

FILTER MEDIA FOR



LIFE SCIENCE INDUSTRIES

GAS AND LIQUID FILTRATION



Intro-Summary

Testori has more than **70 years of experience** in the chemical and pharmaceutical industries.

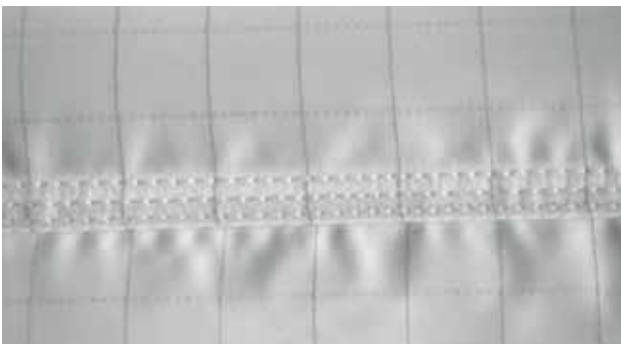
We provide high quality products **for wet filtration and drying processes for pharmaceuticals, drugs, agrochemicals, vitamins and other nutritional additives.** Testori **offer** includes consultancy and ongoing service to the customer from the media choice to the way of using the filter cloths and its maintenance.

Vertically integrated production, historical know-how and high level of customization, give to Testori the ideal positioning in this market. Testori fully meets the needs **of all customers types**: designers/constructors of plants (OEMs) and End Users. We are also available to supply fabrics (and felts) to bags and cloths manufacturers.

FABRICS, FELTS & FINISHED PRODUCTS FOR SOLID FINISHING

Testori is a vertically integrated producer of filter media and finished bags for **fluid bed dryers.**

One of the most diffused applications of Testori's filter media is the Jet Mill equipment for **industrial micronization** of bulk active pharmaceuticals and excipient ingredients. During the grinding process, under controlled atmosphere, the particle size reaches 1 micron or below.



Stitch



Thermo welding



Octopus

OCTOPUS FILTER BAGS & STANDARD FILTER BAGS

Features and benefits

- Polyester material with pharmaceutical grade
- Both thermowelded and taped sewn
- Many antistatic versions available
- High permeability
- Anticlogging surface treatment



Octopus on jet mill

CONNECTOR SLEEVES

The last process step requires the presence of a connection between the finished product tank and the final package. Testori sleeves guarantee the powder flow with high process efficiency.

Features and benefits

- Many different fibers can be used: polyester, polyamide, PTFE etc.
- Antistatic version available
- Wide range of pore size (from 1 μm)
- Minimum product loss
- No risk of product contamination from fibers loose
- Easy installation and cleaning



Connector sleeve



Filter bags

FABRICS & FINISHED PRODUCTS FOR WET FILTRATION

Pharmaceutical equipment employed for solid-liquid separation are equipped with a wide range of Testori's products and are based on two different filtering principles: centrifuges (sedimentation principle) and pressure filters (horizontal pressure filter and strainer filter).

CENTRIFUGE BAGS, INVERTING CENTRIFUGE BAGS, CENTRIFUGE LINERS AND RELATED FABRICS

Testori bags and liners are used in both vertical and horizontal axis centrifuges. Vertical ones are more diffused while horizontal systems are mostly used for mono-product campaigns and long processes. During rotation the solid powder (such as pharmaceutical, drug, agrochemical, vitamin etc.) is separated from liquid phase (generally organic solvent).

Features and benefits

- Wide range of selected pharmaceutical application fabrics: polyester, polypropylene, polyamide, nylon, PEEK, PTFE
- Wide range of pore size (from 1 μm)
- Surface finishing (coating, calendering, both sides glazing)
- Minimum product loss
- No fiber loss
- Excellent cake release and filtration performance



Centrifuge bag - courtesy of Bioindustria L.I.M.



Centrifuge liner



Antistatic fabrics



Fabrics

DISCS AND BAGS FOR PRESSURE FILTERS

Also pressure filters can be used in life science applications. **Testori offers “filter and dryer discs” for horizontal pressure filters and “strainers bags” for strainers filters.**

FILTER & DRYER DISCS

Adopted in pressure filters where time consuming product campaigns are requested. Generally these systems are used to filter intermediate compounds; the discs should be well extended on the mounting surface.

Features and benefits

- Wide range of selected pharmaceutical application fabrics: polyester, polypropylene, polyamide, PVDF, Saran, PTFE
- Wide variety of fabric meshes
- Antistatic version available
- With and without center hole
- Many diameters as per customer request
- Minimum product loss
- No product contamination (no fiber loss)
- Easy installation and optimal fit



Filter disc



Strainer bag

STRAINER (OR GAF) BAGS

Strainer filters (or Gaf filters) are equipped with a basket containing a bag (see picture below). The liquid to be filtered is driven by a pump through the bag; the discontinuous filtration process is completed when a set pressure is reached.

Features and benefits

- Materials: Fabrics (polypropylene, polyester and nylon); Felts (polypropylene and polyester)
- Micron rating: from 1 to 1000 μm
- Fabrics with open and square meshes
- Different types of rings: zinc plated, stainless steel and plastic



Drying filter - courtesy of Comber Process Technology

CUSTOMER ORIENTED APPROACH & BENEFITS

Testori's vertically integrated production processes guarantee **high production capability**, high quality and **complete traceability** of our products with **qualified technical assistance** from raw material selection and to finished products and post sales consultancy. Most of our solutions have **customized designs** with the following features:

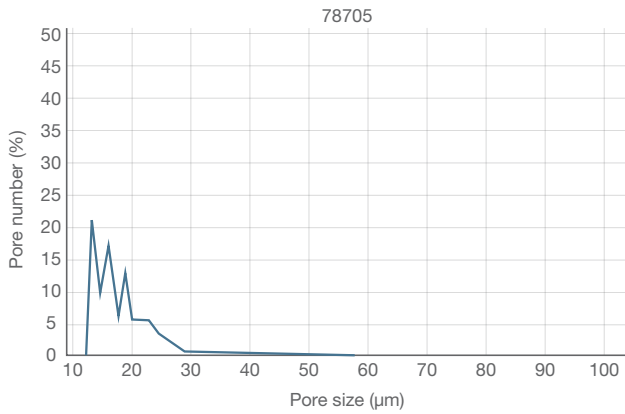
- High flow rates, efficient particle retention and long lifetime
- High quality manufacturing with CAD/CAM laser cut system
- No cross-contamination risks
- Compliance with: FDA, EU 1935/2004, EU 10/2011, ATEX
- Homologation tests IFA (ex BIA) - STFI
- Pore size distribution test
- Identification tags atoxic material (on request)

FILTER MEDIA: TECHNICAL DETAILS

Material	Testori code	Properties			
		Air permeability @ 200 Pa l/dm ² · min	Air permeability @ ½" H ₂ O ft ³ /ft ² · min	Average pore size µm	Weight g/m ²
POLYPROPYLENE	PW 6527 T	80	16,4	-	500
	PW 2657 TB	15	3,1	9,8	560
	P 1557 T	12	2,5	12/17	550
	P 1558 T	7	1,4	12	515
	P 5415 T	40	8,2	15	360
	P 6124 CQ	100	20,5	27	435
	P 6527 T	50	10,3	33	500
	P 6583 TC	6	1,2	8	500
	P 6133 CQ	300	61,5	50	435
	P 1003 CQ	10	2,05	33	490
P 1515 GQ	3900	800	-	200	
POLYESTER	TW 2201 TB	80	15,4	20	240
	TW 6615 T	160	32,8	29	205
	TW 6616 TC	30	6,15	15	205
	TW 6585 T	30	6,15	-	585
	T 4600 T	5	1,03	7	450
	T 6585 T	30	6,15	19	570
	T 657 SA	50	10,3	16	650
	TW 550 SA	100	20,5	30	550
TH 405 TTX	65	13,3	10	480	
FLUOROPOLYMERS	F 6020 GQ	7	1,4	6	500
	F 4422 CQ	500	102,5	-	370
	PRF 750 PT	100	20,5	20	750
	PRF 750 GTX	30	6,15	2	750
COTTON	C 3350 T	9	1,85	6	680
	C 3320 T	14	2,87	-	540
POLYAMMIDE	N 6584 T	15	3,1	42	550
	N 106 T	120	24,6	-	515
	N 2211 LQ	60	12,3	46/66	720
	N 3219/2 T	180	36,9	44	290

All data are not binding and may vary

R&D



Testori has always been investing in R&D projects devoted to most advanced markets. The following examples evidence our attention to the customer and to the scientific world enhancements.

- New Antistatic polyester needle felt with Testori Novates special treatment: to guarantee higher efficiency with minimum fiber loss
- Special resin coatings also on fabrics to maximize filtration yield
- New special PTFE sealing tape to maximize filtration efficiency in case of high value of the final powder and to prevent any contamination risk from the filter media. This solution can be applied both to stitched and thermo-welded seams

Thickness mm	Application					
	Centrifuge bags	Centrifuge liners	Inverting centrifuge bags	Filter discs	Fluid bed dryer bag & octopus bags	Connector sleeves
1,18	■	■	■		■	■
1,10	■	■	■		■	■
1,00	■	■	■			■
0,98	■	■	■			■
0,85	■	■	■			■
0,95	■	■		■		■
0,97	■	■	■			■
1,00	■	■	■			■
0,88		■		■		■
0,80		■		■		■
0,66		■		■		■
0,40	■	■	■	■	■	■
0,30	■	■	■	■	■	■
0,25	■	■	■	■	■	■
0,80	■	■	■	■	■	■
0,51	■	■	■	■		■
0,80	■	■	■	■		■
1,60						■
1,50					■	■
1,8					■	
0,42	■	■		■	■	■
-	■	■	■	■	■	■
1,1					■	
1,1					■	
1,23	■	■	■			■
1,03	■	■	■			■
0,84	■	■	■	■	■	■
0,94	■	■	■	■	■	■
-	■	■	■	■	■	■
0,55	■	■	■	■	■	■



ITALY

FRANCE

U.A.E.

U.S.A.

Testori S.p.A.
Group Headquarters
Largo A. Testori, 5
20026 Novate Milanese (MI)
Italy
Tel. +39 02 3523 1
Fax +39 02 3523 230
info@testori.it

www.testori.it