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# TESTORI FILTER MEDIA



## FOR CEMENT INDUSTRY



GAS AND LIQUID FILTRATION



## Summary

In cement plants dedusting processes are of great importance to guarantee good efficiency and optimal environmental protection.

Testori has been supplying the cement industry with filter media and fluidization fabrics for **more than 100 years**.

As global company in the field of filtration textiles, **we offer also services and know-how for any plant equipped** with dedusting processes.

Testori production (certified with ISO 9001:2008) starts with **fibers selection** (staple fibers and yarns) **till the finished items through needling, weaving, finishing and stitching** (when required).

## PRODUCT PORTFOLIO

Testori offer includes:

- Various filter media for different steps of cement production (bags, pockets etc.)
- Fluidization fabrics
- Services and technical assistance



P84® bag



Glass fabric bag with membrane



Metaramide felt

## FILTER MEDIA

For any filtering process and operation condition, Testori proposes the optimum filter bag evaluating the following features:

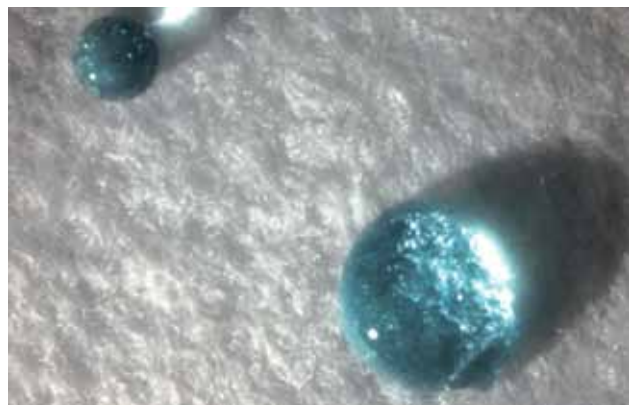
- Chemical composition of the fiber
- Fiber denier
- Areal weight (g/m<sup>2</sup>)
- Type of scrim
- Air permeability
- Surface treatment
- Chemical treatment
- Design optimization for specific plant (bags with one or more channels)



Polyester felt



Polyester bag



Kleentes treatment

The following table represents a **short guide of the best Testori solution** for any process step and any related risk during cement production (the table shows only part of our solutions for different fibers and special treatments).

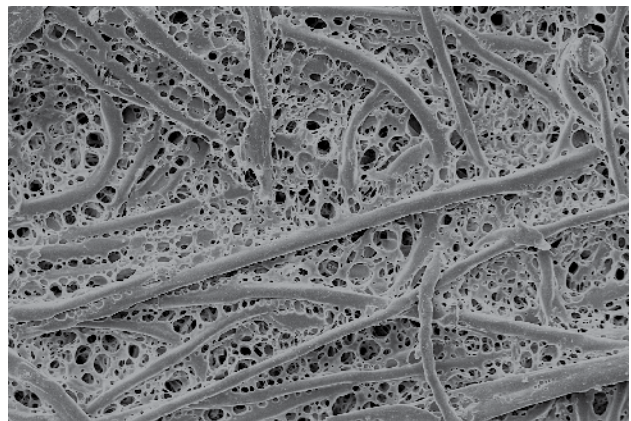
Process	Operating temperature °C	Velocity m³/m² hour	Risk	Testori Solution
CRUSHING MILL	Ambient	70 ÷ 80	Abrasion	T 555 SA
			Clogging	T 552 SA T 552 KL
BELT CONVEYOR	Ambient	70 ÷ 90	Abrasion	T 555 SA
			Clogging	T 552 KL
HOMOGENIZATION	Ambient	60 ÷ 80	Clogging	T 552 KL
ADDITIVES SILOS	Ambient	50 ÷ 72	Clogging	T 552 KL
RAW MILL	60 ÷ 120	50 ÷ 72	Hydrolysis	D 550 SA - DT 550 SA DT 550 NOV
			Clogging	DX 600 SA
COAL OR PET COKE MILL	50 ÷ 100	40 ÷ 70	Explosion	TW or DW
			Clogging	TW or DW + KL
			Very fine particulate size	TW or DW
CEMENT KILN	120 ÷ 130	40 ÷ 65	Low temperature	D 550 KL
	130 ÷ 180	40 ÷ 65	Medium temperature	S 558 MT
	150 ÷ 260	40 ÷ 65	High temperature	G 745 TTX - X 544 RH X 547 MT
			Abrasion	X 544 RH
	180 ÷ 250	40 ÷ 60	Chemical attack + high temp.	PRF 750 PT
CLINKER COOLER	100 ÷ 125 130 ÷ 200	40 ÷ 65	Abrasion high temperature	T 555 SA X 501 SA - X 584 SA
	80 ÷ 120		40 ÷ 72	Abrasion
Clogging		T 652 KL or Microfelt® T 557 SA for very low emissions		
PACKING AND SHIPPING	Ambient	60 ÷ 80	Very fine particulate size and clogging	T 452 Novates
				T 552 Novates

*Legenda*

T = polyester | G = glass | D = acrylic | X = metaramide/P84®/polyimide | PRF = PTFE | S = PPS | W = antistatic



Filter in cement plant



Novates treatment




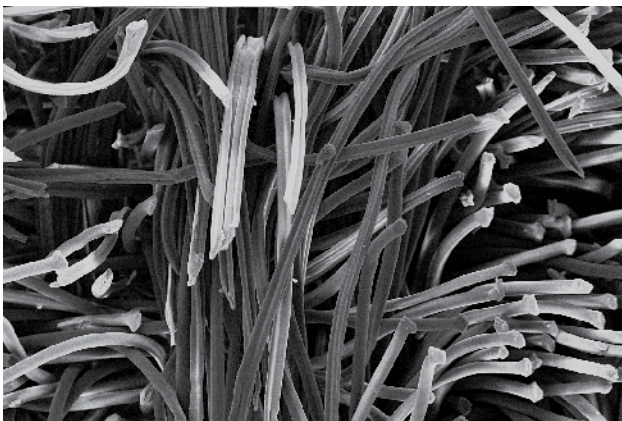
Testori solutions comprise the use of **SPECIAL FELTS** and **SPECIAL TREATMENTS** to obtain the maximum efficiency and the minimum pressure drop.

The following table details various Testori's special felts and treatments. The R&D laboratories also developed **GREENFELT™** which has the same performance of the standard felts but improves the environment sustainability.

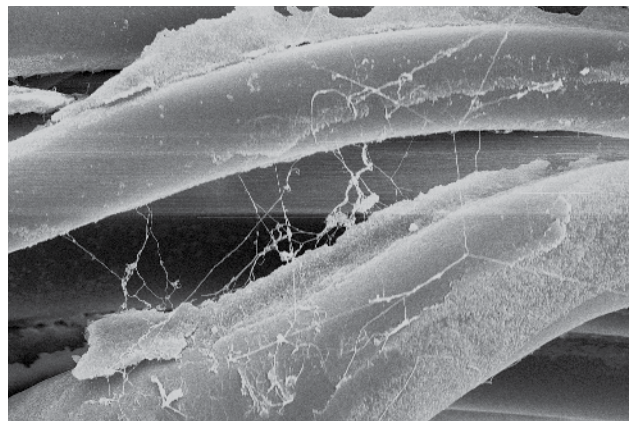
The use of fine fibers (*Microfelt®*) guarantees an high filtration efficiency reaching very low emissions (even for PM5-PM2,5).

Product name	Description	Properties and benefits	Fibers
GLAZING	Surface thermal smoothing	Homogeneous surface, easy cake release	PES
MICROFELT®	Fiber below 2.2 dtex	Microporous structure, emissions below < 1-2 mg/m³	PES P84® PAN
TTX FELT	PTFE membrane bonded on the dust side surface	Smooth surface with calibrated porosity to facilitate cake release and improve filtration efficiency	PES PAN Glass (fabric)
ANTISTATIC FELT	Stainless steel in the felt structure	Low resistivity	PES PAN
<b>GREENFELT™</b>	Regenerated fiber	Environment protection	PES
KLEENTES	Impregnated felt (in a fluoropolymer base solution)	Hydrophobic and oleo phobic, easy cake release	PES PAN
MANTES	Impregnated felt (with PTFE)	Hydrophobic and oleo phobic, high chemical resistance, smooth surface, easy cake release	PAN P84®
NOVATES	Coated felt (with polyurethane resin)	Smooth surface, easy cake release, optimal filtration efficiency	PES PAN

 **GREENFELT™** is a Testori Group trademark



Microfelt® - detail



Mantes treatment

## AERTES™ FLUIDIFICATION FABRICS

For cement industry, Testori produces also **fluidification fabrics** employed in air slide belts and in silos outlet.

The following table shows Testori's fabrics for cement industry.

Testori code	Fiber	Thickness mm	Weight g/m <sup>2</sup>	Air permeability @ 3000 Pa l/dm <sup>2</sup> · min	Temperature °C
T 5	Polyester	5,5	3560	35	150
T 10	Polyester	9,1	5900	70	150
X 5	Metaramide	4,0	2700	70	220



Air slide belt fabric roll



Air slide belt-drawing



Air slide belt fabric

## SERVICES

Testori offers its **know-how** and **resources** for **installation, maintenance, inspections, leakage tests and problem solving.**

To optimize the filter performance and its maintenance, Testori laboratories accomplish the following tests on bags and filter media:

- Fiber type identification
- Dynamometric test to evaluate mechanical properties
- Chemical tests to verify process conditions and the powder nature
- Granulometric test
- Porometric test
- Permeability and efficiency test (VDI)
- Antistatic properties measurement
- Environmental emission measurement (with electrodynamic probe)
- Optical and electronic microscopy tests
- Leakage test with fluorescent powder



VDI - efficiency test



Bags mounting service



Leakage test