



NSLT clearing

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- Compactness issues
- SFI/D faults
- Offcenter and missing cores

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- Foregin matter
- Shade variations
- Organic matter

Polypropylene clearing

- P clearing matrix
- Polyprobylene faults

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NSLT clearing – classification matrix

Classification intensity [value x basis diameter]



NSLT faults

It's worth looking into the removal of the most common faults in staple fiber yarns, such as neps, thick and thin places and long faults, that cause most of the cuts in the yarn clearing process. Based on correct fault detection and classification, and a precise cutting execution, PRISMA offers many advantages in NSLT clearing:

- Most efficient NSLT clearing based on dual measurement
- Highly customizable through a fully flexible setting curve



• Clear information to optimize the production process with the most detailed fault classification



Long



Thin

NSLT cluster faults

NSLT Cluster faults are events below the normal NSLT clearing limit that are not disturbing on their own. However, their irregular accumulation or periodical appearance will cause complaints in the downstream process which can be prevented with the NSLT Cluster feature.



Compactness issues

PRISMA's Compactness feature brings unmatched precision in detecting longer faults, twist deviations, hairiness, and compactness differences. The Compactness feature swiftly detects even the subtlest twist variations.

The essential tool in the world of compact yarn spinning.



SFI/D faults

With the SFI/D matrix the following yarn fault types can be classified and cleared as required:

- Imperfection variations (IPI)
- Evenness variations (CVD)
- Hairiness variations (SFI)

The SFI/D matrix offers a solution to detect various defects within only one matrix. It shows the deviation in absolute lengths and intensities. The spinner can see the classification distribution even with an open setting.

The use of SFI/D classification is similar to the NSLT classification but with a fault classification length up to 80 m.

Offcenter and missing cores

Offcenter core

The mass remains the same but the diameter is influenced

Missing core



The mass decreases but the diameter remains the same



Producing a core yarn successfully involves many challenges. PRISMA is the solution, combining its unique simultaneous dual measurement with its core yarn features. Thanks to the simultaneous optical and mass sensor measurement, 100% of the yarn is analyzed in regard of mass and hairiness variations. This technique accurately detects the occurrences of missing and offcenter cores.



Discover the wide range of opportunities available to boost profitability, efficiency and yarn quality on the PRISMA Discover pages

F clearing – classification matrix

max. dark

•	2		4	2	4	2	4	2	4
50	1	D-S4	3	D -	I4 3	D-	R4 3	D ·	- 04 3
20	2	D 00	4	2	4	2	4	2	4
15	1	D-53	3	U-	3	D-	K3 3	U ·	- U3 3
9	2		4	2	4	2	P 2	2	4
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_9	1		3	1 B-		1 B-	82 3	1 	.02
-12	2		4	2	4	2	4	2	4
-12	1	B-S3	3	1 B-	3	1 B-	B3 3	1 B.	.03
-10	2		4	2	4	2	4	2	4
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					Classific	ation length			[cm]



Optical RGB sensor – F Unique all-color foreign matter detection, clever organic filtering and a 360° all-round view

Foreign matter Ne 40

RGB technology uses the additive RGB color model to illuminate yarn in the full spectrum of light. The detection of foreign matter and organic components of cotton within their true colors opens up new possibilities for recognition and classification. Enabling monitoring of all foreign matter, smallest shade and glossiness differences in any type of yarn and color and mixtures thereof.

Mill Name Machine Type	KWP				cl	Mad 1	PRISN	A DMFF	2				
Machine Type	Ne 40	FOREIGN	N FIBE	RS					Date	Model -			
class									Date				length
S4.3													0.8
11.4													2.0
11.4													2.0
12.3													2.0
12.4													2.0
12.4				2		1	-						2.0
13.2													1.2
13.3													1.8
13.4					6								1.6
R1.2	_												2.4
R1.3													4.0
R1.4													3.6
R1.4													3.2
R2.1					1								2.4
R2.2		Ť											2.8
R2.3													4.0
R2.3													4.0
R2.3													3.6
R3.1													2.8
R3.3							1						4.6
R3.4	-										-		4.0
R3.2													2.6
02.1			1.	1									6.0
02.3		100	1							-			9.0

Foreign matter Ne 30

Mill Name	Cotton	Clearer Model PRISMA DMFP	
Machine Type	Ne 30 Compact FOREIGN FIBERS	Date	
class		length	
S4.3		1.0	
S4.3		0.6	1
12.3		2.0	
12.4		2.0	-
12.4		2.0	1
12.3		2.0	
13.3		1.8	
13.3		2.0	
13.3		2.0	14
R1.4		3.8	
R1.3		3.6	
R1.4		4.0	
R2.1		2.4	
R2.2		2.4	
R2.4		4.0	
R2.4		3.2	
R2.4		3.2	
R3.1		2.4	
R3.2		2.8	
R4.1		2.8	
02.1		5.6	
02.2		5.6	
02.2		6.4	
03.1		5.6	

Foreign matter Ne 34

Foreign matter Ne 21

Mill Name	Melang	ge				1.00		Clearer	F Model	RISM	A DMFP	
Varn Type / Count	Ne 34	(light gre	en)					Date	Model			
class												lengt
S3.4				1								0.6
S3.4					É				_			1.0
S3.4				11	1				_			1.0
S4.3				1	5							0.8
12.4					C.							1.6
12.4												1.8
12.4				1								1.6
13.1											-	1.9
13.1												1.2
13.1												1.2
13.2					-							1.2
R2.1					-							2.8
R2.2												2.4
R2.2					ani							2.4
R2.3												3.2
R2.4												3.2
R2.4												3.2
					-		1.4					

Mill Name	Melan	ge				Cloarer M	PRIS	SMA DMF	P			
Yarn Type / Count	Ne 21	(dark gre	een)				2		Date			
class								_	18.85°.			length
S2.4						4 4		<u>.</u>				1.0
S2.4												1.0
\$3.3						-						1.0
\$3.3												1.0
12.1												1.2
12.2												1.2
12.3												2.0
12.3												2.0
12.3												2.0
12.4												2.0
12.4												2.0
12.4				200								2.0
13.1												1.4
13.2												1.2
13.3												1.8
R3.3												36
02.1					-							6.0
03.3									2			86
03.3						-						0.0

Shade variations

Mélange yarns and color-effect yarns are a growing trend in the garment industry. To have an optimum mélange yarn, the fibers have to be mixed homogeneously in the right proportions in the spinning process. Even small shade variations or color deviations of the yarns may result in poor fabric quality after knitting or weaving.

PRISMA's RGB sensor technology enables the most accurate recognition and classification of shade and glossiness differences in any type of yarn color or blend.

12% black fiber share



20% black fiber share



Ne30 Viscose



True color vision

Only PRISMA recognizes and classifies foreign matter in its true colors providing the best and most efficient contamination control in yarn clearing. This gives quality managers peace of mind, knowing they're getting the best possible performance.

How foreign matter is seen by the sensors





Organic matter Ne 60

Based on the color-oriented selection of organic material in the cotton, an optimized detection and classification of disturbing or nondisturbing defects is achieved. Leading to a considerable reduction in clearer cuts and a higher winding efficiency while not compromising on quality.

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S3.4															0.6
S3.4											1				0.6
S3.4			÷												0.6
S3.4			3								-				0.6
S3.4															0.8
S3.4															1.0
S4.3								-							0.6
12.2												-			1.2
12.2															1.2
12.3															1.6
12.3															2.0
12.3															1.6
12.3			0.m												2.0
12.3														-	2.0
12.4							5								1.6
12.4									1.4						1.8
12.4										-					1.6
12.4															2.0
13.1															1.2
13.3															1.6
R2.1				-											2.8
R2.1															2.4

Organic matter Ne 26

Loepfe's system, which was fed with numerous organic samples, can now recognize and classify organics in disturbing or non-disturbing without explicit instructions.

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Ne 2	6 OR	GANIC	FAUL	TS						Date	model -				
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This intelligent organic filtering offers customers more accurate detection of organic substances.

P clearing matrix



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10	2 P1	4	2	4	2	4	2	4
20	1 P2	3	1	3	1	3	1	3
40 20	2	4	2	4	2	4	2	4
	1 P3	3	1	3	1	3	1	3
50	2	4	2	4	2	4	2	4
60	1	3	1	3	1	4 3	1	3
70	2	4	2	4	2	4	2	4
80	1	3	1	3	1	3	1	3
00	2	4	2	4	2	4 F	2	4



Triboelectric sensor – P Secure detection of white and transparent polypropylene

Polypropylene Ne 30 compact

The PRISMA yarn clearers are equipped with the latest P sensors and a dedicated P-Matrix to ensure accurate settings and reliable results. The solution to securely detect

white and transparent polypropylene, nylon, and polyamide at any winding speed.

Mill Name Cotton PRISMA DMFP Machine Type Clearer Model Ne 30 / Compact Yarn Type / Count Date class P4 Ρ4 P5 03 03 03 03 04 04 04 04 04 04 04 04 L3 L3 L3 L3 L3 L3 L3 L3 L4

Mill Name Machine Type Ne 20 / carded Yarn Type / Count class Ρ4 Ρ3 04 03 02 L4 L3 L2

Polypropylene Ne 20 carded

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Close up of polypropylene faults

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Loepfe Brothers Ltd.

The Pioneers

Since its establishment in 1955, Loepfe has been the pacesetter for innovation in textile quality control. Loepfe researches, develops and manufactures clever sensor systems in Switzerland to meet the needs of producers. Loepfe has excelled in sensor technologies for yarn and filament monitoring worldwide.

Today, Loepfe is considered worldwide as the specialist for integral quality control systems.



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www.loepfe.com

Loepfe is part of the Vandewiele Group. Providing cutting-edge technology and effective solutions for the textile industry. Machine manufacturers, as well as spinning and weaving mills around the world, rely on our innovation at the highest level. Quality made in Switzerland.