



Daffodil
International
University

Faculty of Engineering

Department of Textile Engineering

REPORT ON

“Study on the quality report on Knit and Woven(denim) fabric

Course Title: Project (Thesis)

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The Report presented in Partial Fulfillment of the requirements for the degree of

Bachelor of Science in Textile Engineering

Advance in Apparel Manufacturing Technology

DECLARATION

We clarify that all of the work which is presented in this thesis Study on the quality report on Knit and Woven(denim) fabric is original work from us

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Approval Sheet

This research entitled “Study on Ratio of faults in Knit and woven Fabric manufacturing” “at **Daffodil International University, April 2019**” prepared and submitted by acceptance.



Md. Abdullah Al Mamun

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“ACKNOWLEDGEMENT”

First of all, we would like to thank Almighty Allah for giving us the ability to complete this work. We would like to express our special thanks to our respected supervisor

Sir, **Md. Abdullah Al Mamun** who gave us the necessary guidance.

Dedication

Our beloved and respected parents and teacher

Abstract

We worked with knit and woven fabrics where we collected data on their production faults and analyzed it, through which we were able to find out the percentage of those faults. From this data analysis we found **Knit fabric** F/Y (Fly Yarn) = 13,U/T (Uneven Tension) = 0 ,O/L (Oil Line) = 4,O/S = (Oil Spot) = 20,N/B = (Needle Break) = 4,T/T = (Thick and Thin) = 0,B/S = (Black Spot) = 0,L/C = (Lycra cut) = 43,Loop = 63

Woven (Denim) fabric Knot-52.58%,Slub in Weft-17.53%,Loose End-16.49%,Broken Pick-3.09%,TightEnd-3.09%,Starting-2.06%,Course Pick-2.06%,Double Pick-2.06%Miss Pick_1.03%

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Chapter 1

1.1 Introduction

In the textile industry, fabric flaws are a major concern since they affect the end product's quality, usefulness, and value. Because of the structural variations and production methods, the two main types of fabrics—knit and woven—have different flaws. Dropped stitches (missed loops causing holes), barre effects (light and dark horizontal stripes due to uneven tension or dye uptake), spirality (fabric twisting from unbalanced yarn twist), oil stains from machine lubrication, and needle lines from damaged needles are among the defects that can occur in knit fabrics made from interlooping yarns for knitting. However, warp and weft breaks (yarn breakage during weaving) and selvage defects (uneven edges from incorrect loom) are common defects in woven fabrics, which are made by interlacing warp and weft yarns.

1.2 Objectives of the study

- To Know about the different types of faults of Knit and woven fabric.
- To know about the causes and remedies of fabric faults
- To know about the ratios of the faults

1.3 What is knitting

Knitting is the process of creating a finished garment or other fabric by looping yarn through a sequence of interconnected loops using two or more needles. It's interesting to note that socks were the first item of clothing knit. Using a single needle and a selection of thread, the ancient art form was known as Nalebinding. Knitting originated from Romano-Egyptian toe socks fashioned with "Coptic Stitch" in the third and fifth centuries C

1.4 Types of knit

Knitted weft fabrics

- **Single jersey:** lightweight, featuring a textured back and a smooth face. used in dresses and t-shirts.
- **Rib Knit:** To achieve ribs for superior stretch, alternate knit and purl stitches. used in stretchable clothing, collars, and cuffs.
- **Interlock Knit:** A knit fabric that is double-layered and has a smooth feel on both sides. It is perfect for dresses and polo shirts since it is thicker and more resilient.
- **Purl Knit:** Completely composed of purl stitches, this fabric is highly flexible and reversible. often found in infant clothing.
- **French Terry:** a smooth-faced, loop-backed weave that's frequently found in sportswear and hoodies.
- **Fleece Knit:** Ideal for winter clothing, the silky feel created by the brushed loops on one side.

1.5 Warp Knit Fabrics

- **Tricot Knit:** Smooth and lightweight, it's frequently used in linings, sportswear, and lingerie.
- **Raschel Knit:** open structure that resembles lace. used in curtains, netting, and ornamental textiles.
- **Milanese Knit:** Gloves and specialist textiles frequently employ this fine, smooth material.
- **Mesh Knit:** Breathable and open, perfect for linings and sportswear.

1.6 Uses of Knit fabric

- **The apparel industry**
blouses, skirts, and t-shirts because of their elasticity and comfort.
Leggings, yoga pants, and activewear for their moisture-wicking qualities and flexibility.
loungewear and undergarments for their comfort and low weight.
- **Sport wear:**
tracksuits, jerseys, and shorts due to their longevity and breathability.
Their flexibility and quick-drying qualities make them ideal for swimwear and bicycle equipment.
- **Home textile :**
Throws and blankets for coziness and warmth.
Upholstery and cushion coverings for their flexible and aesthetically pleasing properties.
- **Medical Cloths:**
Bandages and compression clothing for their elastic and snug fit.
Orthopedic supports and braces for comfort and flexibility.

- **Accessories:**

Hats, scarves, and gloves to keep warm and cozy.

Stockings and socks for their fit and flexibility.

- **Applications in Industry:**

protective textiles used in protective gear, including garments that can withstand flames.

Examine textiles for durability and porosity.

1.7 Flow Chart of Knitting

1. Receiving of fabrics booking From merchandiser for gray fabric production initially
2. Set knitting parameters as per approval FTD/FTS/BASE/FIS hanger technical data
3. Receiving of yarn as per booking requirement and ensure the yarn quality as per buyer standard
4. Making a nice and effective production plan as per received yarn to to meet the assigned TOD
5. Knitting machine cleaning for knitting production ensuring white/dyed yarn/ organic/ recycle SOP
6. Gray fabric Inspection with 04 point system
7. Deliver to Gray fabric store

1.8 Quality control in fabric manufacturing

The methodical process of quality control in the fabric manufacturing industry is used to guarantee that the finished product satisfies predetermined requirements for durability, quality, and appearance. From the selection of raw materials to the final fabric, it entails tracking and examining each step of production to identify and fix any flaws or irregularities. Assuring consistency in the dyeing and finishing procedures, assessing yarn quality, keeping machine settings correct, and looking for knitting or weaving flaws are all important components of quality control. Advanced testing techniques are utilized to evaluate fabric performance and specification compliance, including tensile strength, colorfastness, and shrinkage tests. In addition to cutting waste and production costs, efficient quality control improves customer satisfaction by producing dependable, superior products.

1.9 4 point system

Size of defects	Penalty points
Defects up to 3 inches	1
Defects > 3 inches \leq 6 inches	2
Defects > 6 inches \leq 9 inches	3
Defects > 9 inches	4

Chapter 2 Data Collection (knit)

3.1Figure

Dakhin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

Roll No = 51558
Roll No = 3260

METHOD: ASTM (D-5430)

Inspection Date: 11/11/14

Fabric Type: 100% Polyester

K/Factory: HAMS

Buyer: DDM

Roll No: 269932-1696 (31255+162) 42350cm
Yarn Count: 80/156
Color: R-100+09+2H
Qty: 100 Yds
Brand: one text + one
Req F/Dia: 70
M/C Dia: 12
Gsm: 200
Req SL: 3.00
Act SL: 70
M/S GG: 18

G/Gsm: 234
G/Dia: 63 top
Shift: B

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Slub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks
15	01	(Litch - all)							LL					37.0	93	10	08	A	78% 12419
15	02	(Litch - all)							LL		(S-B)								80% 4449

Penalty Point Legend

N/L= Needle Line
N/B=Needle Broken
U/T=Uneven Tention
B/M=Barre Mark

F/Y=Fly Yarn
B/S= Black Spot
O/S= Oil Spot
T/T= Thick & Thin
O/L= Oil Line

Four Point System:

Size Of Defect: Penalty
3 Inches or Less 1 Point
3 To 6 Inches 2 Point
6 To 9 Inches 3 Point
Over 9 Inches 4 Point

Formula

$$\frac{\text{Pts count} \times 36 \times 100}{\text{Roll Length (Yds)} \times \text{Fabric Dia (Inch)}}$$

Hole Below 1"=2
Hole over 1"=4
Max.28 Pts acceptable Per 100Sq Yds

Classification
A-Class= 01 to 20 Point
B-Class=21 to 28 Point
Reject=Over 28


Q.C Inspector

Q.C Supervisor/Incharge

Q.C Officer/Executive

Manager (QAD)

Dakkhin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

METHOD: ASTM (D-5430)

Inspection Date: 15/11/24

K/Factory: HAMS

Buyer: EOT

712 911 51501-2966

Style: G-325-204

Color: 01066 + 100%

Qty: 1320 LG Yarn Lot: 6393B + 7331A

Fabric Count: 302 @ 50/20 (30/20)

Req Dia: 50 (cm)

M/C Dia: 42

Req SL: 2-90

Act SL:

M/S GG 18

17/12/17

PH/02 51141

PH/02 2933

G/Gsm: 275

G/Dia: 49.40

Shift: A

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Slub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks	
14	01		(17)	cut	wa		u		cut					2060	83	10	09	A	786/2413	
14	02						Loop# 200							2140	61	10	12	A	8096+448	
																				(S-B)

Penalty Point Legend
N/L= Needle Line
N/B=Needle Broken
U/T=Uneven Tention
B/M=Barre Mark

F/Y=Fly Yarn
B/S= Black Spot
O/S= Oil Spot
T/T= Thick & Thin
O/L= Oil Line

Four Point System:
Size Of Defect: Penalty
3 Inches or Less 1 Point
3 To 6 Inches 2 Point
6 To 9 Inches 3 Point
Over 9 Inches 4 Point

Hole Below 1"=2
Hole over 1"=4
Max.28 Pts acceptable Per 100Sq Yds

Formula
Pts count *36*100
Roll Length (Yds) *Fabric Dia (Inch)

Classification
A-Class= 01 to 20 Point
B-Class=21 to 28 Point
Reject=Over 28


Q.C Inspector

Q.C Supervisor/Incharge

Q.C Officer/Executive

Manager (OAD)

St - Top 5/6 mdaa

ly em - 350

B.No - 3316

Dakkhin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

P.No - 57731

METHOD: ASTM (D-5430)

Inspection Date: 19.11.24

Fabric Type

K/Factory

Buyer

Order/style: 2625LG-1636L
Color: Wash
Qty: 1500

Count: 30ply

Yarn Brand

Yarn Lot

Req F/ Gsm : 250

Req F/Dia : 700ap

Req F/Dia : 42

Req SL : 3.00

Act SL :

M/S GG : 18

G/Gsm : 250

G/Dia : 690ap

Shift : A

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Slub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks	
13	01		(Ly)	ew	rm		4		ew					25.90	64	10	05	A	786/2425	
13	02								um					12.70	32	06	10	A	8096+404	
																				(S-12)

Penalty Point Legend

N/L= Needle Line

N/B=Needle Broken

U/T=Uneven Tention

B/M=Barre Mark

F/Y=Fly Yarn

B/S= Black Spot

O/S= Oil Spot

T/T= Thick & Thin

O/L= Oil Line

Four Point System:

Size Of Defect: Penalty

3 Inches or Less 1 Point

3 To 6 Inches 2 Point

6 To 9 Inches 3 Point

Over 9 Inches 4 Point

Formula

$$\frac{\text{Pts count} * 36 * 100}{\text{Roll Length (Yds)} * \text{Fabric Dia (Inch)}}$$

Hole Below 1"=2

Hole over 1"=4

Max.28 Pts acceptable Per 100Sq Yds

Classification

A-Class= 01 to 20 Point

B-Class=21 to 28 Point

Reject=Over 28

Q.C Inspector _____

Q.C Supervisor/Incharge _____

Q.C Officer/Executive _____

Manager (QAD) _____

Dakshin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

M-11
 Pkg = 516.00
 B.No = 3326
 246
 66.9 (cm)
 A

METHOD: ASTM (D-5430)
 Inspection Date: 19/11/14
 Fabric Type: 102 PLY 40/2
 K/Factory: Yams
 Buyer: Yams
 Order style: TOP 16 A-54
 Color: 11/20 P 09-09
 Qty: 922 KG
 Yarn Count: 34/2x26/50/27/27/30/27
 Brand: (Karnafabrik)
 Req Ft/Gsm: 200
 M/C Dia: 70 (250)
 M/S GG: 18
 Req SL: 3.00
 Act SL:
 Shift: A

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Slub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks
u	01			(7) 10/11										3010	80	22	15	A	8096448
													(3-B)						

Penalty Point Legend
 N/L= Needle Line
 N/B=Needle Broken
 U/T=Uneven Tention
 B/M=Barre Mark

F/Y=Fly Yarn
 B/S= Black Spot
 O/S= Oil Spot
 T/T= Thick & Thin
 O/L= Oil Line

Four Point System:
 Size Of Defect: Penalty
 3 Inches or Less 1 Point
 3 To 6 Inches 2 Point
 6 To 9 Inches 3 Point
 Over 9 Inches 4 Point

Hole Below 1"=2
 Hole over 1"=4
 Max.28 Pts acceptable Per 100Sq Yds

Formula

$$\frac{\text{Pts count} \times 36 \times 100}{\text{Roll Length (Yds)} \times \text{Fabric Dia (Inch)}}$$

Classification
 A-Class= 01 to 20 Point
 B-Class=21 to 28 Point
 Reject=Over 28

Q.C Inspector

Q.C Supervisor/Incharge

Q.C Officer/Executive

Manager (QAD)

Dakkhin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

Form 251877
No 2 5335

METHOD ASTM (D-5430)

Inspection Date: 12/11/14

Fabric Type: 101 Fly AB

K/Factory: 0103

Buyer: 0000

Order/style: 11-120

Color: 11-120

Qty: 12759

Yarn Count: 24/20/46/60/70 + 300Y

Yarn Brand: andeapore

Yarn Lot: 502027 (32.5)

Req F/Gsm: 240

Req F/Dia: 36 @

M/C Dia: 38

Req SL: 2.75

Act SL: 2.75

M/S GG: 18

G/Gsm: 286

G/Dia: 36.42940

Shift: A

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Slub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks	
10	01				(6 of 240)				in	(out of 1000)					13.50	34	10	18	A	80064480A Pilled
																				(S-B)

Penalty Point Legend

N/L= Needle Line

N/B=Needle Broken

U/T=Uneven Tention

B/M=Barre Mark

F/Y=Fly Yarn

B/S= Black Spot

O/S= Oil Spot

T/T= Thick & Thin

O/L= Oil Line

Four Point System:

Size Of Defect: Penalty

3 Inches or Less 1 Point

3 To 6 Inches 2 Point

6 To 9 Inches 3 Point

Over 9 Inches 4 Point

Formula

$Pts\ count = \frac{36 \times 100}{Roll\ Length\ (Yds) \times Fabric\ Dia\ (Inch)}$

Hole Below 1"=2

Hole over 1"=4

Max.28 Pts acceptable Per 100Sq Yds

Classification

A-Class= 01 to 20 Point

B-Class=21 to 28 Point

Reject=Over 28


Q.C Inspector

Q.C Supervisor/Incharge

Q.C Officer/Executive

Manager (QAD)

Dakkhin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

Part 2 57474
B no 23380

METHOD: ASTM (D-5430)

Inspection Date: 19/11/24

Fabric Type: 100% Cotton

K/Factory: HAMS

Buyer: DDM

M=272763-2032

Color: 1109 + 92 + 318

Qty: 818 Kg

Yarn Count: 30/2

Yarn Lot: 3705052

M/C-Dia: 42

Req F/Gsm: 200

Req F/Dia: 70

M/C-Dia: 42

42 85D CM

Req SL: 3.80

Act SL: 3.80

M/S GG: 18

G/Gsm: 230

G/Dia: 69

Shift: A

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Slub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks	
06	01						W		W					30.0	80	256	06	A	786/2419	
06	02						W		W					30.0	80	256	06	A	8086/4488	
																				(S-B)

Penalty Point Legend
N/L= Needle Line
N/B=Needle Broken
U/T=Uneven Tention
B/M=Barre Mark

F/Y=Fly Yarn
B/S= Black Spot
O/S= Oil Spot
T/T= Thick & Thin
O/L= Oil Line

Four Point System:
Size Of Defect: Penalty
3 Inches or Less 1 Point
3 To 6 Inches 2 Point
6 To 9 Inches 3 Point
Over 9 Inches 4 Point

Hole Below 1"=2
Hole over 1"=4
Max.28 Pts acceptable Per 100Sq Yds

Formula
$$\frac{\text{Pts count} \times 36 \times 100}{\text{Roll Length (Yds)} \times \text{Fabric Dia (Inch)}}$$

Classification
A-Class= 01 to 20 Point
B-Class=21 to 28 Point
Reject=Over 28

Q.C Inspector

Q.C Supervisor/Incharge

Q.C Officer/Executive

Manager (QAD)

Dakkhin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

M/205
 P/N 2 51415
 P/N 2 3256

METHOD ASTM (D-5430)

Inspection Date: 19/11/14

Fabric Type: 2x1 Rib

K/Factory: H-103

Buyer: DDM

Order style: 258466-1636

Color: 1207

Qty: 470 kg

Yarn Count: 26/8 R/S

Brand: next one

Yarn Lot: 1401457 Y0301

Req F/Wsm: 2.75

Req F/Dia: 56

M/C Dia: 94

Req SL: 2-90

Act SL: 56

M/S GG: 18

G/Gsm: 54400

G/Dia: 54400

Shift: A

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Stub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks
05	05						0.50	(S-B)						19.0	42	32	51	6	80954448
													(S-B)						

Penalty Point Legend

- N/L= Needle Line
- N/B= Needle Broken
- U/T= Uneven Tention
- B/M= Barre Mark

F/Y= Fly Yarn

- B/S= Black Spot
- O/S= Oil Spot
- T/T= Thick & Thin
- O/L= Oil Line

Four Point System:

- Size Of Defect: Penalty
- 3 Inches or Less 1 Point
- 3 To 6 Inches 2 Point
- 6 To 9 Inches 3 Point
- Over 9 Inches 4 Point

Formula

$$\frac{\text{Pts count} * 36 * 100}{\text{Roll Length (Yds)} * \text{Fabric Dia (Inch)}}$$

- Hole Below 1"=2
- Hole over 1"=4
- Max. 28 Pts acceptable Per 100Sq Yds

- Classification**
- A-Class= 01 to 20 Point
 - B-Class= 21 to 28 Point
 - Reject= Over 28

QC Inspector

QC Supervisor/Incharge

QC Officer/Executive

Manager (QAD)

Dakkhin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

METHOD: ASTM (D-5430)

Inspection Date: 9/11/14

K/Factory: Haimis

Buyer: J.P.

Order/Style: 913133

Color: Olive

Qty: 537-49

Yarn Count: 32/20m

Yarn-Brand: 488+0000

Yarn Lot: K13N200

Req F/ Gsm: 280

Req F/Dia: 54

M/C Dia: 44

4:26 am

Req SL: 2-80

Act SL: 2-80

M/S GG: 18

G/Gsm: 230

G/Dia: 52.40

Shift: A

14/12/14
PH: 0248665
G.N. = 619

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Slub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks
04	01		Loop						N/B-2					14.50	40	52	50	R	7882413
04	02		Loop											26.54	68	74	19	A	
04	03		Loop											21.00	61	18	20	A	8096448

Penalty Point Legend

N/L= Needle Line

N/B=Needle Broken

U/T=Uneven Tention

B/M=Barre Mark

F/Y=Fly Yarn

B/S= Black Spot

O/S= Oil Spot

T/T= Thick & Thin

O/L= Oil Line

Four Point System:

Size Of Defect: Penalty

3 Inches or Less 1 Point

3 To 6 Inches 2 Point

6 To 9 Inches 3 Point

Over 9 Inches 4 Point

Formula

$$\frac{\text{Pts count} \times 36 \times 100}{\text{Roll Length (Yds)} \times \text{Fabric Dia (Inch)}}$$

Hole Below 1"=2

Hole over 1"=4

Max.28 Pts acceptable Per 100Sq Yds

Classification

A-Class= 01 to 20 Point

B-Class=21 to 28 Point

Reject=Over 28

Q.C Inspector

Q.C Supervisor/Incharge

Q.C Officer/Executive

Manager (QAD)

Dakkhin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

Pho 02
Pkg = 51852
No = 3442
G/Gsm : 257
G/Dia : 50⁰⁰
Shift : 8

METHOD: ASTM (D-5433)

Inspection Date: 8/11/14

Fabric Type: 2x2 Fly

K/Factory: BMS

Buyer: TG

Order/style: TB 7513 A

Color: White

Qty: 3479 Yds

Yarn Count: 40/20m A300W

Yarn Brand: G.P. 02000000

Yarn Lot: 67-R330V

Req F/ Gsm : 180

Req T/Dia : 52

M/C Dia : 42

Req SL : 2-65

Act SL :

M/S GG : 18

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Slub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks
02	01			(1)										21.80	67	12	13	A	786/2413
02	02						LOOP = 05			(5-0)				25.10	80	22	20	A	8016+448
2	1																		

Penalty Point Legend

- N/L= Needle Line
- N/B=Needle Broken
- U/T=Uneven Tention
- B/M=Barre Mark

F/Y=Fly Yarn

- B/S= Black Spot
- O/S= Oil Spot
- T/T= Thick & Thin
- O/L= Oil Line

Four Point System:

- Size Of Defect: Penalty
- 3 Inches or Less 1 Point
- 3 To 6 Inches 2 Point
- 6 To 9 Inches 3 Point
- Over 9 Inches 4 Point

Formula

$$\frac{\text{Pts count} \times 36 \times 100}{\text{Roll Length (Yds)} \times \text{Fabric Dia (Inch)}}$$

Hole Below 1"=2
Hole over 1"=4
Max.28 Pts acceptable Per 100Sq Yds

Classification

- A-Class= 01 to 20 Point
- B-Class=21 to 28 Point
- Reject=Over 28

Q.C Inspector

Q.C Supervisor/Incharge

Q.C Officer/Executive

Manager (OAD)

Dakkhin Vangnahati, Sreepur, Gazipur.

Daily Grey Fabrics Inspection Report

M/Lc 01
P/N 2 51502
Q. No 3453

METHOD ASTM (D-5430)

Inspection Date: 19/11/14

Order/style: M2 AM231

Fabric Type: 40S PLY NB

Order/style: NGB-1616

Yarn Count: 24 P. 50/2 + 10/4

Req F/Gsm: 620

Req SL: 3-20

G/Gsm: 226

K/Factory: HAMS

Color: Grey

Yarn Brand: Korum + new

Req F/Dia: 47-60

Act SL:

G/Dia: 46.02

Buyer: Next

Qty: 5257 Yd

Yarn Lot: 432 + 425

Req C Dia: 44

M/S GG: 12

Shift: A

M/C	Roll	Hole	N/B	N/L	O/L	T/T	F/Y	Slub	Conta	Ly-Out	B/S	O/S	Other	Qty	Length	Pts count	C-Point	Class	Remarks
01	01			(Loop-u)					u	(Partia)				34.20	88	09	09	A	786/2413
01	02						u		u					20.80	48	06	10	A	u
01	03			(Loop-u)			(New-aw)		u					21.40	52	12	18	A	8096+498
										(S-B)									

Penalty Point Legend

N/L= Needle Line
N/B= Needle Broken
U/T= Uneven Tention
B/M= Barre Mark

F/Y= Fly Yarn

B/S= Black Spot
O/S= Oil Spot
T/T= Thick & Thin
O/L= Oil Line

Four Point System:

Size Of Defect: Penalty
3 Inches or Less 1 Point
3 To 6 Inches 2 Point
6 To 9 Inches 3 Point
Over 9 Inches 4 Point

Formula

$$\frac{\text{Pts count} \times 36 \times 100}{\text{Roll Length (Yds)} \times \text{Fabric Dia (Inch)}}$$

Max. 28 Pts acceptable Per 100 Sq Yds

Classification

A-Class= 01 to 20 Point
B-Class= 21 to 28 Point
Reject= Over 28


Q.C. Inspector

Q.C. Supervisor/Incharge

Q.C. Officer/Executive

Manager (OAD)

2.2 Summery data table for knit Inspection reports

Machine No.	Role	Length	Faults											Total	
			B/S	N/L	N/B	F/Y	O/L	O/S	T/T	U/T	Slub	Conta	L/O		Other
1	01	67						2					4		6
2	01	95				2						4			6
	02	93						2				3			5
3	01	83				2						4		L/C 4	10
	02	61						2						Loop 2	4
4	01	64				2						4		L/C 3	9
	02	32						2				4			6
5	01	44				2						4			6
	02	35						2				4			6
6	01	80						2						L/C 8	10
7	01	34						2				2		L/C 4	8
8	01	60			2									L/C 4	6
	02	61					2							L/C 4	6
9	01	26			2							4			6
	02	51										4		L/C 4	8

10	01	96				3						4			7
	02	80									2		7		9
11	01	42											Loop 8		8
12	01	40											Loop3 6		36
	02	68									2		L/C 8 Loop 4		14
	03	61						2				4	12		16
13	01	67										4	8		12
	02	80						2					Loop 5		7
14	01	80					2					3	Loop 4		9
	02	48				2						4			6
	03	52						2				2	Loop 4 L/C 4		12
15					3%	9%	3%	13%					L/C 29%	Loop 43%	

2.3 Fault by intensity:

F/Y (Fly Yarn) = 13

U/T (Uneven Tension) = 0

O/L (Oil Line) = 4

O/S = (Oil Spot) = 20

N/B = (Needle Break) = 4

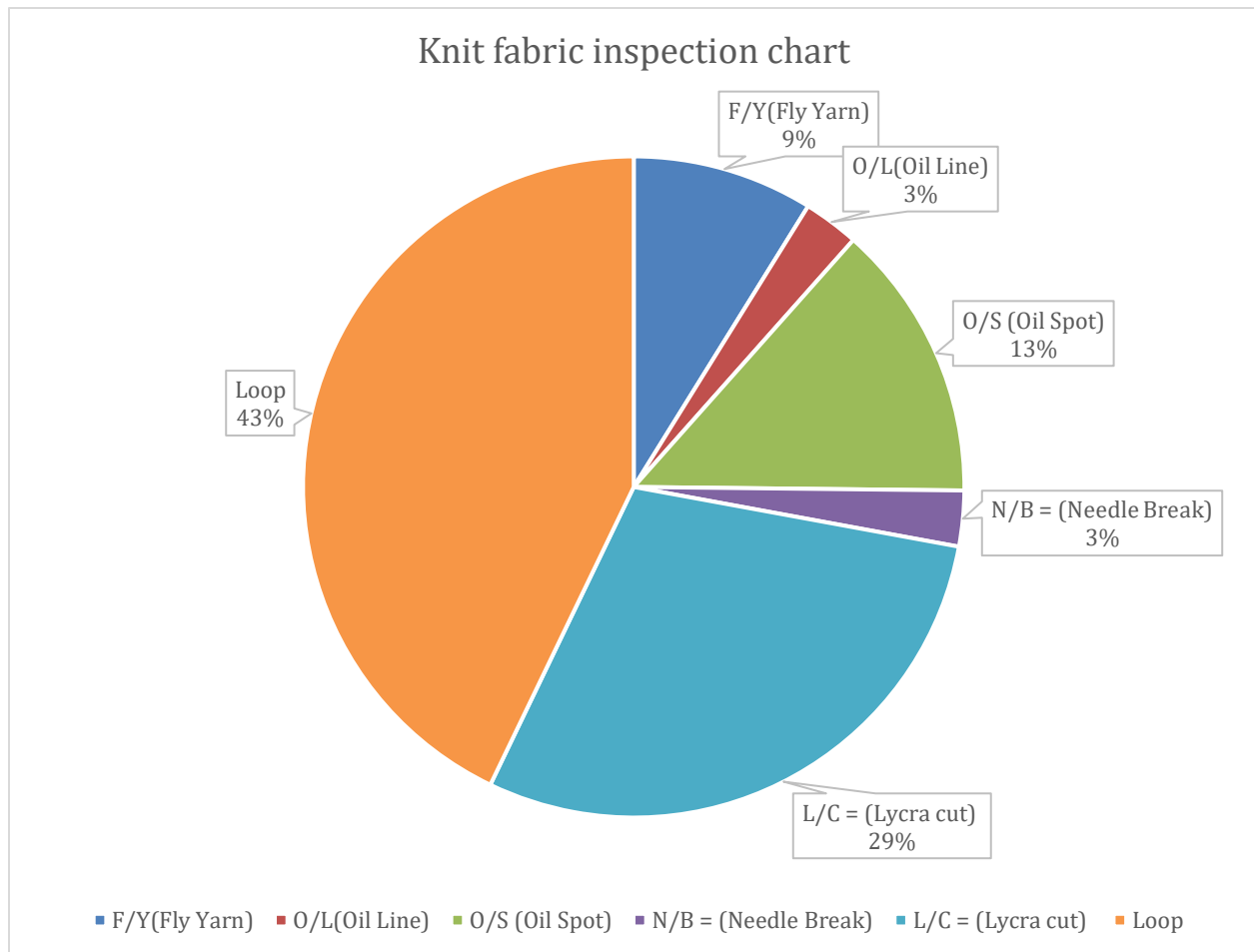
T/T = (Thick and Thin) = 0

B/S = (Black Spot) = 0

L/C = (Lycra cut) = 43

Loop = 63

2.4 Knit fabric inspection chart



Fly Yarn

Causes

- dust, loose fibers, or lint buildup in knitting machines.
- worn-out sinkers or needles from machines.
- usage of inferior yarns with weak fibers or a lot of lint.
- Yarns that are too dry or brittle and break quickly.
- Low humidity or excessive dryness in the knitting area.
- Lint buildup due to inadequate airflow.
- More lint is produced at high knitting speeds.

- Fibers are dislodged by loose yarn tension.
- Loose fibers are drawn to the cloth by static accumulation.

Solution

- To get rid of dust and lint, clean knitting machines on a regular basis.
- Replace worn-out machine components, such as sinkers and needles.
- Make use of premium yarns with low lint content.
- To keep yarns at the right moisture content, condition them.
- Keep the knitting area's humidity between 50 and 60 percent.
- Make sure there is enough airflow to prevent lint buildup.
- Cut down the knitting pace to reduce the production of lint.
- To avoid loose fibers, maximize the tension in the yarn.

Needle Break

Causes

- use of broken or subpar needles.
- incorrect handling when putting in a needle.
- Unsuitable machine parameters, like as excessive knitting speed.
- Stress on the needles is caused by excessive yarn tension.
- presence of foreign or hard materials in the fabric or yarn.
- wear or tiredness from extended usage of the needle.

Solution

- Make use of machine-compatible, high-quality needles.
- Install needles correctly to prevent damage.
- Adjust the machine's settings (such as speed) based on the needs of the cloth.
- To achieve the ideal yarn tension, adjust it.
- Before knitting, check yarn and cloth for foreign items.
- To prevent wear and weariness, change needles on a regular basis.
- Make that the machine's parts are maintained and positioned correctly.

Oil Spot

Causes

- use of broken or subpar needles.
- incorrect handling when putting in a needle.
- Unsuitable machine parameters, like as excessive knitting speed.
- Stress on the needles is caused by excessive yarn tension.
- presence of foreign or hard materials in the fabric or yarn.
- wear or tiredness from extended usage of the needle.

Solution

- Make use of premium, non-staining machine lubricants made especially for fabrics.
- Don't overlubricate; just use the necessary quantity.
- To stop oil leaks, give your machinery regular maintenance and inspections.
- To get rid of extra oil, regularly clean the machine's surfaces.
- To prevent spills on yarn or fabric, handle lubricant with caution.
- To stop leaks, install oil guards or shields on important machine components.
- Oil-stained cloth should be washed or treated right away using the proper stain removers.

Loop

Causes

- incorrect knitting tension of the yarn.
- utilizing yarn that is unsuitable or of low quality.
- wrong loop length change or other machine parameters.
- Uneven loops are caused by worn-out or broken needles.
- uneven yarn feeding as a result of misalignment or obstacles.
- defective or misaligned knitting machine feeders or sinkers.

Solution

- To guarantee consistent loop generation, adjust the yarn tension.

- Make use of yarn that is appropriate for the type of cloth and of excellent quality.
- Adjust the machine to the proper loop length based on the specifications for the cloth.
- Needles that are worn out or broken should be replaced right away.
- Remove obstacles to provide equal and seamless yarn feeding.
- Correctly align feeders and sinkers to prevent asymmetrical loops.
- To increase loop uniformity, lower the machine speed.

Lycra cut(29%)

Causes

- When knitting, defective needles might harm Lycra.
- Lycra threads can be stretched or broken by improper yarn tension.
- Weak or unsuitable mixes are the result of poor yarn quality.
- Lycra yarn can get snagged or cut by misaligned machine components.
- Excessive machine speed degrades Lycra and causes friction.
- Uneven tension and cuts result from malfunctioning feeding systems.
- Tears may develop from improper handling of the cloth during processing.

Solution

- To avoid cuts, replace broken needles on a regular basis.
- Adapt the yarn tension to the fabric's requirements.
- Make use of premium Lycra for increased durability.
- Regularly align machine parts to prevent malfunctions.
- Run machines at the Lycra-recommended speeds.
- Assure steady tension and seamless feeding systems.
- When treating Lycra materials, handle them with care.

Chapter 3

3.1 Woven fabric(Denim)

Woven fabric refers to any textile produced through the process of weaving. Typically made on a loom, it consists of multiple threads interlaced at right angles, forming a warp and a weft. In essence, woven fabric is any material created by crossing two or more threads perpendicular to each other. It can be crafted from natural fibers, synthetic fibers, or a combination of both, like cotton blended with polyester.

These fabrics are versatile and commonly used for clothing, upholstery, home décor, carpets, and various other applications.

3.2 Production Process

Yarn Preparation: Yarns are spun and designed with specific properties to suit their role as either warp yarns (longitudinal) or weft yarns (transverse).

Warping: Warp yarns are systematically arranged on a beam to prepare for the weaving process.

Weaving: Weaving involves interlacing the weft yarn over and under the warp yarns in distinct patterns. The main types of weaves include plain, twill, and satin.

Finishing: Once woven, the fabric undergoes finishing processes such as bleaching, dyeing, printing, and treatments to improve performance characteristics, such as water resistance or shrinkage control.

3.3 Qualities:

Woven fabrics generally stretch diagonally along the bias (the angle between the warp and weft) unless made with elastic threads. They tend to fray at the edges unless specific techniques like pinking shears or hemming are applied to prevent it. Different industries utilize woven textiles in various ways to create products.

Unlike knitted fabrics, woven fabrics are less stretchy, which can be advantageous for certain applications. Fabrics with a tight weave are more durable and retain their shape better.

Two threads, the vertical warp and the horizontal weft, are interlaced to create woven fabrics. The fabric may be made into dresses, tops, and coats by combining these threads in different ways to create the three fundamental weave patterns of satin, twill, and plain.

Here's a concise overview of the types of woven fabrics and their key characteristics:

3.4 Types of Woven Fabrics

Buckram

- Stiff, coated fabric composed of glue and loosely woven fibers.
- Used for interfacing in garments (necklines, collars, waistbands) and reinforcing accessories like handbags.

Cambric

- Lightweight, plain-weave fabric with a rigid surface.
- Perfect for outfits for women and kids that need to be crisp.

Casement

- Fabric made of medium-weight cotton with thick warp yarns.

- Used for curtains, table linens, and upholstery.

Cheesecloth

- Lightweight, sheer, open-weave fabric.
- Originally for wrapping cheese; now used for dresses and drapery fabrics.

Chiffon

- Sheer, lightweight fabric made from silk, rayon, or polyester.
- Commonly used in evening wear and sarees.

Chintz

- Medium-weight, plain cotton fabric often with a glazed finish.
- Used for skirts, dresses, pajamas, aprons, and drapery.

Corduroy

- Cut pile fabric with visible ribs.
- Suitable for pants, shirts, and jackets.

Crepe

- Fabric with a crinkled surface made using highly twisted yarns.
- Used for sarees, shirts, and dresses.

Denim

- Warp-faced twill fabric, typically yarn-dyed.
- Popular for jeans, overalls, and sportswear.

Drill

- Stiff, warp-faced twill fabric available in solid colors.
- Used for pants, uniforms, and workwear.

Flannel

- Soft, plain or twill-woven woolen fabric.
- Used for suits, pants, and infant clothing.

Gabardine

- Durable, closely woven warp-faced twill fabric.
- Suitable for raincoats, suits, and sportswear.

Georgette

- Lightweight, plain-weave fabric with a slightly rough texture.
- Ideal for women's evening wear.

Kashmir Silk

- Fine silk fabric with traditional Kashmiri motifs.
- Used for sarees, shirts, and shawls.

Khadi

- Hand-spun, hand-woven fabric made from cotton or blends.
- Known for simplicity and durability.

Lawn

- Fine, lightweight fabric with a crisp finish.
- Commonly used as lining in dresses.

Mulmul

- Fine cotton fabric heavier than muslin, often printed.
- Used for sarees and light dresses.

Muslin

- Lightweight, open-weave fabric.
- Suitable for summer dresses and household textiles.

Poplin

- Medium-weight cotton fabric with a fine ribbed texture.
- Used for upholstery, dresses, and shirts

Sheeting

- Fabric that is closely woven, usually used for bed coverings.
- Made in plain or twill weave.

Taffeta

- Crisp, smooth fabric with a fine ribbed texture.
- Often used for evening wear.

Tissue

- Fine silk or synthetic fabric interwoven with metallic threads.
- Used for sarees and dress materials.

Velvet

- Warp-cut pile fabric with a soft, lustrous surface.
- Commonly used for dresses and children's clothing.

Mousseline

- Very fine, transparent fabric, often used for dresses and shawls.

Organdie/Organza

- Lightweight, crisp, plain-weave fabric.
- Used for women's wear and evening gowns.

Leno

- Open-weave fabric with interlocking threads.
- Used for creating fancy and decorative items.

Aertex

- Airy fabric designed to trap air for insulation.
- Used in warm and cool weather garments.

Madras Muslin Net

- Open gauze fabric with extra weft motifs.
- Primarily used for curtains and furnishings.

Aida Cloth

- Cotton fabric with an even-weave mesh pattern.
- Popular for cross-stitch embroidery.

3.5 Denim

The weft threads of denim, a sturdy cotton fabric, run beneath two or more warp threads in a warp-faced weave. It differs from cotton duck because of the diagonal ribbed texture produced by the twill weave. Nîmes, France, is where denim got its start in the contemporary era.

Although denim comes in various colors, indigo denim is the most common. In this type, the warp threads are dyed blue while the weft threads remain white. The warp-faced twill structure results in the blue warp threads being more visible on one side and the white weft threads dominating the other, giving jeans their characteristic white interior. Denim is widely used in clothing, accessories, and furniture.

3.6 Etymology

"Denim" comes from the French phrase *serge de Nîmes*, which translates to "serge from Nîmes." The term "serge" describes a robust twill fabric, and the town of Nîmes in France is where it was most notably made. Around 1850, the word "denim" first arose in American English.

3.7 History

The first rivet-reinforced denim pants were made in 1873 by Nevada tailor Jacob W. Davis, which led to the widespread use of denim in the United States in the middle of the 19th century. Davis teamed up with Levi Strauss & Co., the dry goods provider of his denim fabric, to increase production after the demand for these sturdy jeans outgrew his tiny store.

Denim was frequently used for durable uniforms during the 20th century, such as those worn by French national railway employees. Olive-drab denim coveralls, sometimes referred to as "denims," were provided by the Royal Air Force for labor-intensive jobs in the years following World War II.

Denim jeans had established themselves as a mainstay of teenage culture by the 1970s. Interior car finishes that resembled denim were introduced by automakers, starting with American Motors Corporation (AMC). In order to simulate denim, producers utilized indigo-colored spun nylon or vinyl, accentuated with contrast stitching and copper rivets, because real denim was unable to meet fire safety regulations. After AMC introduced a trim package under the Levi's brand in 1973, Volkswagen (the "Jeans Beetle," 1973–1975) and Jeep (1975–1977) followed suit.

3.8 Creating denim

The production of denim generally follows these steps:

1. **Spinning:** Cotton fibers are twisted into yarn
2. **Dyeing:** The warp yarn has been colored (typically with indigo), Weft yarn is typically left white.
3. **Weaving:** A shuttle loom or a projectile loom are used to weave the dyed warp and undyed weft together..
4. **Sanforization:** To ensure durability and uniform size, the woven cloth goes through a pre-shrink and stabilization procedure.

3.9 Production of yarn

Cotton is the only material used to make traditional denim yarn. Using industrial gear, cotton fibers are cleaned, combed into cohesive strands of comparable length, and then spun into yarn. Different washes, dyes, or treatments are used during the denim production process to change the end product's look.

In some cases, up to 3% of the cotton is replaced with an elastic material like spandex, resulting in "stretch denim." This woven form can provide up to 15% elasticity, offering greater flexibility and comfort.

3.10 Dyeing

Originally, natural indigo dye—usually made from plants in the *Indigofera* genus—was used to tint denim. *Indigofera tinctoria*'s dried and fermented leaves were used to make indigo, also referred to as "true indigo" or "natural indigo," in South Asia. As early as the eighth century BC, *Isatis tinctoria*, or woad, was employed as a dye in Europe; however, because of its superior dyeing

qualities, *Indigofera tinctoria* gradually took its place. Nowadays, synthetic indigo is used to dye the majority of denim. No matter what kind of dye is used, the yarn is repeatedly dipped and oxidized; the quantity of dips determines how intense the blue color is.

3.11 Dyeing Methods

- Skein dyeing, in which individual skeins were dipped into dye pools, was the method used to dye cotton yarns prior to 1915.
- Rope dyeing machines were first used in 1915, and in the 1970s, slasher or sheet dyeing machines followed.

3.12 Process Differences:

- Yarns are bundled into long ropes and passed through a series of indigo dye baths.
- Between each dip, the ropes are exposed to air to allow oxidation, which helps the indigo bond to the fibers.
- Repeated dipping builds up the rich blue color.

Slasher Dyeing

- Parallel yarn sheets are fed through dye baths and drying systems.
- This method includes multiple rounds of dyeing and oxidation, similar to rope dyeing.
- The yarns are prepared for weaving after the dyeing process.

Loop Dyeing

- Yarns are fed through indigo dye baths in a looping system.
- They undergo several cycles of dipping and oxidation, resembling both rope and slasher dyeing methods.

Dip Dyeing (Traditional Method)

- The yarn or fabric is repeatedly submerged in an indigo dye bath.
- Oxidation is allowed between each immersion to develop the color.

3.13 Categories of Dyeing:

- **Indigo Dyeing:** creates the recognizable tint of blue or similar hues.
- **Sulfur Dyeing:** uses synthetic dyes made by sulfurizing organic intermediates to produce a range of different colors, such as black, red, pink, purple, gray, rust, mustard, and green.
- This combination of techniques and innovations ensures denim retains its characteristic appearance while offering diverse color options.

3.14 Weaving

Today, the majority of denim is created on a shuttleless loom, which produces fabric bolts that are usually at least 60 inches (1,500 mm) wide. Nonetheless, some denim is still woven using conventional shuttle looms, which usually provide bolts that are only 30 inches (760 mm) wide. The selvedge, also known as selvage, is the finished edge of the fabric created when the cross-yarn (weft) reverses direction at the edge of the loom and is frequently used to identify denim produced on a shuttle loom. Contrasting warp threads are frequently used to highlight this selvedge edge, which can act as a distinguishing quality indicator. Although both kinds of looms can produce high-quality denim, selvedge denim is typically linked with luxury goods because to the more meticulous assembly required during the weaving process.

Denim comes in a wide range of thicknesses and weights, ranging from 9 to 32 oz (260 to 910 g) per yard. But the average weight of a yard of denim is between 11 and 14 oz (310 and 400 g).

3.15 Applications

Introduced in the early 1900s, the denim "trucker" jacket has become one of the most popular denim cotton products since the 1960s.

A variety of consumer goods are made using the adaptable fabric denim, including:

Clothes

- Jeans
- Jackets
- Dresses
- Shirts
- Capri pants
- Shorts
- Skirts
- Suits
- Overalls
- Jeggings

Footwear and Accessories

- Boots
- Athletic shoes
- Sneakers
- Belts
- Hats
- Handbags (purses)
- Tote bags
- Wallets

Household Items

- Aprons
- Cloth face masks
- Bean bag chairs
- Lampshades
- Upholstery

This broad usage demonstrates denim's adaptability, making it a staple in both fashion and home décor.

3.16 Art

Many artists have used denim as a material, including Ian Berry, who exclusively uses recycled or old denim to create his portraits and other scenes. Berry, a British-born artist based in East London, is known for his intricate, photorealistic artworks made entirely from denim. He carefully cuts and layers denim pieces to craft detailed, textured works that depict contemporary life. Over the past 15 years, his "Denim Art" has been exhibited globally in museums, galleries, and private collections, with one of his recent exhibitions, "Beyond Denim," showcased in Istanbul in 2023.

3.17 Worldwide market

The global denim market was estimated to be worth \$57.3 billion in 2020, with production growing by 8% yearly and demand rising by 5.8%. Asia produces more than half of the world's denim, with China, India, Turkey, Pakistan, and Bangladesh being the top manufacturers.

From 2022 to 2026, the denim sector is anticipated to expand at a compound annual growth rate (CAGR) of more than 4.8%. During this time, the market value is anticipated to increase from \$57.3 billion to \$76.1 billion.

Chapter 4:Denim Fabric Quality Inspection and Fault Analysis

4.1 Data Collection



NZ DENIM LTD.

Balalkha, Bhulla, Rupgonj, Narayanganj.

68/69
67

Fabric Inspection Sheet

Buyer Name..... Prog 14072 Code 5919 Weight/Oz. 12.00 Colour Epic Construction..... Weave 3/1R

Loom No. 03 Beam No. 884 Lot 16790 SS 06 Op Name Tuam Shift (A) Trolley No. 58 Date 07.12.24

1	Double Pick	10	Cut Pick	19	Balls	28	Knot
2	Miss Pick	11	Reed Mark	20	Hard Size	29	Stop Mark
3	End out	12	Temple Mark	21	CSV	30	Naps
4	Cone Change	13	Wef Loose	22	Sizing Stains	31	Fly Yam
5	Starting	14	Wrong Denting	23	Line Mark	32	Course Pick
6	Broken Pick	15	Snral	24	Bemer Mark	33	Count Variation
7	Double End	16	Finish Crease	25	Color Spot	34	Slub in Weft
8	Smash	17	Oil Spot	26	Loose End	35	Slub in Warp
9	Grey Crease	18	Hole/Tears	27	Tight End	36	Joint/Splice

col-466 R-403

Yds	Defect				Yds	Defect				Yds	Defect				S/P	C/P	Remarks
	1	2	3	4		1	2	3	4		1	2	3	4			
10		AK			12		AK			10		AK					
46		34								20		AK					16
60			AK							40			AK				AK
67			AK														
80		AK															
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>50</p> <p>PIW = 66.2</p> <p>EW = 67.7</p> <p>S = 8.8</p> <p>C = 8</p> </div> <div style="text-align: center;"> <p>44</p> <p>PIW = 65.2</p> <p>EW = 67.7</p> <p>S = 7.4</p> <p>C = 7</p> </div> <div style="text-align: center;"> <p>82</p> <p>PIW = 68.2</p> <p>EW = 67.7</p> <p>S = 7.8</p> <p>C = 7</p> </div> </div>																	
10		AK			12		AK										
46			AK		44					26							
67			AK		40					26							
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>50</p> <p>PIW = 66.2</p> <p>EW = 67.7</p> <p>S = 7.10</p> <p>C = 10</p> </div> <div style="text-align: center;"> <p>50</p> <p>PIW = 65.2</p> <p>EW = 67.7</p> <p>S = 7.5</p> <p>C = 5</p> </div> </div>																	

Poni control

Roll # 167900617						Roll # 167900619						Roll # 167900621						Sheet Summary		
Yds #	50	Pcs #	1	Points #	14	Yds #	44	Pcs #	1	Points #	01	Yds #	82	Pcs #	1	Points #	07	A =	396	
Grade #	A			Grade #	A	Grade #	A			Grade #	A	Grade #	A			Grade #	A	sp.	09	
Roll #	167900618	Roll #	167900610	Roll #												400				
Yds #	50	Pcs #	1	Points #	10	Yds #	90	Pcs #	1	Points #		Yds #		Pcs #		Points #				
Grade #	A			Grade #	A	Grade #	A			Grade #		Grade #				Grade #		TIP	43	



pi-10214

NZ DENIM LTD.

Balalkha, Bhulta, Rupgonj, Narayanganj.

Fabric Inspection Sheet

Buyer Name..... Prog 13840 Code 7498 Weight/Oz 6.25 Colour ECRU Construction MC 10 Weave (3) LHT

Loom No..... Beam No..... Lot 13880/01 S.S..... Op Name magud Shift A Trolley No 20 Date 7/12/24

1	Double Pick	10	Cut Pick	19	Balls	28	Knot
2	Miss Pick	11	Reed Mark	20	Hard Size	29	Stop Mark
3	End out	12	Temple Mark	21	CSV	30	Naps
4	Cone Change	13	Weft Loose	22	Sizing Stains	31	Fly Yarn
5	Starting	14	Wrong Denting	23	Line Mark	32	Course Pick
6	Broken Pick	15	Srral	24	Bemer Mark	33	Count Variation
7	Double End	16	Finish Crease	25	Color Spot	34	Slub in Weft
8	Smash	17	Oil Spot	26	Loose End	35	Slub in Warp
9	Grey Crease	18	Hole/Tears	27	Tight End	36	Join/Splice

Yds	Defect				Yds	Defect				Yds	Defect				S/P	C/P	Remarks
	1	2	3	4		1	2	3	4		1	2	3	4			
21		21															
42		34															
50		28															
71																	
	W	65															
	e	64															
	p	L															
	contacs 10																

Roll # <u>190300</u>	Roll #	Roll #	Sheet Summary			
Yds # <u>71</u>	Pcs # <u>1</u>	Yds #	Pcs #	Yds #	Pcs #	
Points # <u>6</u>	Grade # <u>A</u>	Points #	Grade #	Points #	Grade #	
Roll #	Roll #	Roll #				
Yds #	Pcs #	Yds #	Pcs #	Yds #	Pcs #	
Points #	Grade #	Points #	Grade #	Points #	Grade #	



NZ DENIM LTD.

Balaikha, Bhulta, Rupgonj, Narayangonj.

Fabric Inspection Sheet

64-65
LB

Buyer Name Prog 14068 Code B/99 Weight/Oz 10.25 Colour Indigo Construction mk-05 Weave mp/R
 Loom No. 50 Beam No. 101 Lot 16788 S.S. 01 Op Name Michael Shift A Trolley No. 79 Date 07.12

1	Double Pick	10	Cut Pick	19	Balls	28	Knot
2	Miss Pick	11	Reed Mark	20	Hard Size	29	Stop Mark
3	End out	12	Temple Mark	21	CSV	30	Naps
4	Cone Change	13	Weft Loose	22	Sizing Stains	31	Fly Yarn
5	Starting	14	Wrong Denting	23	Line Mark	32	Course Pick
6	Broken Pick	15	Snral	24	Bemer Mark	33	Count Variation
7	Double End	16	Finish Crease	25	Color Spot	34	Slub in Weft
8	Smash	17	Oil Spot	26	Loose End	35	Slub in Warp
9	Grey Crease	18	Hole/Tears	27	Tight End	36	Joint/Splice

Yds	Defect				Yds	Defect				Yds	Defect				S/P	C/P	Remarks
	1	2	3	4		1	2	3	4		1	2	3	4			
128		128															
125			128														
53		128															
67		124															
86		124															
		100															
		F 66.5															
		C 85.5															
		P 11															
		507															

Michael

Roll # <u>167880115</u>	Roll #	Roll #	Sheet Summary		
Yds # <u>100</u> Pcs # <u>01</u>	Yds #	Pcs #	Yds #	Pcs #	
Points # <u>11</u> Grade # <u>A</u>	Points #	Grade #	Points #	Grade #	
Roll #	Roll #	Roll #			
Yds #	Pcs #	Yds #	Pcs #	Yds #	Pcs #
Points #	Grade #	Points #	Grade #	Points #	Grade #

NZ TEX GROUP

U-2

Balalkha, Bhutta, Ruggonj, Narayangonj

Fabric Inspection Sheet

67/68

Buyer Name Prog. 14184 Code 0542-N Weight/Oz. 10.00 Colour B Bottoming m/c-02 Weave 3/1 RPT-
 Loom No. 130 Beam No. 870 Lot 16765 S.S. 03 Op Name Layer Shift A Trolley No. 56 Date 07-12-24

1	Double Pick	10	Cut Pick	19	Balls	28	Knot
2	Miss Pick	11	Reed Mark	20	Hard Size	29	Stop Mark
3	End out	12	Temple Mark	21	CSV	30	Naps
4	Cone Change	13	Welt Loose	22	Sizing Stains	31	Fly Yarn
5	Starting	14	Wrong Denting	23	Line Mark	32	Course Pick
6	Broken Pick	15	Snral	24	Berner Mark	33	Count Variation
7	Double End	16	Finish Crease	25	Color Spot	34	Slub in Welt
8	Smash	17	Oil Spot	26	Loose End	35	Slub in Warp
9	Grey Crease	18	Hole/Tears	27	Tight End	36	Joint/Splice

Yds	Defect				Yds	Defect				Yds	Defect				S/P	C/P	Remarks
	1	2	3	4		1	2	3	4		1	2	3	4			
12		28			15	34				14	28						
33		34			42		28			29		34					
62			26		65			06		42	28						
87	34				82		28			65	28						
88			28		92		28			68		34					
94		28			95	34											
100 FW-68.2/68.3 P=13 SIL=10				100 FW-68.2/68.3 P=12 SIL=10				70 FW-68.5/68 P=07 SIL=06									
17	28				14	28											
42			06		25		34										
65		28			40	28											
77	34				60		34										
92			26		77			26									
					90		28										
100 FW-68.2/68.3 P=11 SIL=10				100 FW-68.5/68 P=10 SIL=08													

Roll # 167650306	Roll # 167650308	Roll # 167650310	Sheet Summary		
Yds # 100 Pcs # 01	Yds # 100 Pcs # 01	Yds # 70 Pcs # 01			
Points # 13 Grade # A	Points # 12 Grade # A	Points # 07 Grade # A			
Roll # 167650307	Roll # 167650309	Roll #			
Yds # 100 Pcs # 01	Yds # 100 Pcs # 01	Yds #			
Points # 11 Grade # A	Points # 10 Grade # A	Points #			



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Fabric Inspection Sheet

Buyer Name: *123404* Prog: *1234* Code: *1234* Weight/Oz: *8.50* Colour: *Karishma Blue* Construction: *67/68*
 Loom No: *16653* Beam No: *SS* Op Name: *Sohel* Shift: *A* Trolley No: *07* Weave: *2/1 R* Date: *07/12/24*

Yds	Defect				Yds	Defect				Yds	Defect				S/P	C/P	Remarks
	1	2	3	4		1	2	3	4		1	2	3	4			
<i>12</i>		<i>34</i>															
<i>30</i>			<i>34</i>														
<i>40</i>		<i>34</i>															
<i>64</i>																	
<i>FW 67</i> <i>ow 66.5</i> <i>P- 1</i>																	

54403

Roll #						Sheet Summary							
<i>190300</i>		Roll #		Roll #		Roll #		Roll #		Roll #		Roll #	
<i>64</i>	<i>01</i>	Yds #	Pcs #	Yds #	Pcs #	Yds #	Pcs #	Yds #	Pcs #	Yds #	Pcs #	Yds #	Pcs #
<i>7</i>	<i>A</i>	Points #	Grade #	Points #	Grade #	Points #	Grade #	Points #	Grade #	Points #	Grade #	Points #	Grade #



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Balalkha, Bhulla, Rupgonj, Narayanganj.

68/69
67

Fabric Inspection Sheet

Buyer Name..... Prog 14072 Code 5919 Weight/Oz. 12.00 Colour Blue Construction..... Weave 3/1R

Loom No. 03 Beam No. 884 Lot 16790 SS 06 Op Name Tuam Shift (A) Trolley No. 58 Date 07.12.24

1	Double Pick	10	Cut Pick	19	Balls	28	Knot
2	Miss Pick	11	Reed Mark	20	Hard Size	29	Stop Mark
3	End out	12	Temple Mark	21	CSV	30	Naps
4	Cone Change	13	Wef Loose	22	Sizing Stains	31	Fly Yam
5	Starting	14	Wrong Denting	23	Line Mark	32	Course Pick
6	Broken Pick	15	Snral	24	Bemer Mark	33	Count Variation
7	Double End	16	Finish Crease	25	Color Spot	34	Slub in Weft
8	Smash	17	Oil Spot	26	Loose End	35	Slub in Warp
9	Grey Crease	18	Hole/Tears	27	Tight End	36	Joint/Splice

col-466 R-403

Yds	Defect				Yds	Defect				Yds	Defect				S/P	C/P	Remarks
	1	2	3	4		1	2	3	4		1	2	3	4			
10		AK			12		AK			10		AK					
46		BY								20		AK					16
60				AK						40				AK			AK
67				AK													
80																	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>50</p> <p>PIW = 65.2</p> <p>EW = 67.7</p> <p>S = 8.8</p> </div> <div style="text-align: center;"> <p>44</p> <p>PIW = 65.2</p> <p>EW = 67.7</p> <p>S = 7.4</p> </div> <div style="text-align: center;"> <p>81</p> <p>PIW = 68.2</p> <p>EW = 67.7</p> <p>S = 7.8</p> </div> </div>																	
10					12												
46				AK	44				AK	26							
67				AK	40				AK	46							
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>50</p> <p>PIW = 65.2</p> <p>EW = 67.7</p> <p>S = 7.10</p> </div> <div style="text-align: center;"> <p>50</p> <p>PIW = 65.2</p> <p>EW = 67.7</p> <p>S = 7.5</p> </div> </div>																	

Poni control

Roll # 167900617						Roll # 167900619						Roll # 167900621						Sheet Summary		
Yds #	50	Pcs #	1	Points #	14	Yds #	44	Pcs #	1	Points #	01	Yds #	81	Pcs #	1	Points #	07	A =	396	
Grade #	A			Grade #	A	Grade #	A			Grade #	A	Grade #	A			Grade #	A	sp.	09	
Roll #	167900618	Roll #	167900610	Roll #																
Yds #	50	Pcs #	1	Points #	10	Yds #	90	Pcs #	1	Points #		Yds #		Pcs #		Points #				400
Grade #	A			Grade #	A	Grade #	A			Grade #		Grade #				Grade #				TIP 43

4.2 Summery data table for woven (denim) Inspection reports

S / L	Weigh t/Oz	Colou r	weav e	QTY/ yds	Faults									To tal
					Dou ble Pick	Mis s Pick	Star ting	Bro ken Pick	Loo se End	Tig ht End	knot	Cou rse Pick	Slub in Wef t	
1	9	Black Toppin g	3/1 R.H.T	84							1	1		2
2	9	Black Toppin g	3/1 R.H.T	50					1					1
3	6.22	Ecru	3/1 L.H.T	71					1		1		1	3
4	8.5	Karish ma Blue	2/1 R.H.T	83					1		1		1	3
5	8.5	Karish ma Blue	2/1 R.H.T	50	1				1					2
6	8.5	Karish ma Blue	2/1 R.H.T	120		1							1	2
7	8.5	Karish ma Blue	2/1 R.H.T	51	1			1						2
8	12.07	Epic	3/1R .H.T	90			1				2			3
9	11	Ecru	3/1R .H.T	89					1		2			3
10	11	Ecru	3/1R .H.T	90							1	2		3
11	11	Ecru	3/1R .H.T	90							3			3
12	11	Ecru	3/1R .H.T	52					1		1			2
13	11	Ecru	3/1R .H.T	77							2			2
14	11	Ecru	3/1R .H.T	90					1		2			3
15	10.25	Indigo	3/1R .H.T	100							3		2	5
16	10.5	Ecru	3/1R .H.T	90			1				2	1		4

17	10	Black Botto ming	3/1R .H.T	100					1		3		1	5	
18	10	Black Botto ming	3/1R .H.T	100				1			3		2	6	
19	10	Black Botto ming	3/1R .H.T	70							3		2	5	
20	10	Black Botto ming	3/1R .H.T	100				1	1		2		1	5	
21	10	Black Botto ming	3/1R .H.T	100					1		3		2	6	
22	8.5	Karish ma Blue	2/1 R.H.T	64									3	3	
23	12	Epic	3/1R .H.T	90					2		2		1	5	
24	12	Epic	3/1R .H.T	44							1			1	
25	12	Epic	3/1R .H.T	82							4			4	
26	12	Epic	3/1R .H.T	90					2		1			3	
27	12	Epic	3/1R .H.T	90					2		1			3	
28	10.25	Indigo	3/1R .H.T	100						2	2			4	
29	10.25	Indigo	3/1R .H.T	100							4			4	
			Total :	2407	2	1	2	3	16	3	51	2	17	97	
					2.0 6%	1.0 3%	2.06 %	3.0 9%	16.4 9%	3.0 9%	52.5 8%	2.0 6%	17.5 3%		

3.3 Fault by intensity:

Knot-52.58%

Slub in Weft-17.53%

Loose End-16.49%

Broken Pick-3.09%

Tight End-3.09%

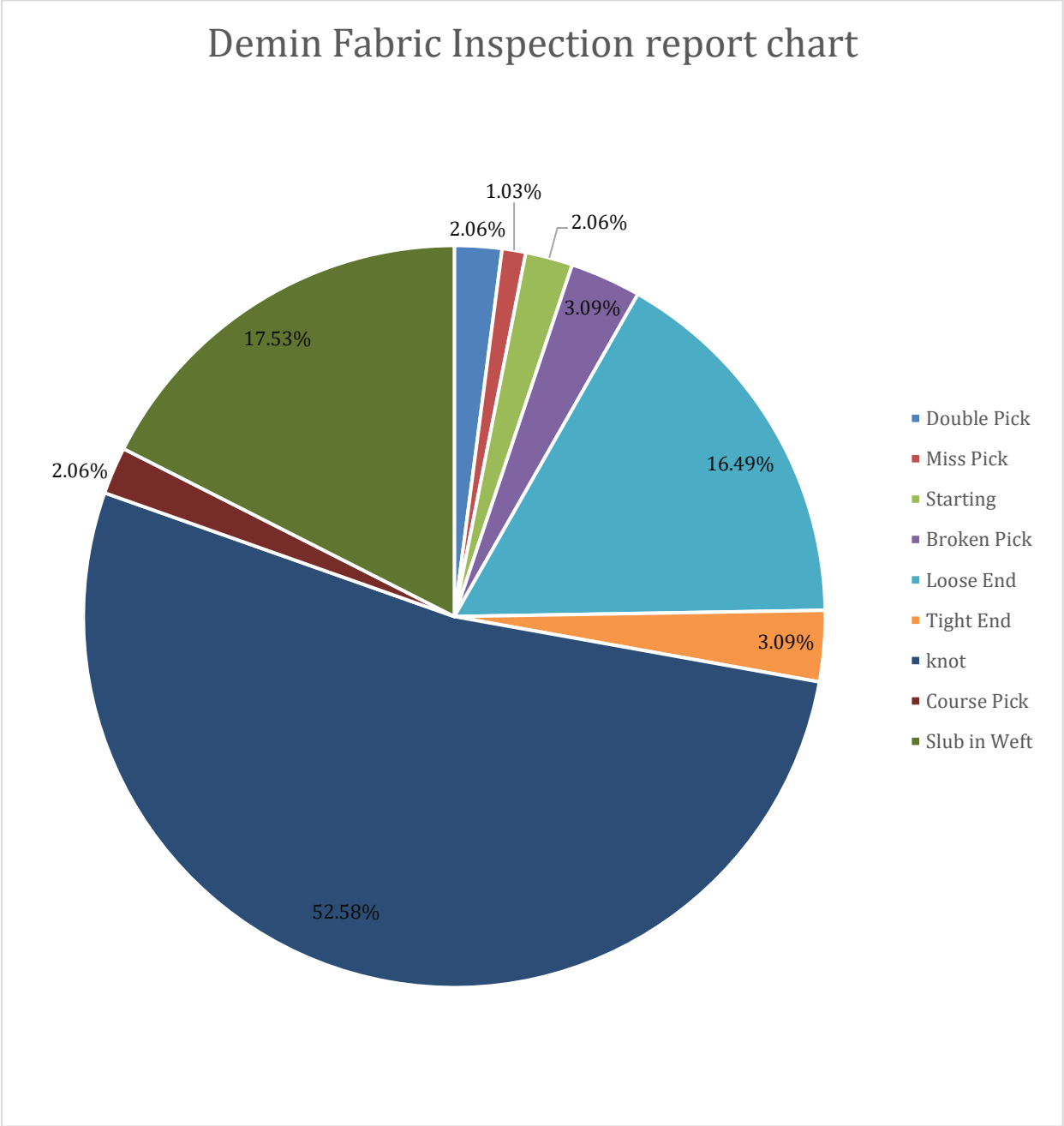
Starting-2.06%

Course Pick-2.06%

Double Pick-2.06%

Miss Pick_1.03%

4.4 Demin Fabric Inspection report chart



Knots(52.58%) in Denim Fabric

Knots in denim fabric can occur due to various reasons throughout the yarn preparation and weaving processes. Below are the main causes:

Causes

- **Yarn Defects:** Low-quality fibers, clumping of fibers, or uneven tension during spinning.
- **Weaving Issues:** broken yarn, incorrect connecting, inadequate tension management, or malfunctioning looms.
- **Handling Problems:** high friction during winding or improper storage.
- **Inspection Gaps:** knots that went undetected during quality tests.

Remedies

- **Improve Yarn Quality:** Make use of premium fibers, maximize spinning, and keep your equipment in good working order.
- **Optimize Weaving:** Make careful to maintain looms, use yarn free of flaws, and keep the right tension.
- **Better Storage:** Use the right winding processes to maintain yarn in a clean, dry environment.
- **Enhance Quality Control:** Train employees to spot knots and use computerized inspection techniques.

Slub in Weft (17.53%) in Denim Fabric

"Slub in weft" is a prevalent flaw in denim that results from imbalanced, thick spots (slubs) in the weft material. These slubs give the fabric an irregular appearance and could lower the quality of the finished product. The causes and remedies for this problem are listed below:

Causes:

- **Yarn Issues:** Low-quality fibers, inconsistent tension, and poor spinning.
- **Weaving Problems:** air-jet, rapier, or shuttle systems that are damaged.
- **Storage:** incorrect storage conditions or poor handling.
- **Environmental Factors:** elevated humidity or temperature swings.

Remedies:

- Make use of consistent, high-quality yarns.
- Maintain the machinery used for winding and weaving.
- Yarns should be kept in dry, clean, and regulated conditions.
- Keep an eye on the temperature and humidity.
- To find flaws early, do routine inspections.

Loose End(16.49%) in Denim Fabric

Causes:

- incorrect sizing or weak warp yarns.
- misplaced components or incorrect warp tension.
- Delays in repairs and operator mistakes.
- varying humidity levels or poor machine upkeep.

Remedies:

- Make use of strong yarns of the right size.
- Align machine parts and adjust warp tension.
- For speedy maintenance, train operators.
- Maintain equipment and regulate humidity.

Broken Pick (3.09%) in Denim Fabric

Causes:

- Weft yarns that are weak.
- misplaced or damaged weaving elements.
- Inadequate tension or defective sensors.
- high humidity or mistakes made by the operator.

Remedies:

- Use weft yarns that are stronger.
- Keep weaving machines in good alignment and condition.
- Fix sensors and adjust tension.
- Train operators and regulate humidity.

Tight End (3.09%) in Denim Fabric

➤ **Causes:**

- excessive stress in the warp.
- machine parts that are not aligned.
- uneven sizing of yarn.
- operator mistakes.

➤ **Remedies:**

- Equally adjust the warp tension.
- Properly align the machine's components.
- Make use of reliable, premium yarns.
- Teach operators how to manage tension.

Starting (2.06%) in Denim Fabric

Causes:

- Uneven stress and machine stop.
- incorrect loom settings or mistakes made by the operator.

Remedies:

- Reduce halts and make sure restarts go smoothly.
- Reduce halts and make sure restarts go smoothly.
- Keep the looms fixed and the tension constant.
- Teach operators how to handle things properly.

Course Pick (2.06%) in Denim Fabric

Causes:

- Weft yarns that are thick or uneven.
- machine components that are not aligned.
- irregular tension.
- operator mistakes.

Remedies:

- Make use of reliable, premium weft yarns.
- Align and maintain the machine's parts.
- Make sure the tension is uniform.

- Teach operators the proper configurations.

Double Pick (2.06%) in Denim Fabric

When two weft threads are put in the same shed rather of one, the fabric structure has an additional pick, which is known as a "double pick" flaw.

Causes:

- Weft insertion issues (selection mechanism, for example).
- Weak weft yarn or problems with yarn tension.
- Inaccurate loom control or malfunctioning sensors.
- improper loom configuration or neglect.

Remedies:

- Adjust and keep selecting mechanisms in working order.
- Make use of weft yarn of consistent quality and the right tension.
- Weft sensors and control systems should be checked and adjusted.
- Increase loom pace and prepare operators for careful observation.
- Do preventative maintenance on a regular basis.

Miss Pick (1.03%) in Denim Fabric

When a weft thread does not fit correctly into the fabric structure, it creates a "miss pick" defect that disrupts the weave or leaves an empty gap. This results in obvious flaws in the texture and look of the cloth.

Causes:

- Malfunction in the shedding or picking process.
- Weft yarn that is broken or weak.
- Faults in the control system or malfunctioning sensors.

- Operator carelessness or improper loom setup.

Remedies:

- Picking and shedding processes should be maintained and aligned.
- Make use of weft yarn that is sturdy, reliable, and well tensioned.
- Adjust or replace out malfunctioning weft sensors.
- Improve monitoring by training workers and optimizing loom speed.
- Conduct routine fabric inspections and loom maintenance.

Chapter 5 Comparison Summary & Conclusion

5.1 Knit Fabric and Woven(Denim) fabric Comparison Summary

Woven(Denim)

Knot-52.58%

Slub in Weft-17.53%

Loose End-16.49%

Broken Pick-3.09%

Tight End-3.09%

Starting-2.06%

Course Pick-2.06%

Double Pick-2.06%

Miss Pick_1.03%

Knit

F/Y (Fly Yarn) = 13 (9%)

O/L (Oil Line) = 4 (3%)

O/S = (Oil Spot) = 20 (12%)

N/B = (Needle Break) = 4 (3%)

L/C = (Lycra cut) = 43 (29%)

Loop = 63 (43%)

Woven (Denim) Fabric: At 52.58%, knots are the most common flaw in woven denim, followed by slubs in the weft (17.53%) and loose ends (16.49%), which have an impact on the consistency and smoothness of the fabric. Additional flaws like Broken Pick and Tight End (each 3.09%) point to problems with the structure and tension of the yarn during weaving. In 2.06% of the samples, both Starting and Course Pick occur, indicating modest issues during the beginning phases of weaving. Miss Pick (1.03%) and Double Pick (2.06%) are examples of pick insertion problems that cause gaps or unevenness in the cloth during weaving.

Knit Fabric: Loop is the most common flaw in knit textiles, occurring in 43% of the samples and producing an uneven texture. Another significant flaw, Lycra Cut (29%) is caused by production-related damage to the Lycra fibers. Fly Yarn (9%) and Oil Spot (12%) are additional frequent problems that are frequently connected to production procedures like inadequate lubrication or omitted stitches. Small flaws like Oil Line (3%) and Needle Break (3%) also affect the fabric's look and integrity.

The most frequent flaw in woven denim fabrics is knotting, which primarily affects the yarn and structure. Conversely, knit textiles are more likely to have certain oil-related flaws as well as textural inconsistencies like Loop and Lycra Cut. Both types of textiles exhibit different sets of problems; knit fabrics deal with problems linked to surface and texture, whereas woven fabrics concentrate on flaws related to yarn.

5.2 Conclusion

Fabric flaws have a major impact on the finished product's quality, usefulness, and market value, regardless of whether they occur in knit or woven textiles. These flaws may be caused by malfunctioning machinery, subpar raw materials, incorrect handling, or inappropriate

environmental circumstances. Common flaws including holes, stains, needle lines, yarn defects, and Lycra cuts cause more rejections, unhappy customers, and financial losses in addition to manufacturing inefficiencies.

Beyond just being unsightly, these flaws frequently impair the fabric's strength, elasticity, and longevity, which can lower its performance in end-use applications. Preventive methods including routine machine maintenance, raw material quality checks, regulated ambient conditions, and appropriate operator training are crucial to reducing these problems. Manufacturers may increase customer happiness, decrease waste, boost production efficiency, and improve their reputation in the market by proactively correcting fabric flaws.

QC WovenKnit

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