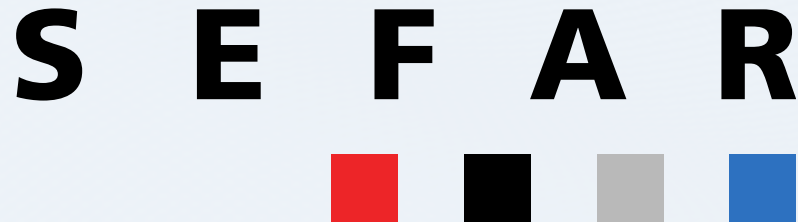


# Milling industry



Sefar leads the technical fabrics industry and sets standards worldwide as a solution provider with an absolute customer focus.

## 10<sup>th</sup> IAOM SEA 2019 in Jakarta

Cédric Anil Muller





**„We sell  
precise holes”**

Christoph Tobler, CEO of the Sefar Group Switzerland



# 1. Sefar at the Glance

## Sefar Group at a glance

Leading manufacturer of precision fabrics for industrial applications

Worldwide operations: Subsidiaries and fabrication centers in 27 countries and on 6 continents

Weaving plants in Switzerland, Romania and Thailand

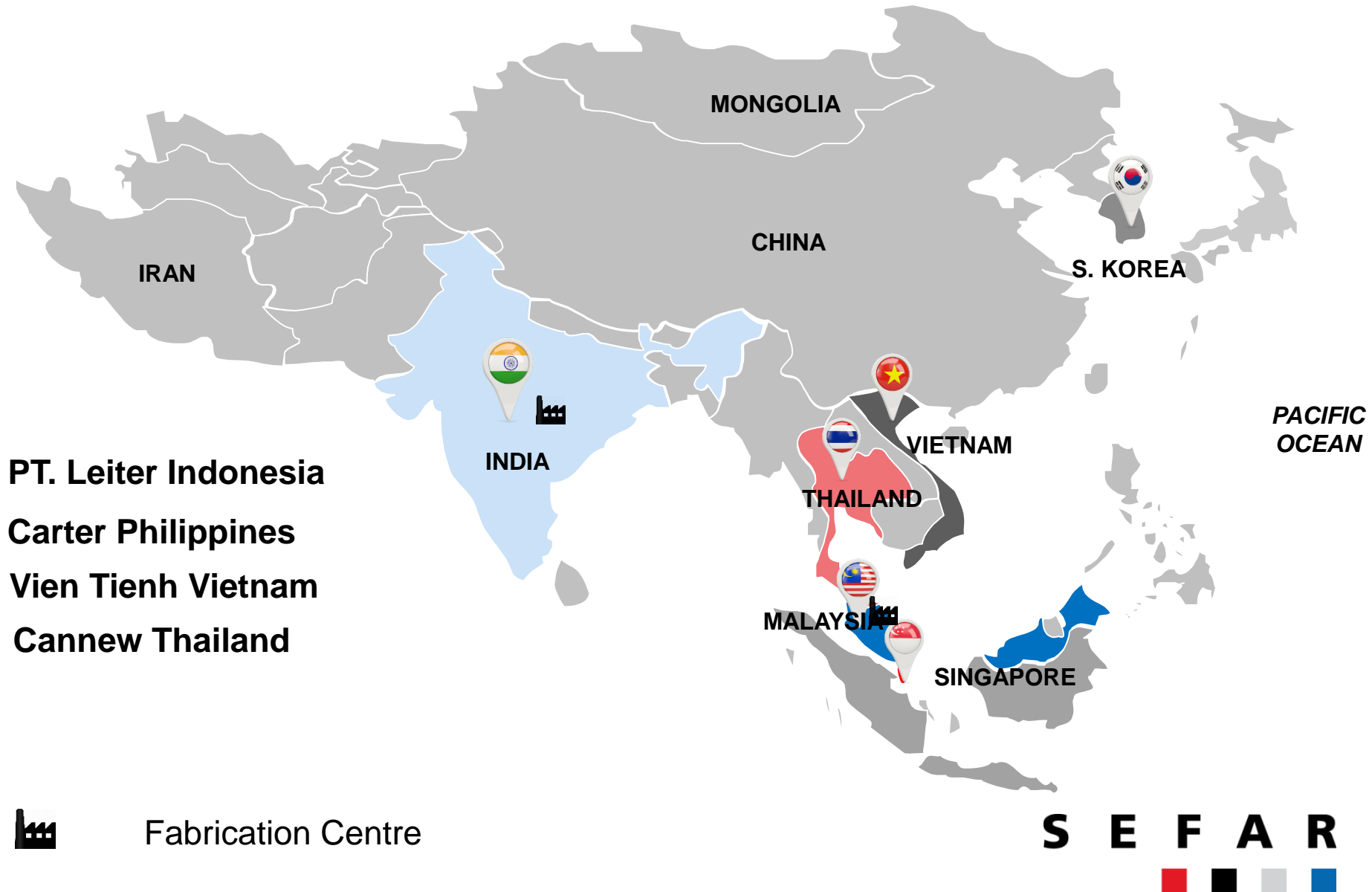
Manufacturer of monofilament yarn in Switzerland, Poland, Romania and Mexico

Privately held corporation with a solid financial basis



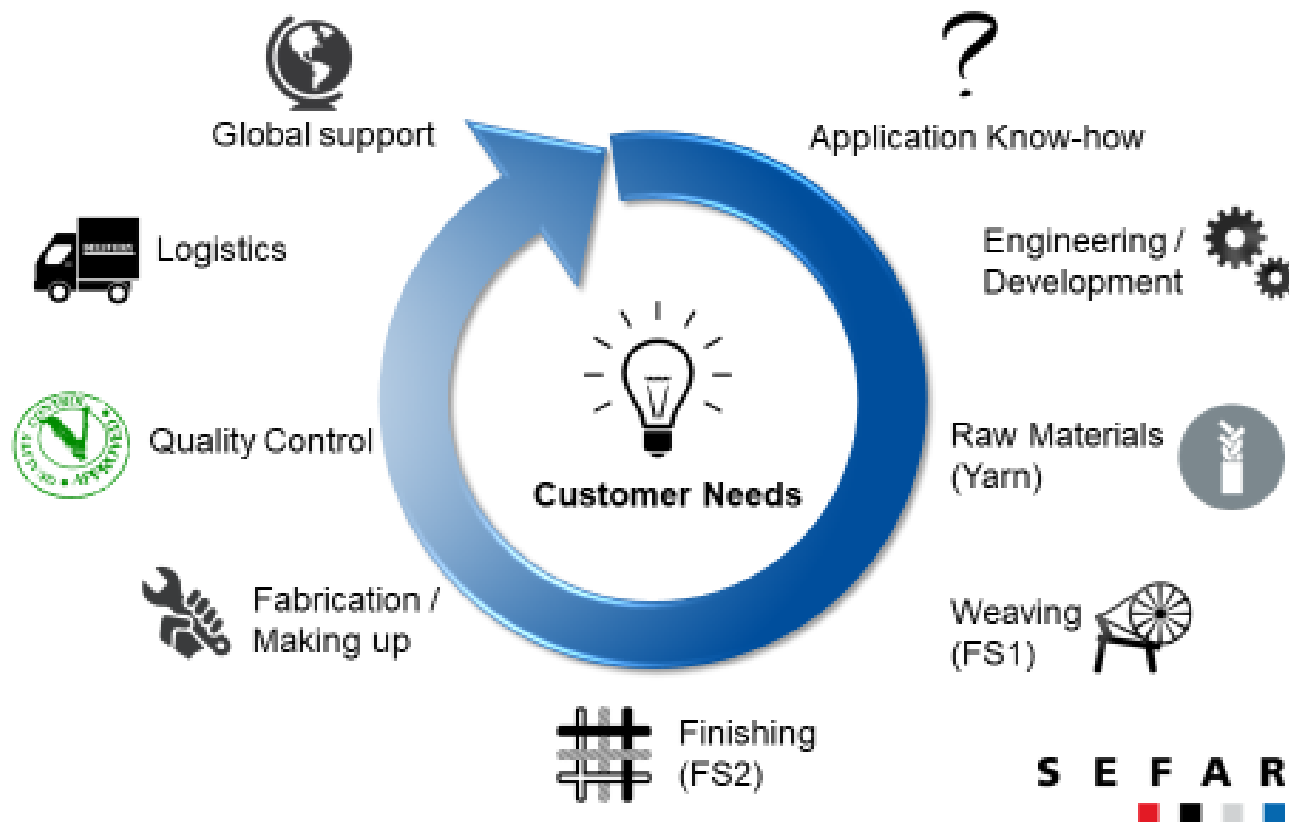
**S E F A R**  
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## 2. Sales / Fabrication Locations in SEA



# 1. Sefar at the Glance

## Sefar Customer-Tailored Solution



S E F A R



## 2. Introduction Milling Industry

Over 189 Years of Innovation



It all started with  
bolting cloth  
for the milling  
industry

«Day by day, we  
draw on over **189**  
years of innovative  
energy to offer our  
customers just the  
right solutions...»

**S E F A R**  
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## 2. Sefar Fabric Assortment

For Sifters

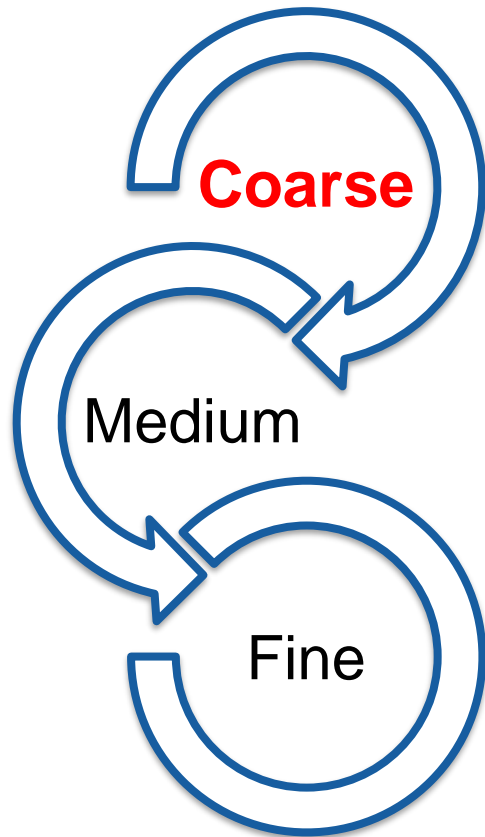


Approximately 60 – 100 m<sup>2</sup> of Screen Fabric are needed for a 100t / 24h flour mill

The sieves are renewed approximately once a year to avoid oversifting = losing yield

# 2.1 Sefar Fabric Assortment

For Sifters – Coarse Sieves



**Mesh Opening: > 1200 – 900 mμ**

- **Wire Mesh**

**Mesh Opening: > 1000 – 212 mμ**

- Polyamide Grit Gauze

**Mesh Opening: > 300 -90 mμ**

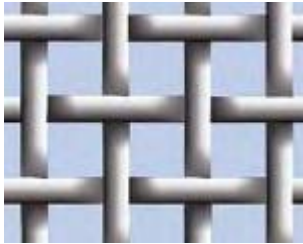
- Polyamide Flour Sieve



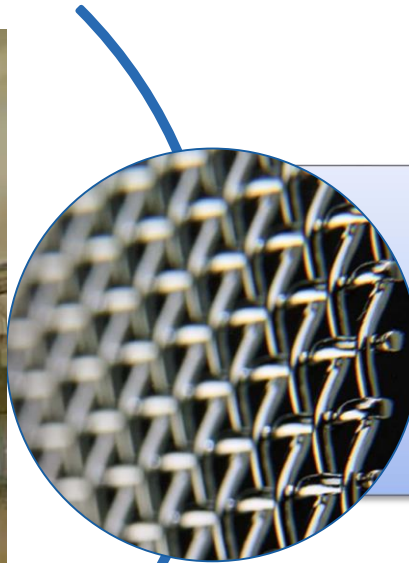
# 2.1 Sefar Fabric Assortment

For Sifters – Coarse Sieves

## Sefar NYTAL® Metal Mesh



Wire Mesh

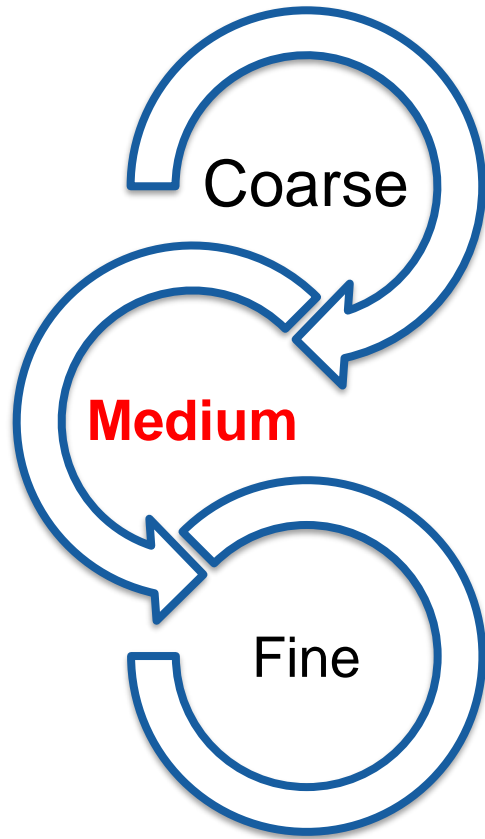


Stainless Steel wire mesh is used for coarse or scalping sieves



# 2.1 Sefar Fabric Assortment

For Sifters – Coarse Sieves



Mesh Opening: > 1200 – 900 mμ

- Wire Mesh

Mesh Opening: > 1000 – 212 mμ

- **Polyamide Grit Gauze**

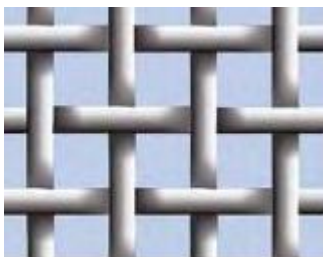
Mesh Opening: > 300 -90 mμ

- Polyamide Flour Sieve

# 2.1 Sefar Fabric Offerings

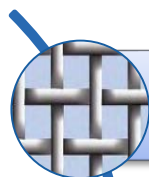
For Sifters – Medium Sieves

## Sefar NYTAL® PA-GG

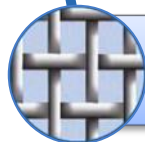


### Polyamide Grit Gauze

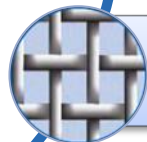
Polyamide grit gauze is used for the medium sieves for its:



**Good Abrasives resistant qualities**



**Long Lifetime**



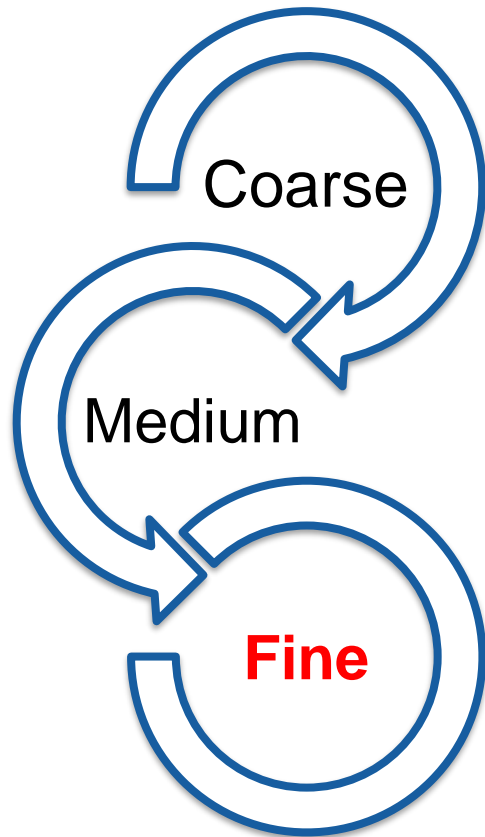
**High Efficiency**



**S E F A R**  
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# 2.1 Sefar Fabric Assortment

For Sifters – Coarse Sieves



Mesh Opening: > 1200 – 900 mμ

- Wire Mesh

Mesh Opening: > 1000 – 212 mμ

- Polyamide Grit Gauze

Mesh Opening: > 300 -90 mμ

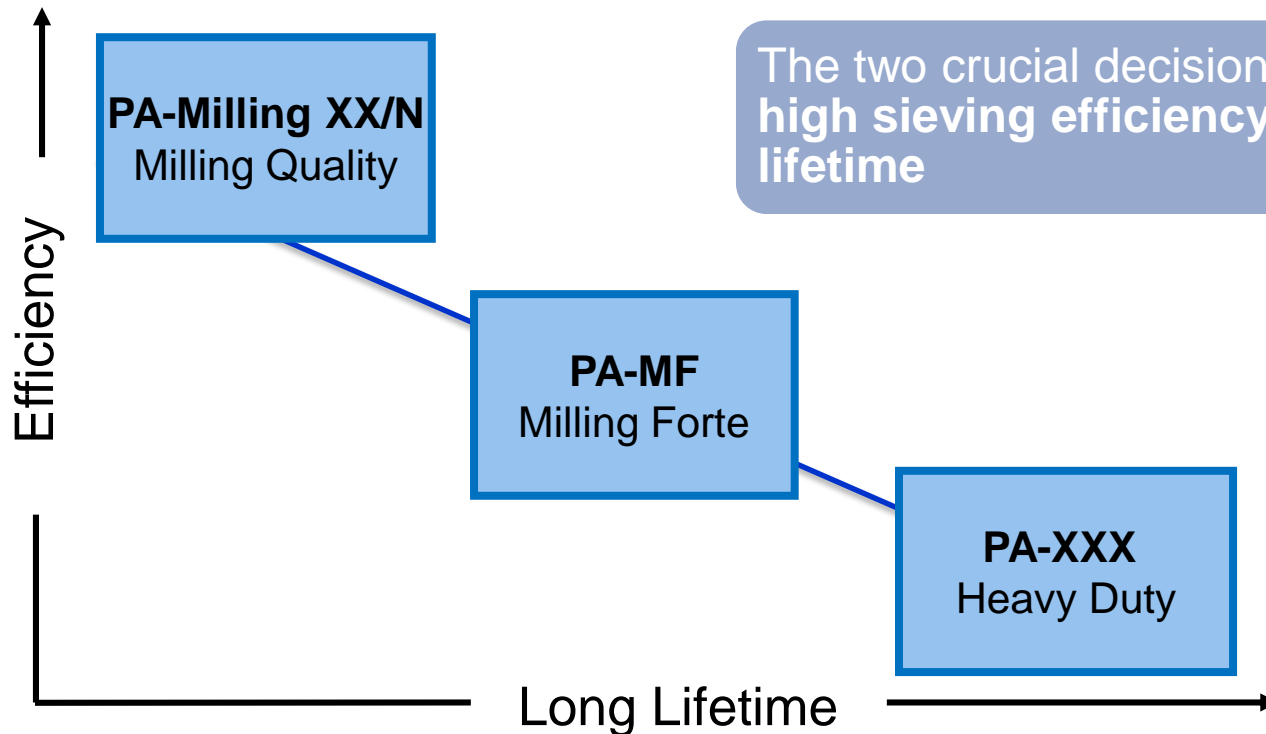
- **Polyamide Flour Sieve**

# 2.1 Sefar Fabric Assortment

## For Sifters – Fine Sieves Overview

The **hardness** of the wheat and the constitution of the endosperm requires to choose the correct sieve fabrics

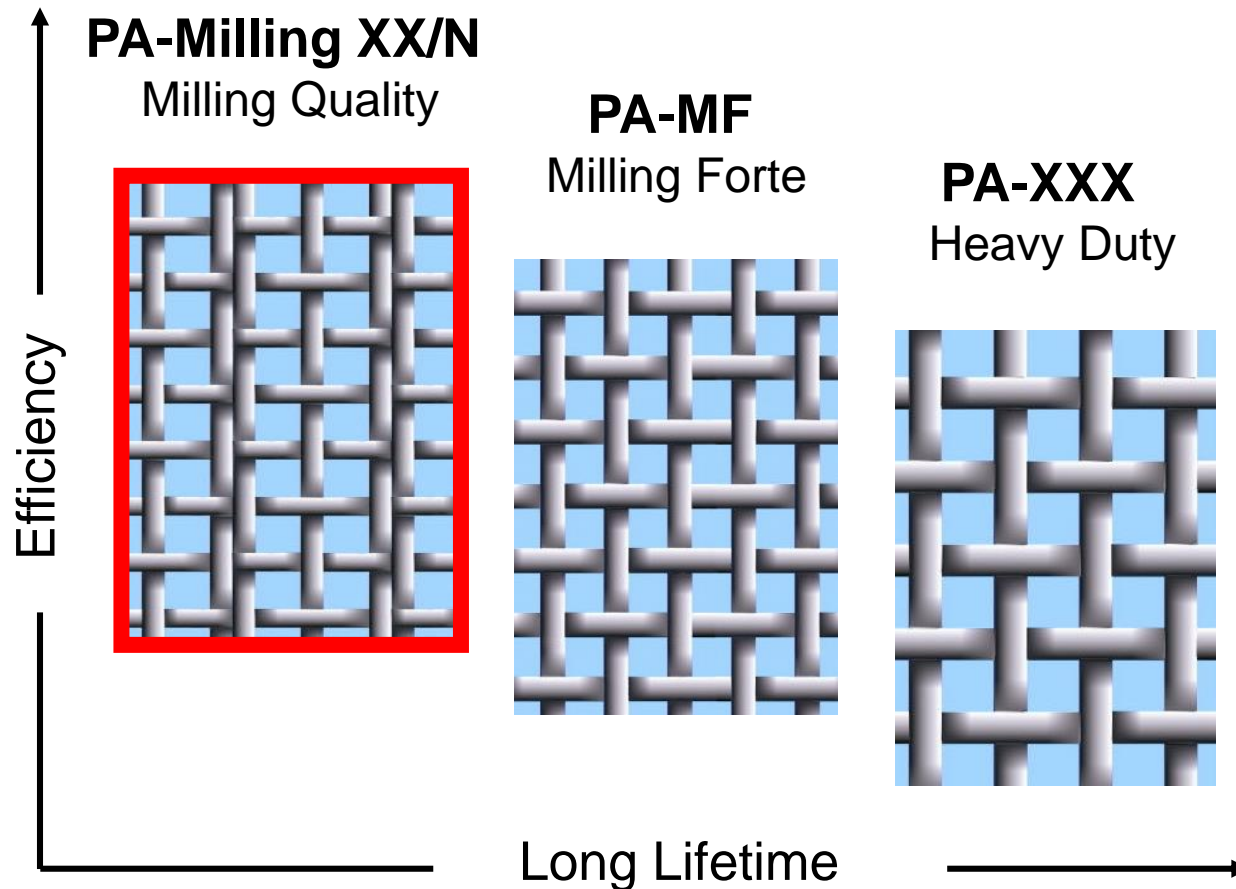
The two crucial decision factors are **high sieving efficiency** or **long lifetime**





# 2.1 Sefar Fabric Assortment

For Sifters – Fine Sieves Overview

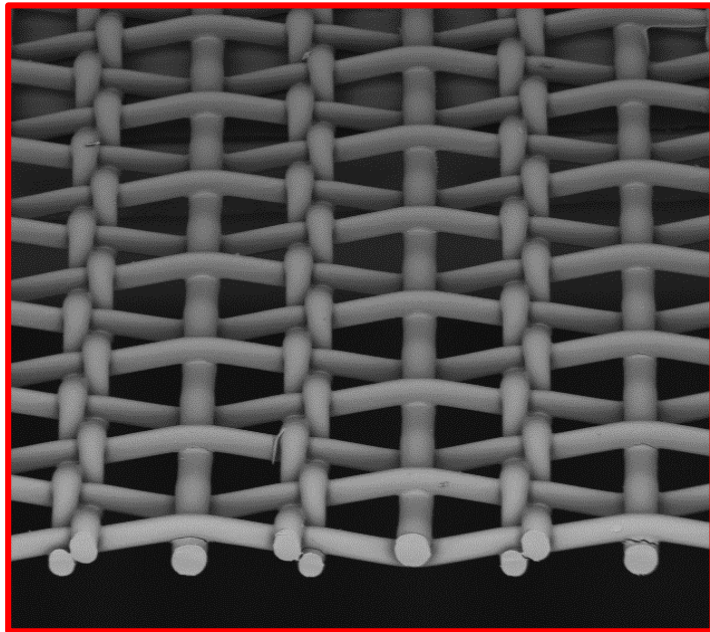


# 2.1 Sefar Fabric Assortment

For Sifters – Fine Sieves

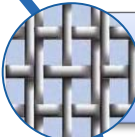
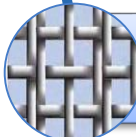
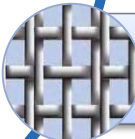
**Sefar NYTAL®**

**PA-Milling XX/N**



## Polyamide Flour Sieves

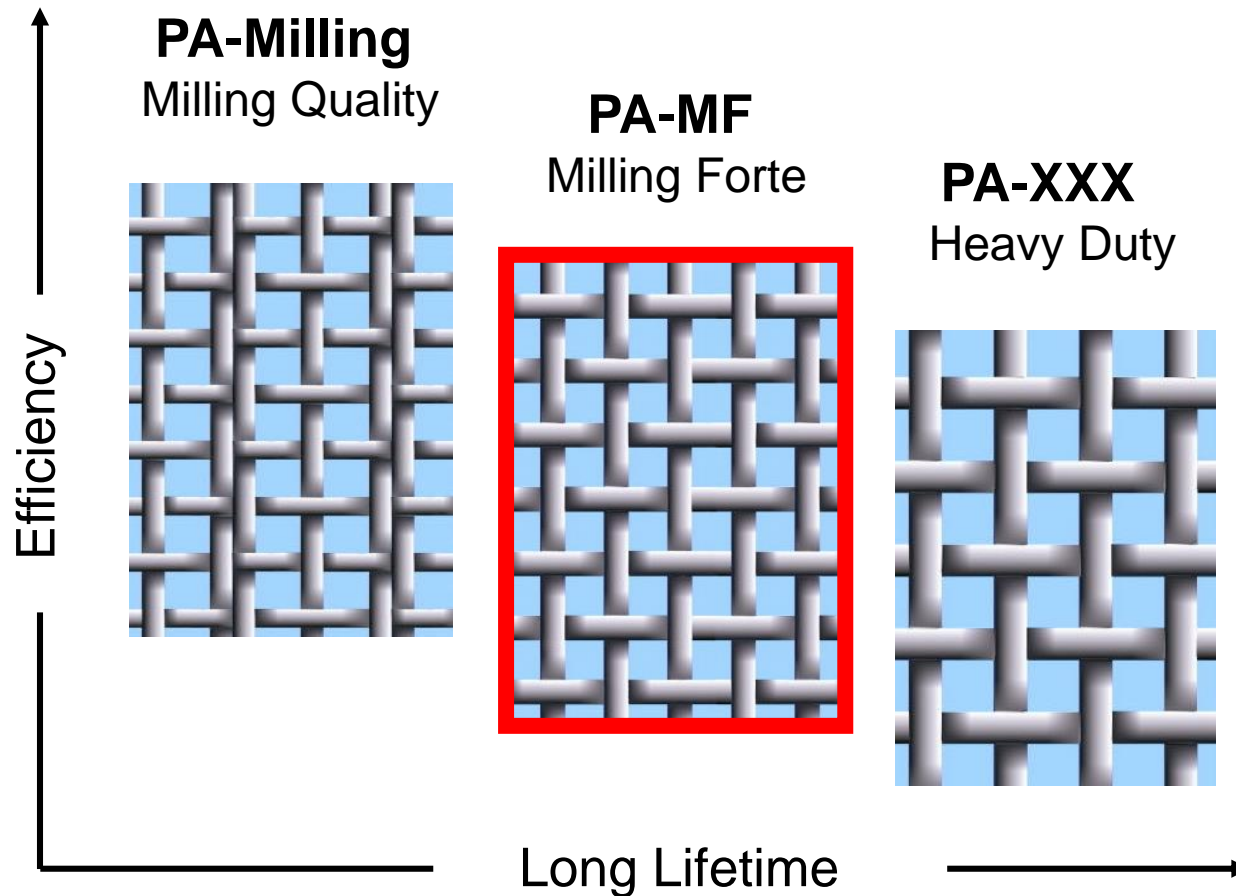
Polyamide grit gauze is used for soft wheat, biscuit and rye flour for its:

-  **Rough Surface**
-  **High percentage of open area**
-  **High sieving efficiency**

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# 2.1 Sefar Fabric Assortment

For Sifters – Fine Sieves Overview

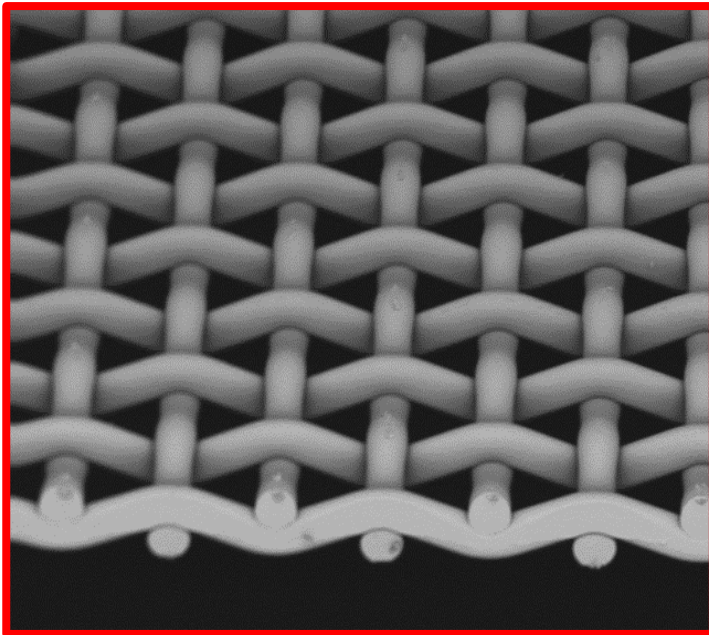


# 2.1 Sefar Fabric Assortment

For Sifters – Fine Sieves

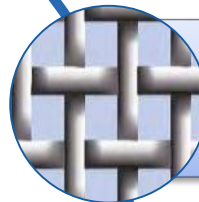
**Sefar NYTAL®**

**PA-Milling Forte**

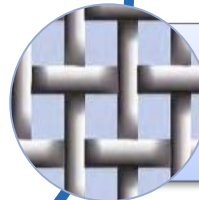


## Polyamide Flour Sieves

PA-Milling Forte is used on metal sifter frames, where it is replacing the PA-XX/N quality for its:



**Best possible durability**

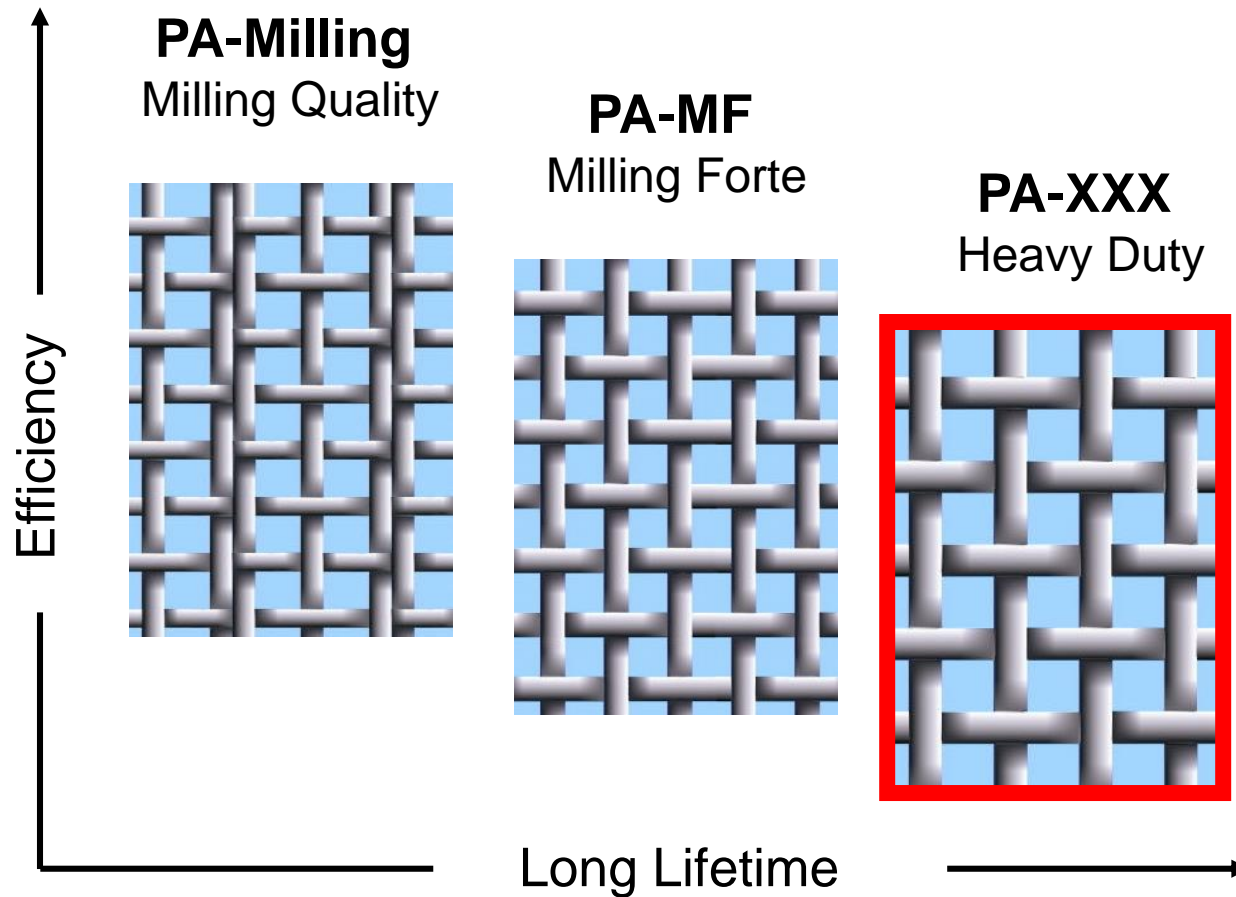


**Combined with high sieving efficiency**

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# 2.1 Sefar Fabric Assortment

For Sifters – Fine Sieves Overview





# 2.1 Sefar Fabric Assortment

For Sifters – Fine Sieves

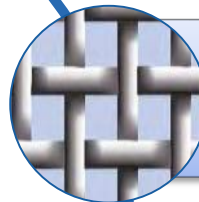
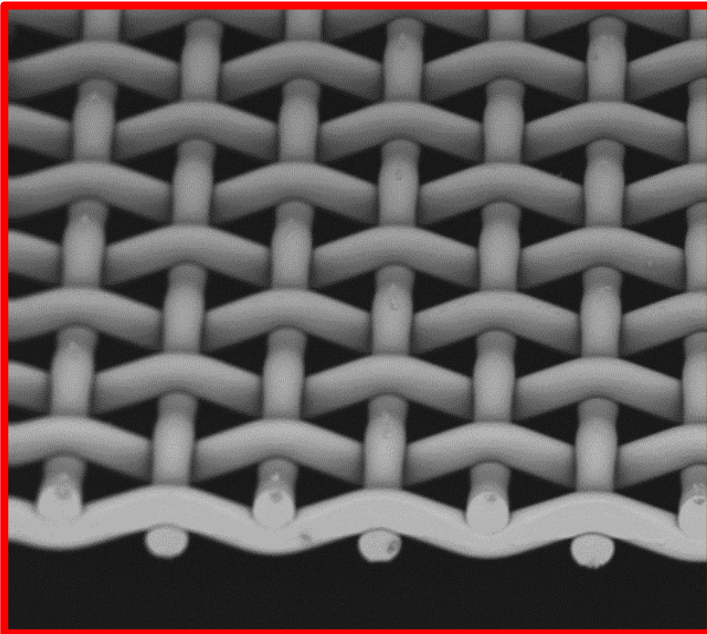
**Sefar NYTAL®**

**PA-XXX**

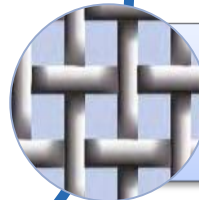


## Polyamide Flour Sieves

PA-XXX heavy duty fabrics are used for harder types of wheat and Durum for their:



**Long lifetime**



**Good abrasion resistant qualities**

**S E F A R**  
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# 2.1 Sefar Fabric Assortment

## For Sifters – Fine Sieves Overview

Comparison of the fine sieve fabric families			
	Milling quality	Milling Forte	Heavy Duty
Specification	PA-Milling	PA-MF	PA-XXX
Mesh opening	132	132	132
Thread diameter	60-2x50-60	70	80
Open Area	~43%	~41%	~39%

# 2.1 Sefar Fabric Assortment

Worldwide original flour Mesh opening approved by all the Millers and all the Milling School around the world



Mesh opening [ $\mu\text{m}$ ]

Yarn diameter [ $\mu\text{m}$ ]

Thread count [n/cm]

Thread count [n/inch]

Open area [%]

## SEFAR **NYTAL**® PA-Milling

PA-3-300	300	100+2.60	100	24	25	61	64	54
PA-4-280	280	100+2.60	100	25.5	26.5	65	67	53
PA-5-250	250	100+2.60	90	27.5	29	70	74	51
PA-6-212	212	90+2.60	80	32	30	81	76	49
PA-7-200	200	80+2.60	80	33.5	35.7	85	91	48
PA-8-180	180	80+2.60	70	35.7	40	91	102	46
PA-8 <sup>1/2</sup> -160	160	70+2.60	70	40	43.5	102	111	44
PA-9-150	150	70+2.60	60	42.5	47.6	108	121	44
PA-9 <sup>1/2</sup> -140	140	60+2.60	60	43	50	109	127	43
PA-10-132	132	60+2.50	60	47	52	119	132	44
PA-10 <sup>1/2</sup> -125	125	60+2.50	60	48.5	54	123	137	40
PA-11-118	118	60+2.50	50	50.5	59.5	128	151	42
PA-12-112	112	60+2.50	50	51.5	61.5	131	156	40
PA-12 <sup>1/2</sup> -106	106	60+2.43	50	56	64	142	163	38
PA-13-100	100	60+2.50	50	57	66.7	145	169	38



## 2.1.1 Sefar Fabric Assortment

Humidity influence on Polyamide fabrics

### Fact about Polyamide

- Polyamide absorbs up to **3.5 - 4.4% humidity**

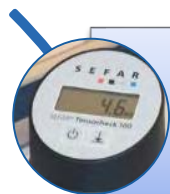
### Opposing

- What can be done to counteractive?

# 2.1.1 Sefar Fabric Assortment

## Humidity influence on Polyamide fabrics

Humidify the mesh either by:



Store the rolls or cut panels in a room or cupboard with high humidity (+60%)



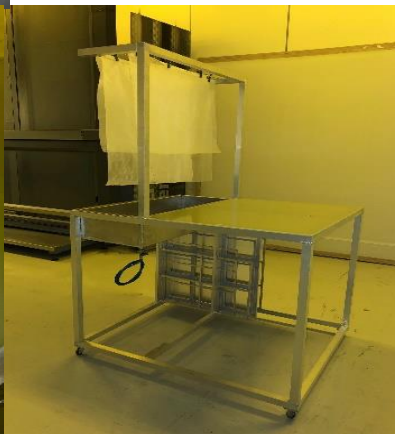
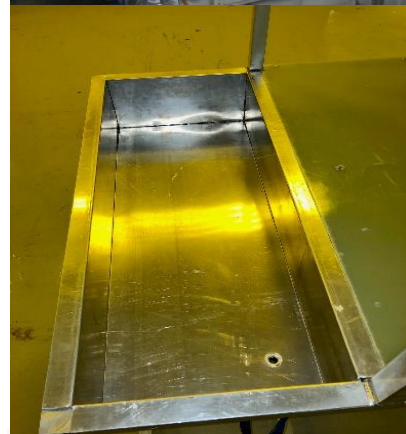
Leave the cut panel in bucket or cold water for ½ hour



Take it out and leave it hanging for ½ - 1h



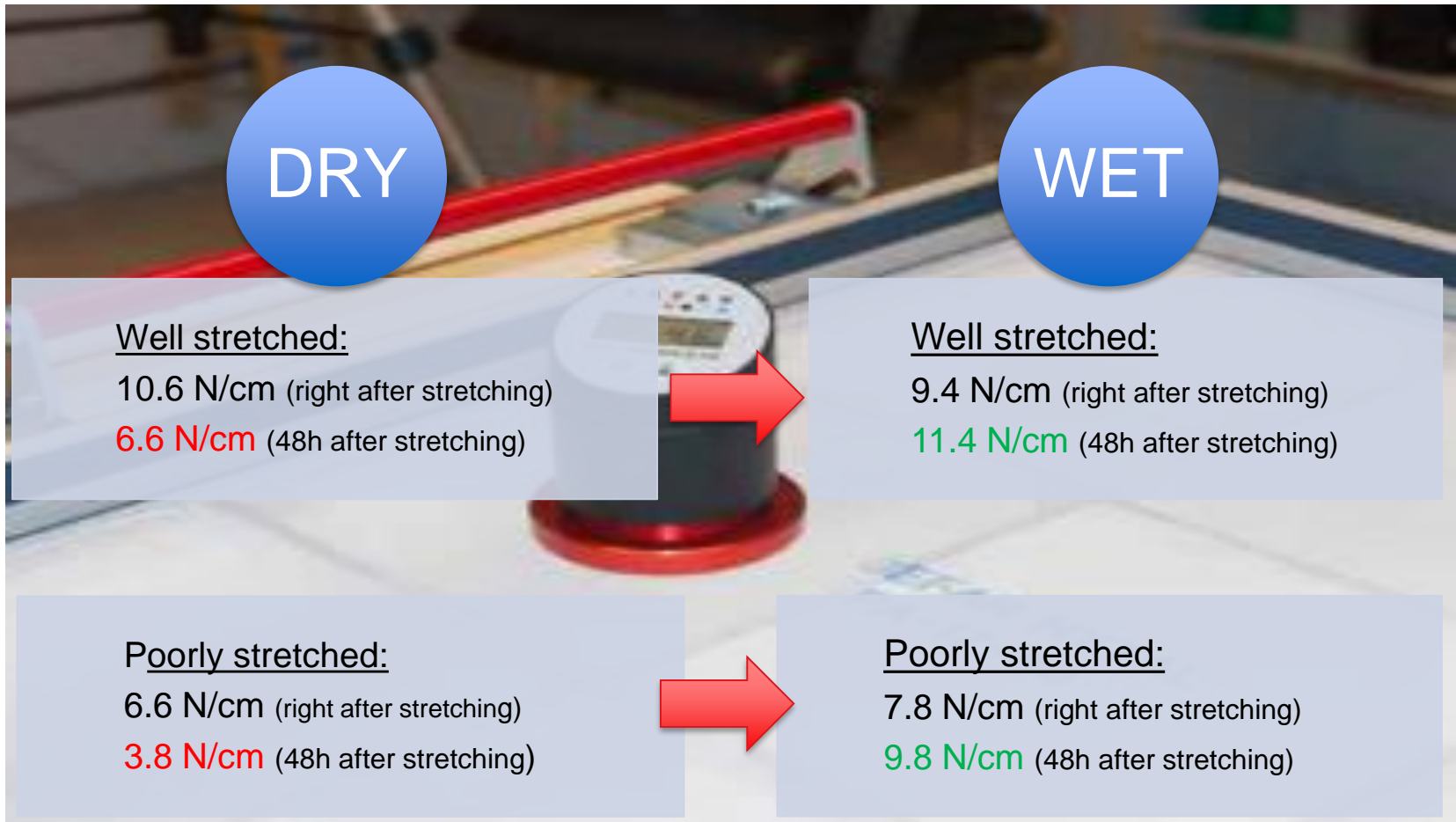
Then continue to stretch the mesh with the stretcher PN2





# 2.1.1 Sefar Fabric Assortment

Humidity influence on Polyamide fabrics



# 2.2 Sefar Fabrics Assortment

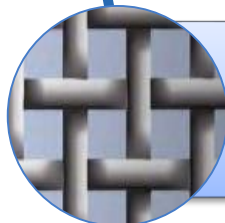
For Purifiers



**NYTAL PET GG fabrics are used in Purifiers:**



Where high yield of white flour is achieved



Or where Semolina is produced



Or if high starch damage is achieved with coarse Semolina



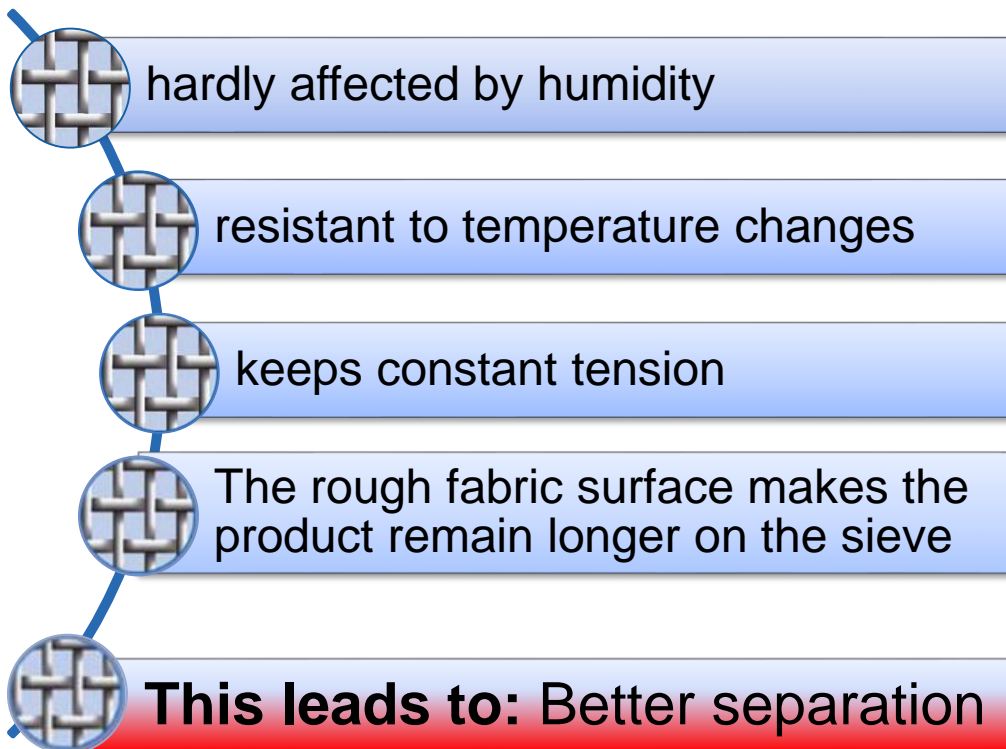
## 2.2 Sefar Fabric Assortment

For Purifiers



**Sefar NYTAL® PET-GG**

**PET Grit gauze**



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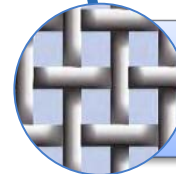
## 2.3 Sefar Fabric Assortment

### For Centrifugal Sifters

**Vibro / Turbo sifters  
are used:**



to sift the products from  
the filters and bran



They are **highly  
efficient**

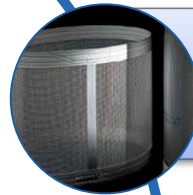
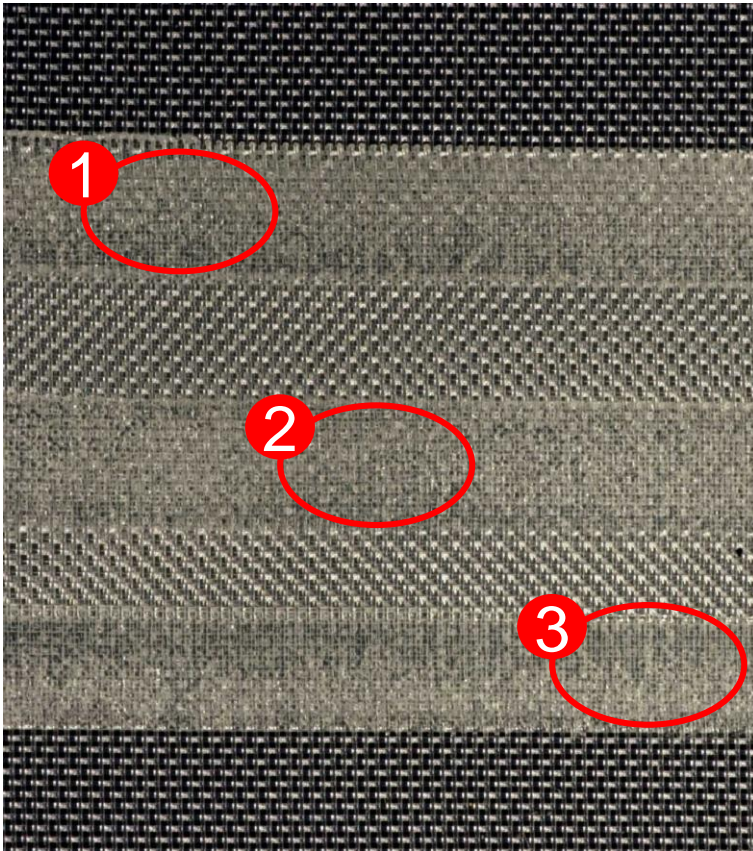


but they need **frequent  
controls**

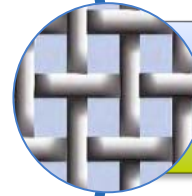


## 2.3 Sefar Fabric Assortment

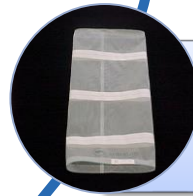
### For Centrifugal Sifters - Manufacturing



Highly sensitive operation



Our AR-3 triple seam solution guarantees a continuous operation



This technology is used for Turbo- and Vibrosifters



## 2.3 Sefar Fabric Assortment

For Centrifugal Sifters

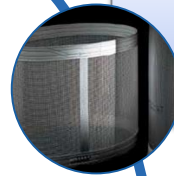
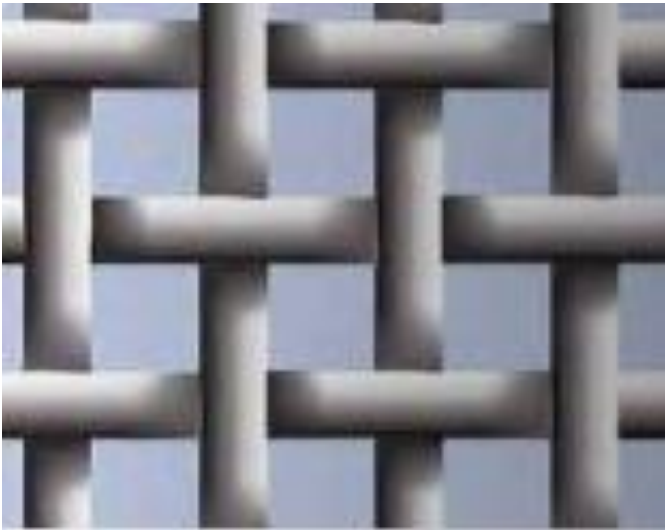
**Sefar NYTAL®**

**PA-HD (ASTM)**

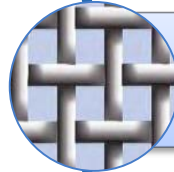


**Polyamide Flour Sieves**

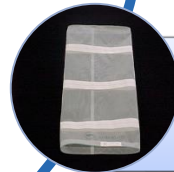
**PA-HD heavy duty fabrics are used:**



for harder types of wheat  
and Durum



for their long lifetime



good abrasion resistant  
qualities

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# 2.4 Sefar Fabric Assortment

## Summary of Sifting Fabrics

	Sifting fabric properties	
	PA-Polyamide	PET-Polyester
Abrasion resistance	very good	approx. 2/3 of PA
Water absorption	4.4%	0.4%
Benefit of the fabric	long lifetime	less influence in humidity changes
Hydrolysis resistance	good	limited
Fabric surface structure	standard	slightly rougher
Stability to light	limited	limited
Fabric range	5 different fabric ranges for your sifter (PA-GG, PA-Milling, PA-MF, PA-XXX, PA-HD)	one complete PET-GG range for your purifier

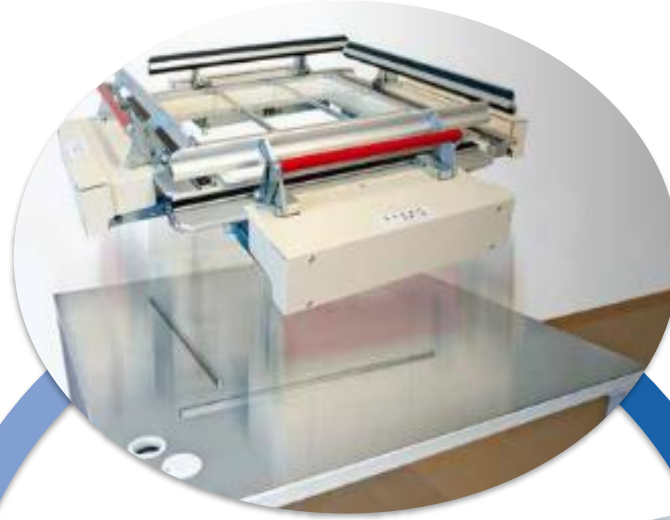
# 2.4 Sefar Fabric Assortment

## Summary of Sifting Fabrics

Fabrics		Machines					
		Sifters	Centrifugal Sifters	Purifiers	Area of use	Main benefit	Standard use for
	PA-GG	X	X		coarse sifter covers	anti abrasive qualities	coarse sieves
	PA-Milling	X			soft wheat, biscuit and rye flour	high efficiency	Flour sieves
	PA-Milling Forte	X			medium hard	good lifetime and efficiency	
	PA-XXX	X	X		Durum and hard wheat flour	long liftetime	
	PA-HD (ASTM & XXX)		X		filter and bran duster products	strongest fabric	Centrifugal Sifter
PET-GG			X	purifier covers	Constant tension	Purifier	

# 3. Sefar Stretching Systems

## Overview



**S E F A R**  
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**S E F A R**



**S E F A R**





**S E F A R**



# 3.1.4 Sefar Stretching Systems

## Frame Management – Accessories

### Pneumapp-2 stretching table

with wheels, aluminum table top



Size 1250 x 1250mm

Item **6225**



Size 1480 x 1480mm

Item **6230**



Cover for Stretching table  
1250 x 1250mm

Item **6231**



**S E F A R**



# 3.1.4 Sefar Stretching Systems

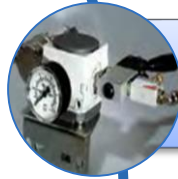
## Frame Management – Accessories



Our frame supports allow you, to switch from **wooden** to metal frames within seconds



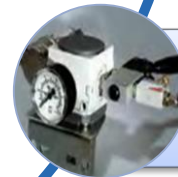
Frame support for aluminium frames,  
Item No. **6209 / 6212**



Frame support for wooden frames,  
Item No. **6214 / 6215 / 6216**



Spacer for purifier frames  
Item No. **8083**



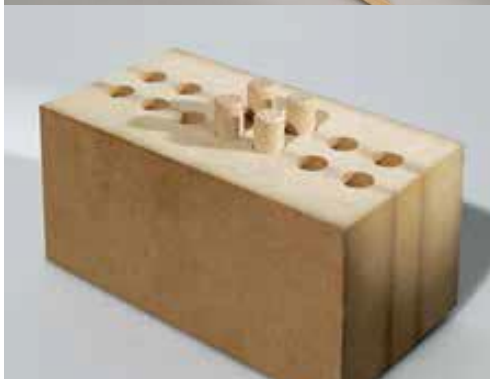
Frame support for stainless steel frames  
Item No. **8082**

# 3.1.4 Sefar Stretching Systems

## Frame Management – Accessories



Stretching aids for fabrics  
Item No. 6219 / 6220 / 6222



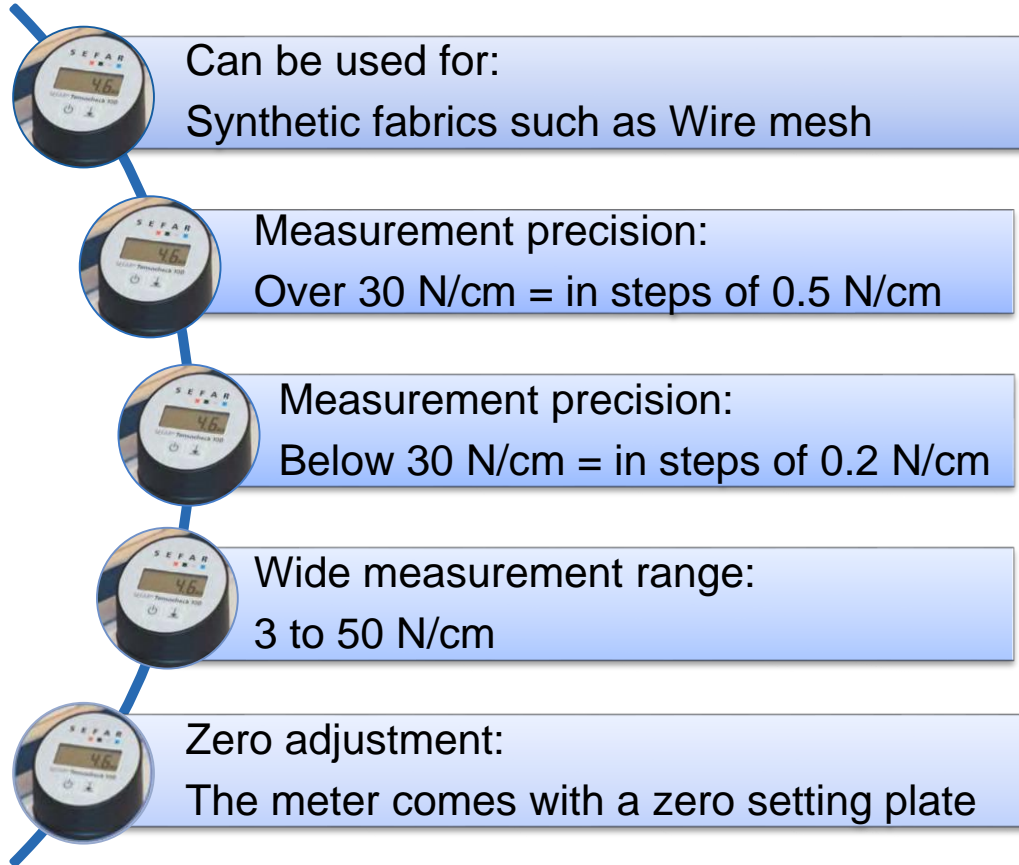
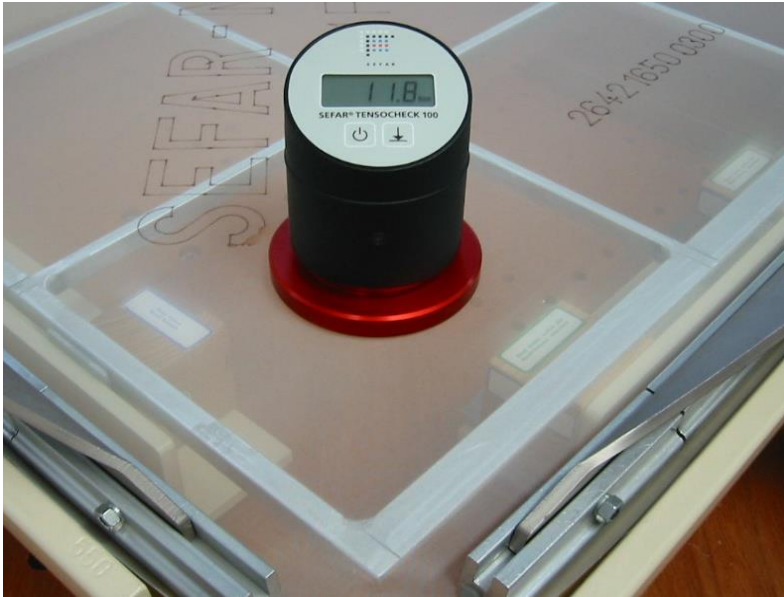
Frame spacer/support for all frame types  
Item No. 8082



Steel weight 1 Kg  
Item No. 8083

## 3.3.2 Sefar Stretching Systems

### Tensocheck



## 3.3.2 Sefar Stretching Systems

Tensocheck – Sifter covers tension chart\*

Polyamide (PA) & Polyester (PET) mesh	Wooden frames		Metal & aluminum frames	
	Tension before gluing [N/cm]	Min. tension after 1 day [N/cm]	Tension before gluing [N/cm]	Min. tension after 1 day [N/cm]
> 630	15 (+/- 1)	8	17 (+/- 1)	9
600 - 465	14 (+/- 1)	7	16 (+/- 1)	8
450 - 315	13 (+/- 1)	7	15 (+/- 1)	8
300 - 212	12 (+/- 1)	6	14 (+/- 1)	7
200 - 112	11 (+/- 1)	6	13 (+/- 1)	7
< 100	10 (+/- 1)	5	12 (+/- 1)	6

**Polyester PET**  
+ 2-3 N/cm

Metal mesh	Wooden frames		Metal & aluminum frames	
	Tension before gluing [N/cm]		Tension before gluing [N/cm]	
> 630	18 (+/- 1)		21 (+/- 1)	
600 - 465	17 (+/- 1)		20 (+/- 1)	
450 - 315	16 (+/- 1)		19 (+/- 1)	
300 - 212	15 (+/- 1)		18 (+/- 1)	
200 - 112	14 (+/- 1)		17 (+/- 1)	
< 100	13 (+/- 1)		16 (+/- 1)	

**Metal mesh**  
+ 3-6 N/cm

Max. tension depends much on the condition of the frame

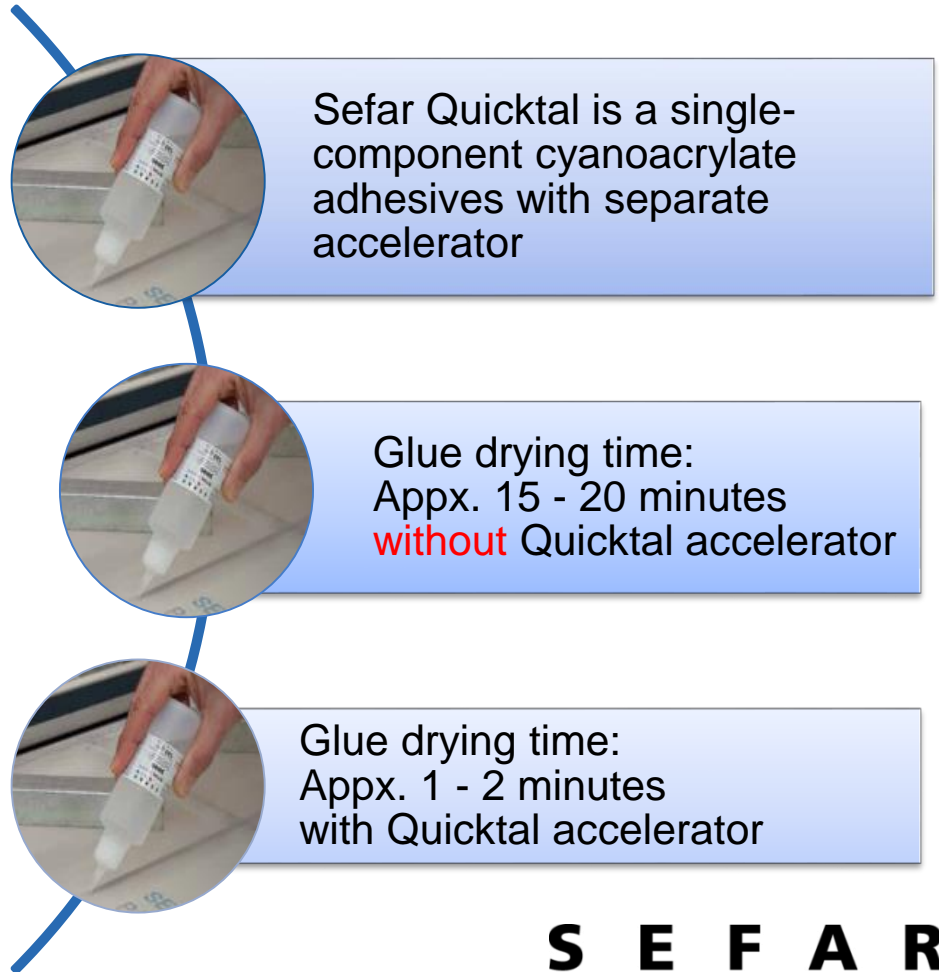
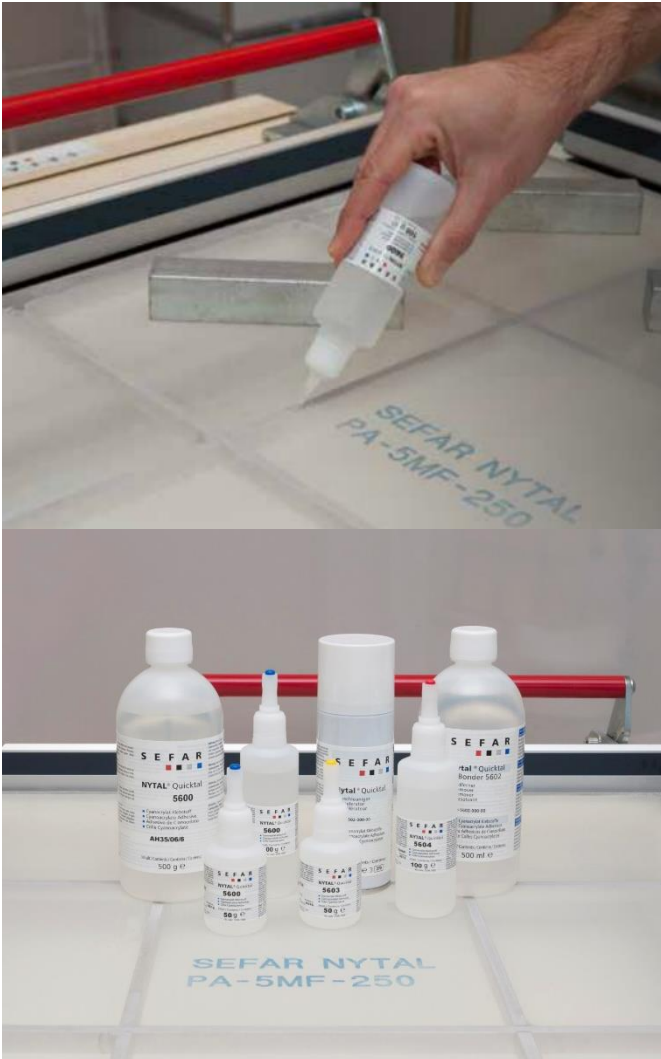
\* Testing conditions: 18-21°C / 50-60% relative humidity





# 3.3 Sefar Stretching Systems

## Quicktal



# 3.3 Sefar Stretching Systems

## Quicktal



5600: Quicktal adhesives, low viscosity  
50/100/500 gr bottles

5602: Quicktal D-Bonder  
500 ml bottle

5603: Quicktal 77, high viscosity  
50 gr bottle

5604: Quicktal Metal  
100/500 gr bottle

5602: Quicktal accelerator spray  
200 ml Spray

# 3.3 Sefar Stretching Systems

## Lable / Quicktal Expiry Date



Please read the enclosed safety instructions



Each bottle is marked with the expiry date (month/year)



Please use existing stock first



Store in cool, dry place, protected from sun and moisture; preferably in a refrigerator



## 4. Accessories Sefar Nytal® Blue Cleaner

Why our blue cleaner is better than the others?

### Product features: Knobs and brushes

- 21 knobs or brushes for effective cleaning
- Raised protectors on the tips, guarding the knobs or brushes for extreme wear
- Knob-style version for coarse mesh (<250 microns) incl. metal mesh
- Brush-style version with PA brushes for fine cloths (>250 microns).
  - Bristles slightly larger in diameter for longer life expectancy
  - Translates into more intensive cleaning



## 4. Accessories Sefar Nytal<sup>®</sup> Blue Cleaner

### Product features: Shape

- Unique star shape combines maximum durability with highly efficient cleaning properties for most frames without back wire
- Added tongue ensures thorough cleaning-even under the cross-bars
- Center hub on bottom side allows the cleaners to tilt and turn freely
- Tray pan is simultaneously scraped through the effective combination of the pivoting hub, tongue and two additional corner elements
- Required distance between mesh and pan: 28.5 – 30.0 mm (1.12-1.18")





# 4. Accessories Sefar Nyltal® Blue Cleaner

## Product features: Summary

- Effective, patented star shape design
- Blue colouring of cleaners improves optical detection
- Specific weight chosen to be the best in class
- 21 knobs or brushes for effective cleaning
- More durable brushes
- Raised protectors on the tips
- Pivoting hub, tongue and corner elements ensure effective tray pan cleaning
- Slightly lower shore hardness reduces wear on frames
- Food safety compliant (EU & FDA)





## 4. Accessories Sefar Nyltal® Blue Cleaner



**S E F A R**  
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## 4. Accessories Sefar Nytal<sup>®</sup> Blue Cleaner

Competitor 1

Sefar

Competitor 2



**S E F A R**  
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## 4. Accessories



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1021 / 1022



1024 / 1034



1031 / 1032



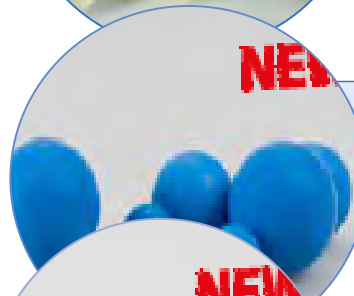
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**S E F A R**



## 4. Accessories



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## 4. Accessories



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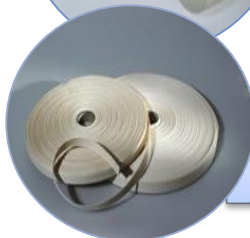
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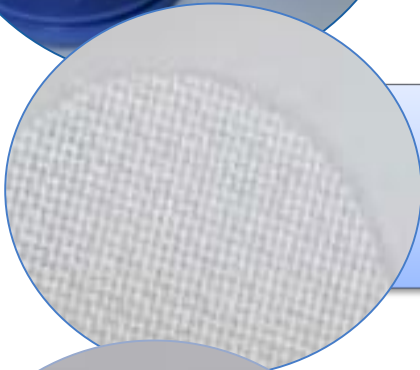
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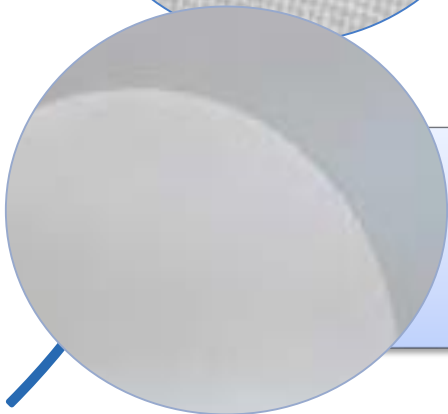
## 4. Accessories



5038 / 5039

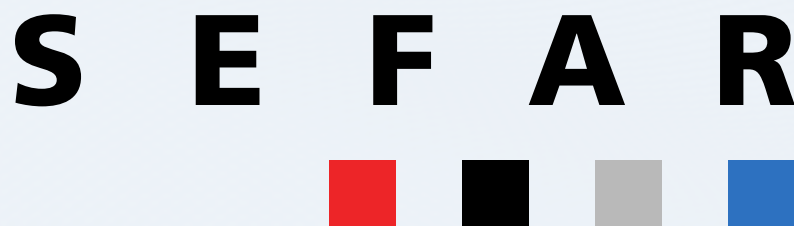


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# Thank you for your kind attention!



For further information please consult the Sefar Milling  
Brochure and visit us online

[www.sefar.com](http://www.sefar.com)

