGHOUT THE LOT(PREFERABLY POLYAMIDE) ON ROLL TO ROLL PRINTING MACHINE. 3 SAMPLES OF THE BAGS OF THE REQUIRED COLOUR AS PER FACT REQUIREMENT SHALL BE SUBMITTED BEFORE STARTING BULK MANUFACTURING OF BAGS.ALL THE SAMPLES WILL BE SIGNED AND APPROVED SAMPLE WILL BE RETURNED WITH SIGNATURE OF THE AUTHORIZED REPRESENTATIVE OF FACT. ANY LOT SUPPLIED, IF FOUND DEVIATING IN COLOUR AS COMPARED TO APPROVED COLOUR WILL NOT BE ACCEPTED.  EACH SACK SHALL BE COMPULSORILY MARKED WITH VISIBLE RECYCLING LOGO (PP) AS SHOWN IN IS 9755:2016, IN THE BOTTOM OF THE BAG.  THE ENTIRE LOT OF PP BAGS SHALL BE LIABLE FOR REJECTION IN CASE THE TEST SAMPLES FAIL TO PASS THE TAPE TEST, ALKALI TEST AND STANDARD TEST FOR ABRASION RESISTANCE OF PRINTED MATERIALS BY SUTHERLAND RUB TESTER: AS PER		
10.0	STITCHING	SINGLE FOLD, DOUBLE STITCH WITH UV STABILISED THREAD/ MULTIFILAMENT YARN OF 1200 DENIER. STITCHING SHALL BE DONE AS PRESCRIBED IN IS 9755. FOLD SHOULD OCCUR ON THE OPPOSITE SIDE OF THE PRINTING MADE ON THE BAG.	
11.0	PACKING	400 BAGS IN A BALE. BALES SHALL BE WRAPPED WITH HDPE/PP FABRIC OR HESSIAN CLOTH AND STITCHED PROPERLY TO WITHSTAND HAZARDS OF TRANSPORTATION. EACH BALE SHALL BE MARKED WITH NAME OF SUPPLIER, TYPE AND SIZE OF BAG, SERIAL NO. OF BALE, NO. OF BAGS IN THE BALE AND THE BALE WEIGHT	

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OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK-20.5:0:0:23

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12.0	ASH (	CONTENT	WHICH INCLUE CONTENT IN IMPURITIES). II WILL BE REJE	ALL THE LOTS SUPPLIED SHALL BE TESTED FOR ASH CONTENT WHICH INCLUDES MAINLY CALCIUM CARBONATE CONTENT. ASH CONTENT IN BAGS SHALL BE 2.2% MAX (INCLUDING ALL IMPURITIES). IN CASE ASH CONTENT IS ABOVE 2.2% THE LOT WILL BE REJECTED. SAMPLES SHALL BE TAKEN OUT FROM THE LOT AS SPECIFIED IN IS 9755:2016 FOR TESTING ASH CONTENT			
13.0		ERIA FOR FORMITY	REQUIREMENT	THE LOT SHALL BE CONSIDERED AS CONFORMING TO TH REQUIREMENTS FOR ACCEPTANCE IF ALL THE FOLLOWING CONDITIONS ARE SATISFIED.			
	i.	PICKS AND		TO 10% OF THE SAME	SUAL INSPECTIONS, ENDS, PLE SIZE AFTER ROUNDING		
	ii. NONE OF THE SACK OR BALE OF 400 SACKS WEIGHS LESS RESPECTIVE LOWER SPECIFIED LIMIT. HIGHER WEIGHT CAN BE ACCE						
	iii. THE AVERAGE BREAKING STRENGTH OF FABRIC IN BOTH LENGTHWISE, WIDTHWISE AND WIDTHWISE (LAMINATION JOINT) IS NOT LESS THAN THE VALUE SPECIFIED AND NONE OF THE INDIVIDUAL VALUES IS MORE THAN 10% BELOW THE SPECIFIED VALUE. THE SAMPLES SELECTED FOR BREAKING STRENGTH TESTS SHALL BE FREE FROM DEFECTS IN VISUAL INSPECTION, DIMENSIONS, ENDS, PICKS AND MASS REQUIREMENTS.				NOT LESS THAN THE VALUE S MORE THAN 10% BELOW FOR BREAKING STRENGTH		
	iv.	LESS THAN MORE THAN FOR SEAM	THE VALUE SPECIFI 10 PERCENT BELOV STRENGTH TESTS	IED AND NONE OF THE W THE SPECIFIED VALU	C AT BOTTOM SEAM IS NOT EINDIVIDUAL BAG VALUE IS JE. THE SAMPLE SELECTED ROM DEFECTS IN VISUAL EQUIREMENTS.		
	V.		HE SAMPLE SACKS S UTSIDE THE SPECIF		AGE ELONGATION AND ASH		
	vi. NONE OF THE PP SACK SAMPLES AFTER EXPOSING TO UV RADIATION AND WEATHERING SHALL HAVE BREAKING STRENGTH LESS THAN 50 PERCENT OF THE ORIGINAL BREAKING STRENGTH.						
	vii.	NONE OF TH	IE PP SACK SAMPLE	S SHALL FAIL IN THE D	ROP TEST		
0 24/11	/22	ENQUIRY	SWITH	NIBU	JAISON		
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OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK-20.5:0:0:23

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	viii. NONE OF THE PP SACK TEST SAMPLES SHALL FAIL IN THE TAPE TEST, ALKALI TEST AND STANDARD TEST FOR ABRASION RESISTANCE OF PRINTED MATERIALS BY SUTHERLAND RUB TESTER: AS PER ASTM D5264-98 (RE APPROVED 2004)			
14.0	APPLICABLE STANDARD	APPLICABLE STANDARD SHALL BE IS 9755: 2016 FOR PP WOVEN SACKS FOR PACKING FERTILISERS. HOWEVER, IN CASES WHERE REQUIREMENTS IN THIS SPECIFICATION DIFFER FROM THOSE IN IS 9755:2016, REQUIREMENTS IN THIS SPECIFICATION SHALL PREVAIL OVER THOSE IN IS 9755:2016.		

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# TECHNICAL PROCUREMENT SPECIFICATION (TPS)

## **FOR**

# **OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS**

**FOR** 

## **PACKING BHARAT MOP**

## **FACT UDYOGAMANDAL COMPLEX**

**KOCHI** 

**INDIA** 

TPS No. UCTS/TPS/2023-03 R0



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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT MOP

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No	Description	Details			
1.0	INSIDE DIMENSIONS	788 MM X 559 MM			
1.1	TOLERANCE	+ 30 MM, -0.00 (-NIL ON BOTH WIDTH AND LENGTH.)			
2.0	CAPACITY	50 KGS.			
3.0	BAG WEIGHT				
3.1	WEIGHT OF INDIVIDUAL BAG	108 GMS. TOLERANCE ± 3%			
3.2	WEIGHT OF A BALE (400 BAGS)	43.2 KGS. (NET WT.)  TOLERANCE +3%/- 0.00% (No negative tolerance)			
4.0	BREAKING STRENGTH	TESTING OF BREAKING STRENGTH SHALL BE DONE USING RAVELLED STRIP METHOD (CONSTANT RATE OF TRAVERSE) AND THE RATE OF TRAVERSE SHALL BE 300 MM/MINUTE.			
4.1	i) WIDTHWISE ii) WIDTHWISE (Lamination Joint)	91.8 KGF 91.8 KGF			
4.2	LENGTHWISE	91.8 KGF			
4.3	BOTTOM SEAM	40.8 KGF			
5.0	DROP TEST	THE DROP TEST SHALL BE CARRIED OUT FOR EACH LOT SUPPLIED BY THE BAG SUPPLIER. FOR THIS TEST 4 nos. BAGS SHALL BE RANDOMLY SELECTED FROM EACH LOT. ALL BAGS SHALL BE SUBJECTED TO DROP TEST FROM A HEIGHT OF 3 MTRS FROM BOTH SIDES (4 DROP PER BAG). BAGS DURING DROP TEST WILL DROPPED ON THE STOMACH. NO BAGS SHOULD RUPTURE WHEN SUBJECTED TO MINIMUM 04 NOS. DROPS.			
6.0	FABRIC	BAGS MADE OUT OF SINGLE PIECE OF LAMINATED PP FABRIC WOVEN ON CIRCULAR LOOM AS PER IS 9755. ANY MIDDLE SEWN OR JOINTED BAGS WILL NOT BE ACCEPTABLE. THE FABRIC USED SHALL BE FREE FROM ALL MAJOR WEAVING DEFECTS LIKE GAPS, PICK POINTS, MISSING TAPES ETC. PP GRANULE			

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8.0	BAG MOUTH	NEATLY SCISSOR CUT. EDGES SHOULD NOT BE ROUGH
		USED. COLOR OF LAMINATION OF BAGS SHALL BE TRANSPARENT
		HOLES, PATCHES, BLISTERS, TEARS ETC. THE LAMINATION SHOULD COVER THE ENTIRE OUTSIDE AREA OF THE FABRIC
7.0	LAMINATION	OVERLAP/OVERHANG OF 5- 15MM. VIRGIN PP GRANULES SHALL BE USED AND THE LAMINATION SHALL BE FREE FROM PIN
		FABRIC SHALL BE LAMINATED OUTSIDE WITH PP GRANULES  (GRADE H350EG/H350FG OR EQUIVALENT) 23  GMS/M2(CORRESPONDING TO 100 GUAGE NOMINAL) WITH AN
6.5.3	TOLERANCE	RANGE: 15 to 25 % ON BOTH WIDTHWISE & LENGTHWISE.
6.5.2	WIDTHWISE	20%
6.5.1	LENGTHWISE	20%
6.5	ELONGATION AT BREAK OF FABRIC	(5.0 CM X 20 CM STRIP METHOD)
6.4	PICKS PER DM	40. TOLERANCE ± 2
6.3	ENDS PER DM	40. TOLERANCE ± 2
6.2	MESH	10 x 10 PER SQ. INCH.
		RANGE OF 15 to 25%. TOLERANCE FOR DENIER: ±10% DENIER.
6.1	TAPE	PP TAPES CONFORMING TO IS: 11197.THE ELONGATION OF TAPES WHILE TESTING BREAKINGSTRENGTH SHALL BE IN THE
		MONOAXIALLY ORIENTED PP TAPES HAVING 1000 DENIER AND MINIMUM WIDTH OF2.5MM. THE FABRIC SHALL BE WOVEN FROM
		FABRIC COLOUR-HEX CODE: FCD4D2.
		SAME HAS BEEN EXPOSED TO UV RADIATION AND WEATHERING AS PER METHOD GIVEN IN ANNEXURE-D OF IS 9755 /2016.
		ORGINAL BREAKING STRENGTH WHEN TESTED AFTER THE
	graces and	UV STABILISED MATERIAL AND SHALL HAVE AT LEAST 50% OF
		AND THE PP WOVEN FABRIC OF SACK SHALL BE MADE OUT OF
		EQUIVALENT. MIN 3% of 20% UV MASTER BATCH TO BE USED

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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT MOP

PAGE 3 of 5

9.0	BRANDING/PRINTING	MULTI COLOUR, SINGLE SIDE AS PER MONOGRAM SPECIFIED BY FACT. THE FOLLOWING INK (FERTILISER GRADE) SHALL BE USED: HINDUSTAN INK BY HINDUSTAN INKS AND RESINS LTD., DAMAN.OR VARSHA INK OF VARSHA PRINTING INK MFG. CO., NAGPUR. SHADE OF THE BRANDING SHALL BE UNIFORM AND MATCHING FACT'S REQUIREMENTS.			
	THE INK USED SHOULD HAVE SCRATCH RESISTANT AIDS, GLOSSY, HIGH TECH/POLYAMIDE QUALITY, ALKALI RESISTANT, SMUDGE FREE, BRIGHT IN COLOR, SHOULD NOT SMEAR IN CONTACT WITH WATER AND SHOULD NOT AFFECT THE FABRIC. ART WORK WILL BE PROVIDED BY FACT. PRINTING QUALITY SHALL BE CORONA TREATED SCUFF RESISTANT/VERY SHARP PRINT, NAIL PROOF/TAPE PROOF & EVEN COLORS THROUGHOUT THE LOT(PREFERABLY POLYAMIDE) ON ROLL TO ROLL PRINTING MACHINE. 3 SAMPLES OF				
	THE BAGS OF THE REQUIRED COLOUR AS PER FACT REQUIREMENT SHALL BE SUBMITTED BEFORE STARTING BULK MANUFACTURING OF BAGS.ALL THE SAMPLES WILL BE SIGNED AND APPROVED SAMPLE WILL BE RETURNED WITH SIGNATURE OF THE AUTHORIZED REPRESENTATIVE OF FACT. ANY LOT SUPPLIED, IF FOUND DEVIATING IN COLOUR AS COMPARED TO APPROVED COLOUR WILL NOT BE ACCEPTED.				
		OMPULSORILY MARKED WITH VISIBLE RECYCLING LOGO (PP) AS IN THE BOTTOM OF THE BAG.			
	THE ENTIRE LOT OF PP BAGS SHALL BE LIABLE FOR REJECTION IN CASE THE TEST SAMPLES FAIL TO PASS THE TAPE TEST, ALKALI TEST AND STANDARD TEST FOR ABRASION RESISTANCE OF PRINTED MATERIALS BY SUTHERLAND RUB TESTER: AS PER ASTM D5264-98(RE APPROVED 2004)				
10.0	STITCHING	SINGLE FOLD, DOUBLE STITCH WITH UV STABILISED THREAD/ MULTIFILAMENT YARN OF 1200 DENIER. STITCHING SHALL BE DONE AS PRESCRIBED IN IS 9755. FOLD SHOULD OCCUR ON THE OPPOSITE SIDE OF THE PRINTING MADE ON THE BAG.			
11.0	PACKING  400 BAGS IN A BALE. BALES SHALL BE WRAPPED WITH HDPER FABRIC OR HESSIAN CLOTH AND STITCHED PROPERLY WITHSTAND HAZARDS OF TRANSPORTATION. EACH BALE SHABE MARKED WITH NAME OF SUPPLIER, TYPE AND SIZE OF BASERIAL NO. OF BALE, NO. OF BAGS IN THE BALE AND THE BASERIGHT				

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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT MOP

PAGE 4 of 5

	1		
12.0	ASH CONTENT	ALL THE LOTS SUPPLIED SHALL BE TESTED FOR ASH CONTENT WHICH INCLUDES MAINLY CALCIUM CARBONATE CONTENT. ASH CONTENT IN BAGS SHALL BE 2.2% MAX (INCLUDING ALL IMPURITIES). IN CASE ASH CONTENT IS ABOVE 2.2% THE LOT WILL BE REJECTED. SAMPLES SHALL BE TAKEN OUT FROM THE LOT AS SPECIFIED IN IS 9755:2016 FOR TESTING ASH CONTENT	
13.0	CRITERIA FOR CONFORMITY	THE LOT SHALL BE CONSIDERED AS CONFORMING TO THE REQUIREMENTS FOR ACCEPTANCE IF ALL THE FOLLOWING CONDITIONS ARE SATISFIED.	
	PICKS AND DIME	EDEFECTIVE SACKS IN CASE OF VISUAL INSPECTIONS, ENDS, ENSIONS IS UP TO 10% OF THE SAMPLE SIZE AFTER ROUNDING ION TO NEXT HIGHER INTEGER.	
		E SACK OR BALE OF 400 SACKS WEIGHS LESS THAN THE OWER SPECIFIED LIMIT. HIGHER WEIGHT CAN BE ACCEPTED	
	WIDTHWISE AND SPECIFIED AND THE SPECIFIED TESTS SHALL E	BREAKING STRENGTH OF FABRIC IN BOTH LENGTHWISE, O WIDTHWISE (LAMINATION JOINT) IS NOT LESS THAN THE VALUE NONE OF THE INDIVIDUAL VALUES IS MORE THAN 10% BELOW VALUE. THE SAMPLES SELECTED FOR BREAKING STRENGTH BE FREE FROM DEFECTS IN VISUAL INSPECTION, DIMENSIONS, ID MASS REQUIREMENTS.	
	<ul> <li>iv. THE AVERAGE BREAKING STRENGTH OF THE FABRIC AT BOTTOM SEAM IS LESS THAN THE VALUE SPECIFIED AND NONE OF THE INDIVIDUAL BAG VALUE. THAN 10% BELOW THE SPECIFIED VALUE. THE SAMPLE SELECTED SEAM STRENGTH TESTS SHALL BE FREE FROM DEFECTS IN VISUAL INSPECTION OF THE SAMPLE SACKS AND MASS REQUIREMENTS.</li> <li>v. NONE OF THE SAMPLE SACKS SHALL HAVE PERCENTAGE ELONGATION AND CONTENT OUTSIDE THE SPECIFIED RANGE</li> </ul>		
	WEATHERING S	PP SACK SAMPLES AFTER EXPOSING TO UV RADIATION AND SHALL HAVE BREAKING STRENGTH LESS THAN 50 PERCENT OF BREAKING STRENGTH.	
	vii. NONE OF THE PP SACK SAMPLES SHALL FAIL IN THE DROP TEST		

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TECHNICAL PROCUREMENT SPECIFICATION	OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT MOP	PAGE 5 of 5

,	TEST AND	THE PP SACK TEST SAMPLES SHALL FAIL IN THE TAPE TEST, ALKALI STANDARD TEST FOR ABRASION RESISTANCE OF PRINTED MATERIALS RLAND RUB TESTER: AS PER ASTM D5264-98 (RE APPROVED 2004)
14.0	APPLICABLE STANDARD	APPLICABLE STANDARD SHALL BE IS 9755: 2016 FOR PP WOVEN SACKS FOR PACKING FERTILISERS. HOWEVER, IN CASES WHERE REQUIREMENTS IN THIS SPECIFICATION DIFFER FROM THOSE IN IS 9755:2016, REQUIREMENTS IN THIS SPECIFICATION SHALL PREVAIL OVER THOSE IN IS 9755:2016.

(Ref.-TPS No. UCTS/TPS/2020-03 R1 DT.01/08/2020)

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# TECHNICAL PROCUREMENT SPECIFICATION (TPS)

**FOR** 

# **OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS**

**FOR** 

**PACKING BHARAT NPK 16:16:16** 

**FACT UDYOGAMANDAL COMPLEX** 

**KOCHI** 

**INDIA** 

TPS No. UCTS/TPS/2023-02 R0



UCTS/TPS/2023-02 R0

TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 16:16:16

PAGE 1 of 5

No	Description	Details			
1.0	INSIDE DIMENSIONS	890 MM X 570 MM			
1.1	TOLERANCE	+ 30 MM, -0.00 ( -NIL ON BOTH WIDTH AND LENGTH.)			
2.0	CAPACITY	50 KGS.			
3.0	BAG WEIGHT				
3.1	WEIGHT OF INDIVIDUAL BAG	167 GMS. TOLERANCE ± 3%			
3.2	WEIGHT OF A BALE (250 BAGS)	41.75 KGS. (NET WT.)  TOLERANCE +3%/,- 0.00% (No negative tolerance)			
4.0	BREAKING STRENGTH	TESTING OF BREAKING STRENGTH SHALL BE DONE USING RAVELLED STRIP METHOD (CONSTANT RATE OF TRAVERSE) AND THE RATE OF TRAVERSE SHALL BE 300 MM/MINUTE.			
4.1	i) WIDTHWISE ii) WIDTHWISE (Lamination Joint)	91.8 KGF 91.8 KGF			
4.2	LENGTHWISE	91.8 KGF			
4.3	BOTTOM SEAM	40.8 KGF			
5.0	DROP TEST	THE DROP TEST SHALL BE CARRIED OUT FOR EACH LOT SUPPLIED BY THE BAG SUPPLIER. FOR THIS TEST 4 nos. BAGS SHALL BE RANDOMLY SELECTED FROM EACH LOT. ALL BAGS SHALL BE SUBJECTED TO DROP TEST FROM A HEIGHT OF 3M FROM BOTH SIDES (4 DROP PER BAG). BAGS DURING DROP TEST WILL DROPPED ON THE STOMACH. NO BAGS SHOULD RUPTURE WHEN SUBJECTED TO MINIMUM 04 NOS. DROPS.			
6.0	FABRIC	BAGS MADE OUT OF SINGLE PIECE OF LAMINATED PP FABRIC WOVEN ON CIRCULAR LOOM AS PER IS 9755. ANY MIDDLE SEWN OR JOINTED BAGS WILL NOT BE ACCEPTABLE. THE FABRIC USED SHALL BE FREE FROM ALL MAJOR WEAVING DEFECTS LIKE GAPS, PICK POINTS, MISSING TAPES ETC. PP GRANULE FOR FABRIC & UV MASTER BATCH- Grade H030SG OR			

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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 16:16:16

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						ER BATCH TO BE USED		
				ORGINAL BREA SAME HAS BEE AS PER METHO	MATERIAL AND SHALL AKING STRENGTH WHEI	DIATION AND WEATHERING E-D OF IS 9755 : 2016.		
6.1	1	TAP	E	MINIMUM WIDT PP TAPES CON TAPES WHILE	MONOAXIALLY ORIENTED PP TAPES HAVING 1000 DENIER AND MINIMUM WIDTH OF 2.5 MM. THE FABRIC SHALL BE WOVEN FROM PP TAPES CONFORMING TO IS: 11197. THE ELONGATION OF TAPES WHILE TESTING BREAKING STRENGTH SHALL BE IN THE RANGE OF 15 to 25%. TOLERANCE FOR DENIER: ±10% DENIER.			
6.2	2	MES	SH	10 x 10 PER SC	). INCH.			
6.3	3	END	OS PER DM	40. TOLERANO	CE±2			
6.4	4	PICKS PER DM 40. TOLERANCE ± 2			Code Pil Dan, oxid			
6.5	5	ELONGATION AT BREAK OF FABRIC (5.0 CM X 20 CM STRIP METHOD)						
6.5.	.1	LENGTHWISE 20%						
6.5.	.2	WII	OTHWISE	20%		Market Care Company		
6.5.	.3	TOL	ERANCE	RANGE: 15 to 2	5 % ON BOTH WIDTHWI	SE & LENGTHWISE.		
				GRADE LAMII GMS/M <sup>2</sup> (CORF	NATION- H350EG/H350I RESPONDING TO 100 G	DE WITH PP GRANULES (PP FG OR EQUIVALENT) 23 GUAGE NOMINAL) WITH AN RGIN PP GRANULES SHALL		
7.0	)	LAM	MINATION	HOLES, PATCH SHOULD COVE	OVERLAP/OVERHANG OF 5- 15MM. VIRGIN PP GRANULES SHALL BE USED AND THE LAMINATION SHALL BE FREE FROM PIN HOLES, PATCHES, BLISTERS, TEARS ETC. THE LAMINATION SHOULD COVER THE ENTIRE OUTSIDE AREA OF THE FABRIC USED. COLOR OF LAMINATION OF BAGS SHALL BE			
8.0	)	LINE	ER	i. COLOUR : WHITE ii. HMHDPE WITH THICKNESS 40 MICRONS ±10% tolerance iii. LENGTH-915 MM X WIDTH-590 MM iv. HMHDPE GRADE-F55HM0003 or EQUIVALENT				
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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 16:16:16

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		(Liner and fabric should be stitched together at the mouth and at bottom. Ref: clauses 9.0 & 11.0).
9.0	BAG MOUTH	LINER AND FABRIC SHOULD BE STITCHED TOGETHER AT MOUTH BY MAKING SINGLE FOLD OF 25MM( LINER WITH FABRIC) FROM OUTER EDGE TOWARDS THE INSIDE OF THE BAG AND SINGLE ROW CHAIN STITCH AT 12MM FROM FOLD EDGE WITHOUT ANY LOOSE ENDS OR KNOTS BETWEEN THE STITCHES. THE STARTING AND CLOSING OF THE STITCH SHOULD NOT BE ON THE PRINTING SIDE
10.0	BRANDING/PRINTING	MULTI COLOUR, SINGLE SIDE AS PER MONOGRAM SPECIFIED BY FACT. THE FOLLOWING INK (FERTILISER GRADE) SHALL BE USED: HINDUSTAN INK BY HINDUSTAN INKS AND RESINS LTD., DAMAN.OR VARSHA INK OF VARSHA PRINTING INK MFG. CO., NAGPUR. SHADE OF THE BRANDING SHALL BE UNIFORM AND MATCHING FACT'S REQUIREMENTS.
	POLYAMIDE QUALITY, AI SMEAR IN CONTACT WI'BE PROVIDED BY FA RESISTANT/VERY SHAR THE LOT(PREFERABLY ITHE BAGS OF THE SUBMITTED BEFORE STATES BE SIGNED AND APPROVIDED REPRESE	JLD HAVE SCRATCH RESISTANT AIDS, GLOSSY, HIGH TECHLICAL RESISTANT, SMUDGE FREE, BRIGHT IN COLOR, SHOULD NOT THE WATER AND SHOULD NOT AFFECT THE FABRIC. ART WORK WILL CT. PRINTING QUALITY SHALL BE CORONA TREATED SCUFF PRINT, NAIL PROOF/TAPE PROOF & EVEN COLORS THROUGHOUT POLYAMIDE) ON ROLL TO ROLL PRINTING MACHINE. 3 SAMPLES OF REQUIRED COLOUR AS PER FACT REQUIREMENT SHALL BE TARTING BULK MANUFACTURING OF BAGS. ALL THE SAMPLES WILL ROVED SAMPLE WILL BE RETURNED WITH SIGNATURE OF THE ENTATIVE OF FACT. ANY LOT SUPPLIED, IF FOUND DEVIATING IN TO APPROVED COLOUR WILL NOT BE ACCEPTED.
	SHOWN IN IS 9755:2016,	COMPULSORILY MARKED WITH VISIBLE RECYCLING LOGO (PP) AS IN THE BOTTOM OF THE BAG. P BAGS SHALL BE LIABLE FOR REJECTION IN CASE THE TEST
		SS THE TAPE TEST, ALKALI TEST AND STANDARD TEST FOR E OF PRINTED MATERIALS BY SUTHERLAND RUB TESTER: AS PER ROVED 2004)
11.0	STITCHING	SINGLE FOLD, SINGLE STITCH AT MOUTH AND SINGLE FOLD,

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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 16:16:16

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		DOUBLE STITCH AT BOTTOM WITH UV STABILISED THREAD/MULTIFILAMENT YARN OF 1200 DENIER. STITCHING SHALL BE DONE AS PRESCRIBED IN IS 9755. FOLD SHOULD OCCUR ON THE OPPOSITE SIDE OF THE PRINTING MADE ON THE BAG.		
12.0	PACKING	250 BAGS IN A BALE. BALES SHALL BE WRAPPED WITH HDPE/F FABRIC OR HESSIAN CLOTH AND STITCHED PROPERLY T WITHSTAND HAZARDS OF TRANSPORTATION. EACH BALE SHAL BE MARKED WITH NAME OF SUPPLIER, TYPE AND SIZE OF BAC SERIAL NO. OF BALE, NO. OF BAGS IN THE BALE AND THE BAL WEIGHT		
13.0	ASH CONTENT	ALL THE LOTS SUPPLIED SHALL BE TESTED FOR ASH CONTENT WHICH INCLUDES MAINLY CALCIUM CARBONATE CONTENT. ASH CONTENT IN BAGS SHALL BE 2.2% MAX (INCLUDING ALIMPURITIES). IN CASE ASH CONTENT IS ABOVE 2.2% THE LOT WILL BE REJECTED. SAMPLES SHALL BE TAKEN OUT FROM THE LOT AS SPECIFIED IN IS 9755:2016 FOR TESTING ASH CONTENT		
14.0	CRITERIA FOR CONFORMITY	THE LOT SHALL BE CONSIDERED AS CONFORMING TO THE REQUIREMENTS FOR ACCEPTANCE IF ALL THE FOLLOWING CONDITIONS ARE SATISFIED.		
	PICKS AND DI	OF DEFECTIVE SACKS IN CASE OF VISUAL INSPECTIONS, ENDS, MENSIONS IS UP TO 10% OF THE SAMPLE SIZE AFTER ROUNDING STION TO NEXT HIGHER INTEGER.		
	The second control of	E SACK OR BALE OF 250 SACKS WEIGHS LESS THAN THE OWER SPECIFIED LIMIT. HIGHER WEIGHT CAN BE ACCEPTED		
	WIDTHWISE AN	E BREAKING STRENGTH OF FABRIC IN BOTH LENGTHWISE ND WIDTHWISE (LAMINATION JOINT) IS NOT LESS THAN THE VALUE D NONE OF THE INDIVIDUAL VALUES IS MORE THAN 10% BELOW		
	TESTS SHALL	D VALUE. THE SAMPLES SELECTED FOR BREAKING STRENGTH BE FREE FROM DEFECTS IN VISUAL INSPECTION, DIMENSIONS ND MASS REQUIREMENTS.		
	iv. THE AVERAGE	BREAKING STRENGTH OF THE FABRIC AT BOTTOM SEAM IS NOT		

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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 16:16:16

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	_	MODE THAN 100' STILLING TO STI
	HAR	MORE THAN 10% BELOW THE SPECIFIED VALUE. THE SAMPLE SELECTED FO
	1-15	SEAM STRENGTH TESTS SHALL BE FREE FROM DEFECTS IN VISUAL INSPECTION
		DIMENSIONS, ENDS, PICKS AND MASS REQUIREMENTS.
	v.	NONE OF THE SAMPLE SACKS SHALL HAVE PERCENTAGE ELONGATION AND AS
		CONTENT OUTSIDE THE SPECIFIED RANGE
	vi.	NONE OF THE PP SACK SAMPLES AFTER EXPOSING TO UV RADIATION AN
		WEATHERING SHALL HAVE BREAKING STRENGTH LESS THAN 50 PERCENT O
		THE ORIGINAL BREAKING STRENGTH.
	vii.	NONE OF THE PP SACK SAMPLES SHALL FAIL IN THE DROP TEST
	viii.	NONE OF THE PP SACK TEST SAMPLES SHALL FAIL IN THE TAPE TEST, ALKAL
		TEST AND STANDARD TEST FOR ABRASION RESISTANCE OF PRINTED MATERIAL
		BY SUTHERLAND RUB TESTER: AS PER ASTM D5264-98 (RE APPROVED 2004)
		APPLICABLE STANDARD SHALL BE IS 9755: 2016 FOR PP WOVE
		SACKS FOR PACKING FERTILISERS. HOWEVER, IN CASE
15.0	APPLIC	CABLE WHERE REQUIREMENTS IN THIS SPECIFICATION DIFFER FROM
	STAND	THOSE IN IS 9755:2016, REQUIREMENTS IN THIS SPECIFICATION
	1	SHALL PREVAIL OVER THOSE IN IS.9755:2016.

(Ref.-TPS No. UCTS/TPS/2020-04 R1 DT.08/03/2021)

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## TECHNICAL PROCUREMENT SPECIFICATION (TPS)

## FOR

# OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS

FOR

**PACKING BHARAT NPK 15:15:15** 

## FACT UDYOGAMANDAL COMPLEX

KOCHI

INDIA

TPS No. UCTS/TPS/2023-04 R0



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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 15:15:15

PAGE 1 of 5

No	Description	Details
1.0	INSIDE DIMENSIONS	890 MM X 570 MM
1.1	TOLERANCE	+ 30 MM, -0.00 (-NIL ON BOTH WIDTH AND LENGTH.)
2.0	CAPACITY	50 KGS.
3.0	BAG WEIGHT	
3.1	WEIGHT OF INDIVIDUAL BAG	167 GMS. TOLERANCE ± 3%
3.2	WEIGHT OF A BALE (250 BAGS)	41.75 KGS. (NET WT.)  TOLERANCE +3%/,- 0.00% (No negative tolerance)
4.0	BREAKING STRENGTH	TESTING OF BREAKING STRENGTH SHALL BE DONE USING RAVELLED STRIP METHOD (CONSTANT RATE OF TRAVERSE) AND THE RATE OF TRAVERSE SHALL BE 300 MM/MINUTE.
4.1	i) WIDTHWISE ii) WIDTHWISE (Lamination Joint)	91.8 KGF 91.8 KGF
4.2	LENGTHWISE	91.8 KGF
4.3	BOTTOM SEAM	40.8 KGF
5.0	DROP TEST	THE DROP TEST SHALL BE CARRIED OUT FOR EACH LOT SUPPLIED BY THE BAG SUPPLIER. FOR THIS TEST 4 nos. BAGS SHALL BE RANDOMLY SELECTED FROM EACH LOT. ALL BAGS SHALL BE SUBJECTED TO DROP TEST FROM A HEIGHT OF 3M FROM BOTH SIDES (4 DROP PER BAG). BAGS DURING DROP TEST WILL DROPPED ON THE STOMACH. NO BAGS SHOULD RUPTURE WHEN SUBJECTED TO MINIMUM 04 NOS. DROPS.
6.0	FABRIC	BAGS MADE OUT OF SINGLE PIECE OF LAMINATED PP FABRIC WOVEN ON CIRCULAR LOOM AS PER IS 9755. ANY MIDDLE SEWN OR JOINTED BAGS WILL NOT BE ACCEPTABLE. THE FABRIC USED SHALL BE FREE FROM ALL MAJOR WEAVING DEFECTS LIKE GAPS, PICK POINTS, MISSING TAPES ETC. PP GRANULE FOR FABRIC & UV MASTER BATCH- Grade H030SG OR

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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 15:15:15

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	6.1 TAPE		EQUIVALENT. MIN 3% of 20% UV MASTER BATCH TO BE USED AND THE PP WOVEN FABRIC OF SACK SHALL BE MADE OUT OF UV STABILISED MATERIAL AND SHALL HAVE AT LEAST 50% OF ORGINAL BREAKING STRENGTH WHEN TESTED AFTER THE SAME HAS BEEN EXPOSED TO UV RADIATION AND WEATHERIN AS PER METHOD GIVEN IN ANNEXURE-D OF IS 9755: 2016. FABRIC COLOUR-LIGHT BLUE (HEX CODE: ADD8E6).  MONOAXIALLY ORIENTED PP TAPES HAVING 1000 DENIER AND MINIMUM WIDTH OF 2.5MM. THE FABRIC SHALL BE WOVEN FROM PTAPES CONFORMING TO IS: 11197.THE ELONGATION OF TAPES WHILE TESTING BREAKING STRENGTH SHALL BE IN THE RANGE OF 15 to 25%. TOLERANCE FOR DENIER: ±10% DENIER.				
	6.2	ME	ESH		10 x 10 PER S	Q. INCH.	
(	5.3	EN	IDS PER DM	****	40. TOLERAN	ICE ± 2	
(	6.4	PIC	CKS PER DM		40. TOLERAN	ICE ± 2	
6	3.5	ELONGATION AT BREAK OF FABRIC			(5.0 CM X 20 CM STRIP METHOD)		
6.	5.1	LENGTHWISE			20%		
6.	5.2	w	IDTHWISE		20%		
6.	5.3	то	LERANCE		RANGE: 15 to 25 % ON BOTH WIDTHWISE & LENGTHWISE.		
7.0 LAMINATION		GRADE LAMI GMS/M <sup>2</sup> (CORI OVERLAP/OVE BE USED AND HOLES, PATC	NATION- H350EG/H35 RESPONDING TO 100 RHANG OF 5-15MM. V THE LAMINATION S HES, BLISTERS, TEA ER THE ENTIRE OUTS OR OF LAMINATION	IDE WITH PP GRANULES (PP OFG OR EQUIVALENT) 23 GUAGE NOMINAL) WITH AN VIRGIN PP GRANULES SHALL SHALL BE FREE FROM PIN RS ETC. THE LAMINATION SIDE AREA OF THE FABRIC OF BAGS SHALL BE			
8.	8.0 LINER			i. COLOUR: WHITE ii. HMHDPE WITH THICKNESS 40 MICRONS ±10% tolerance iii. LENGTH-915 MM X WIDTH-590 MM iv. HMHDPE GRADE-F55HM0003 or EQUIVALENT			
9			-				
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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LAMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 15:15:15

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		(Liner and fabric should be stitched together at the mouth and at bottom. Ref: clauses 9.0 & 11.0).			
9.0	BAG MOUTH	LINER AND FABRIC SHOULD BE STITCHED TOGETHER AT MOUTH BY MAKING SINGLE FOLD OF 25MM( LINER WITH FABRIC) FROM OUTER EDGE TOWARDS THE INSIDE OF THE BAG AND SINGLE ROW CHAIN STITCH AT 12MM FROM FOLD EDGE WITHOUT ANY LOOSE ENDS OR KNOTS BETWEEN THE STITCHES. THE STARTING AND CLOSING OF THE STITCH SHOULD NOT BE ON THE PRINTING SIDE			
10.0	MULTI COLOUR, SINGLE SIDE AS PER MONOGRAM SPECIFIED BY FACT. THE FOLLOWING INK (FERTILISER GRADE) SHALL BE USED: HINDUSTAN INK BY HINDUSTAN INKS AND RESINS LTD., DAMAN.OR VARSHA INK OF VARSHA PRINTING INK MFG. CO., NAGPUR. SHADE OF THE BRANDING SHALL BE UNIFORM AND MATCHING FACT'S REQUIREMENTS.				
	THE INK USED SHOULD HAVE SCRATCH RESISTANT AIDS, GLOSSY, HIGH TEC POLYAMIDE QUALITY, ALKALI RESISTANT, SMUDGE FREE, BRIGHT IN COLOR, SHOULD MY SMEAR IN CONTACT WITH WATER AND SHOULD NOT AFFECT THE FABRIC. ART WORK WE BE PROVIDED BY FACT. PRINTING QUALITY SHALL BE CORONA TREATED SCU RESISTANT/VERY SHARP PRINT, NAIL PROOF/TAPE PROOF & EVEN COLORS THROUGHOUTHE LOT(PREFERABLY POLYAMIDE) ON ROLL TO ROLL PRINTING MACHINE. 3 SAMPLES OF THE BAGS OF THE REQUIRED COLOUR AS PER FACT REQUIREMENT SHALL IS SUBMITTED BEFORE STARTING BULK MANUFACTURING OF BAGS. ALL THE SAMPLES WILL BE SIGNED AND APPROVED SAMPLE WILL BE RETURNED WITH SIGNATURE OF THE AUTHORIZED REPRESENTATIVE OF FACT. ANY LOT SUPPLIED, IF FOUND DEVIATING COLOUR AS COMPARED TO APPROVED COLOUR WILL NOT BE ACCEPTED.  EACH SACK SHALL BE COMPULSORILY MARKED WITH VISIBLE RECYCLING LOGO (PP) AS SHOWN IN IS 9755:2016, IN THE BOTTOM OF THE BAG.  THE ENTIRE LOT OF PP BAGS SHALL BE LIABLE FOR REJECTION IN CASE THE TES SAMPLES FAIL TO PASS THE TAPE TEST, ALKALI TEST AND STANDARD TEST FOR ABRASION RESISTANCE OF PRINTED MATERIALS BY SUTHERLAND RUB TESTER: AS PEASTM D5264-98 (RE APPROVED 2004)				
11.0	STITCHING	SINGLE FOLD, SINGLE STITCH AT MOUTH AND SINGLE FOLD,			
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TECHNICAL PROCUREMENT SPECIFICATION

OUTSIDE LÄMINATED POLYPROPYLENE (PP) BAGS WOVEN ON CIRCULAR LOOMS FOR PACKING BHARAT NPK 15:15:15

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	A hand a second		
		DOUBLE STITCH AT BOTTOM WITH UV STABILISED THREAD/MULTIFILAMENT YARN OF 1200 DENIER. STITCHING SHALL BE DONE AS PRESCRIBED IN IS 9755. FOLD SHOULD OCCUR ON THE OPPOSITE SIDE OF THE PRINTING MADE ON THE BAG.	
12.0	PACKING	250 BAGS IN A BALE. BALES SHALL BE WRAPPED WITH HDPE/PP FABRIC OR HESSIAN CLOTH AND STITCHED PROPERLY TO WITHSTAND HAZARDS OF TRANSPORTATION. EACH BALE SHALL BE MARKED WITH NAME OF SUPPLIER, TYPE AND SIZE OF BAG, SERIAL NO. OF BALE, NO. OF BAGS IN THE BALE AND THE BALE WEIGHT	
13.0	ASH CONTENT	ALL THE LOTS SUPPLIED SHALL BE TESTED FOR ASH CONTENT WHICH INCLUDES MAINLY CALCIUM CARBONATE CONTENT. ASH CONTENT IN BAGS SHALL BE 2.2% MAX (INCLUDING ALL IMPURITIES). IN CASE ASH CONTENT IS ABOVE 2.2% THE LOT WILL BE REJECTED. SAMPLES SHALL BE TAKEN OUT FROM THE LOT AS SPECIFIED IN IS 9755:2016 FOR TESTING ASH CONTENT	
14.0	CRITERIA FOR CONFORMITY	THE LOT SHALL BE CONSIDERED AS CONFORMING TO THE REQUIREMENTS FOR ACCEPTANCE IF ALL THE FOLLOWING CONDITIONS ARE SATISFIED.	
	PICKS AND DIM OFF THE FRACT	F DEFECTIVE SACKS IN CASE OF VISUAL INSPECTIONS,ENDS, ENSIONS IS UP TO 10% OF THE SAMPLE SIZE AFTER ROUNDING ION TO NEXT HIGHER INTEGER.	
	ii. NONE OF THE SACK OR BALE OF 250 SACKS WEIGHS LESS THA RESPECTIVE LOWER SPECIFIED LIMIT. HIGHER WEIGHT CAN BE ACCEPTED		
SPECIFIED AND NO THE SPECIFIED V		BREAKING STRENGTH OF FABRIC IN BOTH LENGTHWISE, WIDTHWISE (LAMINATION JOINT) IS NOT LESS THAN THE VALUE NONE OF THE INDIVIDUAL VALUES IS MORE THAN 10% BELOW VALUE. THE SAMPLES SELECTED FOR BREAKING STRENGTH E FREE FROM DEFECTS IN VISUAL INSPECTION, DIMENSIONS,	
	iv. THE AVERAGE B	O MASS REQUIREMENTS.  REAKING STRENGTH OF THE FABRIC AT BOTTOM SEAM IS NOT VALUE SPECIFIED AND NONE OF THE INDIVIDUAL BAG VALUE IS	

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	Cont	RE THAN 10% BELOW THE SPECIFIED VALUE. THE SAMPLE SELECTED FOR AM STRENGTH TESTS SHALL BE FREE FROM DEFECTS IN VISUAL INSPECTION RENSIONS, ENDS, PICKS AND MASS REQUIREMENTS.				
	v. NOI	NONE OF THE SAMPLE SACKS SHALL HAVE PERCENTAGE ELONGATION AND ASH CONTENT OUTSIDE THE SPECIFIED RANGE				
	vi. NONE OF THE PP SACK SAMPLES AFTER EXPOSING TO UV RADIA WEATHERING SHALL HAVE BREAKING STRENGTH LESS THAN 50 PE THE ORIGINAL BREAKING STRENGTH.					
Electrone and a second	VII. NONE OF THE PP SACK SAMPLES SHALL FAIL IN THE DROP TEST					
	viii. NONE OF THE PP SACK TEST SAMPLES SHALL FAIL IN THE TAPE TEST, ALK TEST AND STANDARD TEST FOR ABRASION RESISTANCE OF PRINTED MATERIA BY SUTHERLAND RUB TESTER: AS PER ASTM D5264-98 (RE APPROVED 2004)					
	APPLICABLE STANDARD	APPLICABLE STANDARD SHALL BE IS 9755: 2016 FOR PP WOVEN SACKS FOR PACKING FERTILISERS. HOWEVER, IN CASES WHERE REQUIREMENTS IN THIS SPECIFICATION DIFFER FROM THOSE IN IS 9755:2016, REQUIREMENTS IN THIS SPECIFICATION SHALL PREVAIL OVER THOSE IN IS.9755:2016.				
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