



NFFF
INDUSTRIAL CORPORATION

Your Filtration Specialist

A Commitment to

Customer Satisfaction



Network Filtration Fabrics Industrial Corporation (NFF), has been producing the highest quality fiber bags and cloths for twenty five (25) years. A commitment to customer satisfaction begins with base fabric design to meet stringent performance standards. As a result of continuous research and development and in partnership with its world renowned fabric manufacturers, **NFF** provides innovative fabric finishes that result in improved product performance and offer cost effective solutions to filtration problems.

As filtration evolves into a highly specialized field, **NFF** combines its experience with new break-throughs in technology in order to tailor-fit available media to particular applications. This customized approach to filtration problems has brought the company closer to its customers. In the process, the partnership has been continually solidified by exchange of information and experiences.

NFF has constantly challenged itself in staying true to its vision of being the leading partner in filtration for its customers anchored on technical competence, financial stability, organizational efficiency and social responsibility.

We at **NFF** invite you to be our partner.

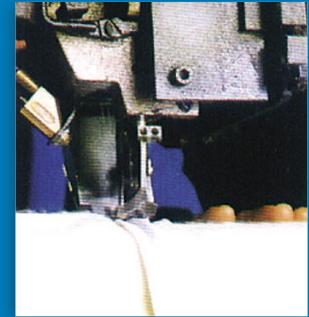
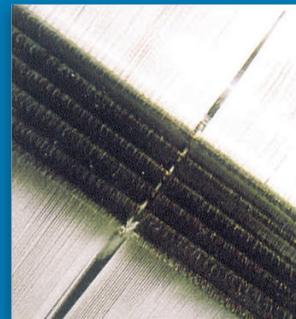
Dry Filtration

Fabrics

NFF Filter Fabrics are used for solid-gas separation. They are manufactured using modern production technology and state-of-the-art equipment.

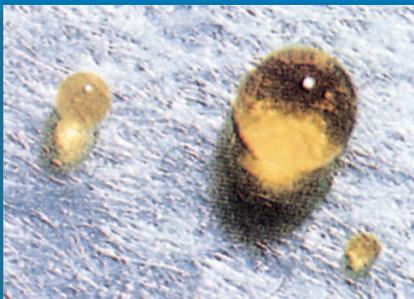
The various chemical and physical properties of available fibres (staple, multi-filament and mono-filament yarn), the variations of weave, and certain treatment allow the production of high quality fabrics at world class standards.

NFF Filter Fabrics are offered in different types and can be applied according to specific industries uses and operating conditions.



Filter Bags

NFF Filter Bags are made of high quality felts and woven fabric that meet the standards of various industries. The excellent quality of fibers is maintained via continuous manufacturing cycle which minimizes defects and confectioning mistakes. NFF Filter Bags are sophisticated products which are manufactured using a computerized management of technical drawings, models and specifications.



NFF Filter Bags are sewn for specific requirements and for greater dimensional regularity.

NFF Industrial Corporation has delivered customer satisfaction by adopting this products modifications and services:

- Low temperature, high dust load applications
- Filtration at high temperature up to 200 °C or more
- Fuel gas from coal-fired boilers in power plants
- Dust capture from solid waste incineration
- Filtration of toxic gas with high content of polluting metallic elements
- Filtration of corrosive and other chemical active dust.
- Capture of high value dust such as gold, silver and titanium.
- Investigations and advice to study critical applications
- Initiatives to improve plant layout and to manage filtration problems
- Undertake dust collector rehabilitation and maintenance engagements

Dry Filtration

Fabric Selections

Generic Name:	Cotton	Wool	Polyamid	PP	PET	Acrylic Copolymer	Homopolymer Acrylic	Aromatic Aramid	PTFE	Expanded PTFE	Polyetherimide	Sulfar (PPS)	Polyketone	Polyimide	Glass	Metal	Ceramic					
FIBER																						
Trade name:			Nylon 66	Herculon	Dacron	Orion	Darlon T	Nomex	Teijincomex	Teflon	Toyoflon	Rastex	Alkzo PEI	Ryton	Bayer PPS	Zyex	P84	Fiberglass	Bekinox	Nextel 312	Fibrefax	
Recommended continuous operation temperature (dry heat)	180°F 82°C	200°F 94°C	200°F 94°C	200°F* 94°C	270°F 132°C	248°F 120°C	257°F* 125°C	400°F 204°C	392°F 200°C	500°F 260°C	500°F 260°C	338°F 170°C	375°F 190°C	375°F 190°C	375°F 190°C	460°F 240°C	500°F 260°C	500°F 260°C	1,020°F 550°C	1,100°F 600°C	1,100°F 600°C	2,300°F 1,260°C
Water vapor saturated condition (moist heat)	180°F 82°C	190°F 88°C	200°F 94°C	200°F* 94°C	200°F 94°C	230°F 110°C	230°F 125°C	350°F 177°C	356°F 180°C	500°F 260°C	500°F 260°C	338°F 170°C	375°F 190°C	375°F 190°C	n.y.e.*	460°F 240°C	383°F 195°C	500°F 260°C	1,020°F 550°C	1,100°F 600°C	1,100°F 600°C	2,300°F 1,260°C
Maximum (short time operation)	200°F	230°F	250°F	225°F*	300°F	248°F	302°F	465°F	482°F	550°F	550°F	392°F	450°F	446°F	446°F	570°F	580°F	550°F	1,110°F	2,600°F	3,260°F	
temperature dry heat	94°C	110°C	121°C	107°C	150°C	120°C	150°C	240°C	250°C	290°C	290°C	200°C	232°C	230°C	230°C	300°C	300°C	290°C	600°C	1,427°C	1,790°C	
Specific density	1.50	1.31	1.14	0.9	1.38	1.16	1.17	1.38	1.37-1.38	2.3	2.3	1.6	1.28	1.38	1.34-1.35	1.37	1.41	2.54	7.9	2.7	2.7	
Relative Moisture regain in % (at 58°F and 65% relative moisture)	8.5	15	4.0-4.5	0.1	0.4	1.0	1.0	4.5	4.5	0	0	0	1.25	0.6	0.24-0.25	0.6%	0.1	3.0	0	0	0	0
Supports combustion	Yes	No	Yes	Yes	Yes	No	Yes	No	No	No	No	No	No	No	Self-quenching LOI 39-41%	No	No	No	No	No	No	No
Biological resistance (bacterial, mildew)	No, If not treated	No, If not treated	No effect	Excellent	No effect	Very Good	Very Good	No effect	No effect	No effect	No effect	No effect	No effect	No effect	n.y.e.*	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Resistance to Alkalis	Good	Poor	Good	Excellent	Fair	Fair	Fair	Good	Good	Excellent	Excellent	Good	Good	Good	Excellent	Excellent	Fair	Fair	Excellent	Good	Good	No effect
Resistance to mineral acids	Poor	Good	Poor	Excellent	Fair*	Good	Very Good	Fair	Fair	Excellent	Excellent	Good	Good	Excellent	Excellent	Very Good	Very Good	Very Good	Good	Good	Very Good	Very Good
Resistance to organic acids	Poor	Good	Poor	Excellent	Fair	Good	Excellent	Fair	Fair	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Very Good	Very Good	Very Good	Very Good	Very Good	Excellent
Resistance to oxidizing agents	Fair	Fair	Fair	Good	Good	Good	Good	Poor	Poor	Excellent	Excellent	Good	Good	Fair*	Fair**	Good	Very Good	Excellent*	Excellent	Excellent	Excellent	Excellent
Resistance to organic solvents	Very Good	Very Good	Very Good	Excellent	Good	Very Good	Very Good	Very Good	Very Good	Excellent	Excellent	Good*	Excellent	Excellent	Excellent	Excellent*	Very Good	Very Good	Excellent	Excellent	Excellent	Excellent
Comments:	250°F for Type 154			*Not recommended			*PEI fiber is dissolved by partially chlorinated hydrocarbons.		*PPS fiber is attacked by strong oxidizing agents. For example at 200°F for seven days.					*Not Examined. **Depending on Concentration.		*Soluble only in strong polar solvents (DMF, DMAc, DMSO, NMP).						*Inconel 601.

Liquid Filtration



Pleated Filter Bags

Due to increasing demand for versatility in the design of dust collection systems, to address space and capacity restrictions, the use of pleated filter bags has become a popular solution.

NNF has established technical collaborations with well known pleated bag manufacturers, to address the need of the market for high efficiency bags.

By using equally spaced and carefully evaluated pleats, the filtration area of each bag has been increased by more than 300% in some cases. This has brought about the reduction in gas-to-cloth ratios resulting in improved dust capture and longer bag life.

For proper sizing and specification our application engineers will be available to assist you.



Air Slide Belts

NNF Industrial Corporation is not only known for using special fabric for Air Slide Belts used in pneumatic conveyor lines but also for introducing the NETSLIDE products for aerations and handling of powered materials in silos, hoppers and stacks which are used in cement works, lime factories, chemical plants and mining operations.

The NETSLIDE products are available in rolls of 40m or 50m and heights of 400 mm to 1600mm. They are made of either cotton, polyester, aramidic fibers, and sintered stainless steel which can withstand temperatures from: 100°C (polyester) to 600°C (stainless steel)

The multi-ply structure of fabrics, with different weights, thickness and permeability, allows;

- uniformity in the flow effect on the slide surface
- great mechanical resistance to abrasion and tensile strength,
- a vast porosity range.

The materials can be supplied cut to pattern upon request.

Type	Fibre	Weight (g/m ²)	Thickness (mm)	Permeability (l/dm ² min 300mm H ₂ O)	Max Temperature (°C)
NETSLIDE CS520	Cotton	5200	9	35	100
NETSLIDE TR310	Polyester	3400	4.8	30	150
NETSLIDE TR312	Polyester	3600	6	60	150
NETSLIDE TR314	Polyester	3700	6	100	150
NETSLIDE TR316	Polyester	6100	9.2	70	150
NETSLIDE TR318	Aramidic	280	6	80	250
NETPORE LF Series	Stainless Steel	9700	1.4 - 1.5	as required	600
NETPORE HF Series	Stainless Steel	7300	1.4 - 1.5	as required	600

Liquid Filtration

Fabric Anatomy

Type of Yarn

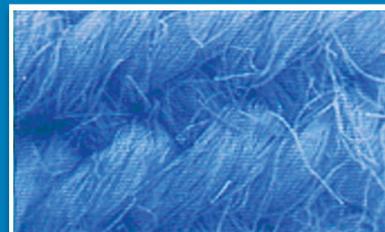
The type of yarn refers to the physical way the fibre is spun or extruded



Monofilament: Single Yarn



Multifilament: Consisting of several individual fibres



Staple Fibre: Cut and assembled multifilaments

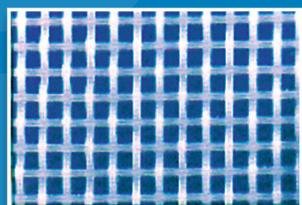
Physical Properties

Material	Density	Moisture Absorption	Resistance to U.V.	Absorption Resistance	Creasing Resistance	Type of Yarn
Cotton	1,50	7%	**	*	*	F
Polyester	1,38	0,4%	***	****	***	C,F,M
Polyamide 6.6	1,14	4%	**	*****	*****	C,F,M
Polyamide 11	1,04	0,5%	**	*****	****	M
P.T.F.E.	2,30	0%	****	**	***	C,F,M
Polypropylene	0,91	0%	**	***	**	C,F,M
P.V.C.	1,40	0%	*****	***	*	F
P.V.D.F.	1,75	0%	***	**	***	C,M

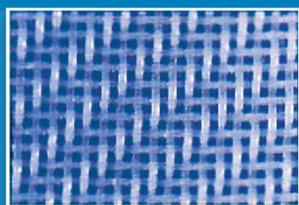
***** Excellent **** Good *** Average ** Poor * Very Poor

C: Continuous Multifilament Yarn F: Staple Fibre M: Monofilament

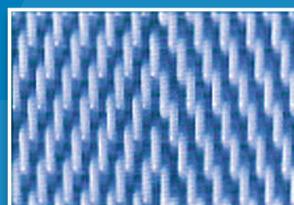
Basic Weave Patterns in Filtration



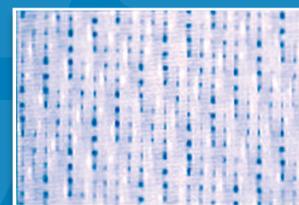
Plain



Twill



Chevron



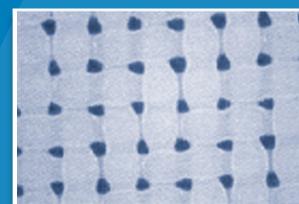
Satin

Finishing Treatments

- Glazing
- Thermal Stabilization
- Singeing
- Pre-stretching
- Calendering
- Chemical Treatments
- Water Repellant
- Flame retardant
- Oil Resistant
- Anti-Static



Before Calendering



After Calendering

Liquid Filtration

Cloths for Filter Press



NFF Cloth for Filter Press are made of superior quality that pass strict sample test with the use of advance technology such as CAD/CAM system.

Filter Press requirements are met using wide range of cloths:

- Cloth for traditional filters
- Twin Cloths with a connection neck for automatic filter presses (sizes up to 2000 mm)
- Cloth for membrane plates
- Cloth for sealed edges and reinforcements
- Under-cloths for drainage and other details matching machine needs (upon request).

NFF synthetic fibres also offer customers excellent solutions for:

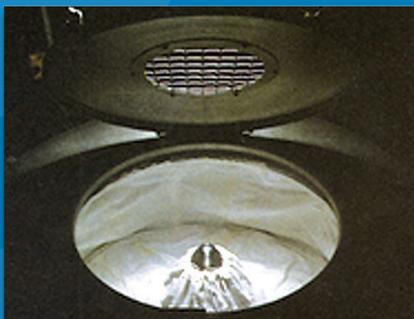
- Mechanical resistance and performance against chemical agents and temperature
- Filtering efficiency with adequate flow
- A non-adhesive surface effects.

Technically component NFF Industrial Corporation sales engineers are always available to help our customers select the appropriate fabric for their specific needs.



Cloths for Centrifugal Machines

NFF Cloth for Centrifugal Machines are made with special filtering and high mechanical strain capacity needed during operation and unloading in chemical and pharmaceutical industries.



Cloth for Centrifugal machines, with vertical and horizontal rotating axis ranging from 400 to 2000 mm in diameter are available in four versions:

- Standard Cloth, for unloading from the top
- Removable Cloth, for unloading from the cone
- Open Cloth, for unloading from the bottom
- Bottomless Cloth, for unloading with a scraper

NFF Cloth for Centrifugal Machines are made of fabrics with polypropylene fibre (resistant to acid & alkali), cotton and other synthetic fibres. Some fabric are mix with Bekinox, a metal fibre used where electrostatic charges are present.

NFF Cloth for Centrifugal Machines are produced under a very precise manufacturing technique that utilize the following components:

- Eyelets with Braces (for lifting the cloth)
- Bar Holding Sheaths (for rapid positioning)
- Joint Covering Seams (for prevention of product leakage)
- Differentiated Cone Openings (for the quick unloading of different products)

Cloths for Belt Press

For continuous filtration process such as pulp drying and ore washing, the belt press is one of the most commonly used filtration equipment. NFF has the capability to supply endless cloths for belt presses to assure high volume filtration.

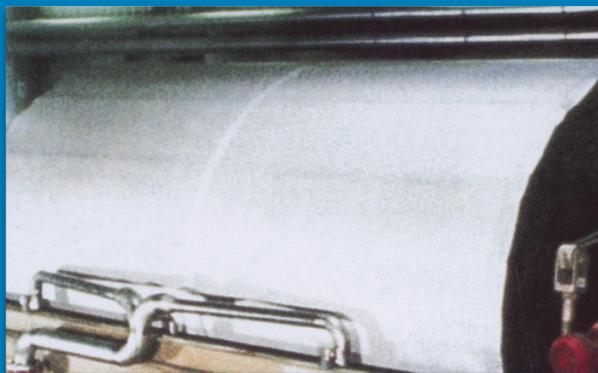


Liquid Filter Bags



For versatile filtration systems such as High flow multi-bag pressure vessels, filter bags both in polyester & polypropylene execution are available on stock. The fabrics may be of the woven or non-woven variety while the fabric opening ranges from 1-200 microns.

Cloths for Rotary Drum Filter



For high dirt loading where solids concentration is the primary objective, rotary drum filters are very effective, NFF provides fabric which are resilient to continuous dipping and negative pressure applied during operation. Since the filter cake is usually scrapped from the cloth before being re-submerged, the following characteristics are being sought:

- Fabric Stability
- Resistance to Abrasion
- Sewing Accuracy
- Correct Permeability

Cloths for Disc Filter



A popular choice in process filtration such as in sugar refining, fertilizer manufacturing and paper production. NFF has supplied cloths for those industries either as rolled fabrics or finished filter. With the disadvantage of high replacement and downtime cost inherent in this system, the correctness and reability of the filter media is a must.



Water Filtration Systems & Components

The need for water filtration has exponentially increased in the last few years. More and more, clean drinking and process water is becoming scarce as population and industry expanded.

With its worldwide sourcing capabilities, NFF assembles and distributed water purification systems and its components.

Available are:

- Reverse Osmosis System
- Water Softeners
- DI Systems
- RO Membranes
- Ozonators
- Cartridge Filters
- Carbon Filters
- Tubings and Filterings
- Ultra Violet Sterilization

Systems and Products

FILTRATION EQUIPMENT:

- NFF Bag Filter Dust Collectors
- MIKROPUL Wet Glass Scrubbers
- GOYEN Cleaning Air Systems
- GOYEN Gas Analyzers & Emission Monitors
- MECAIR Cleaning Systems
- REITZ Fans
- KC COTTRELL Air Pollution Control Systems
- Cooling Towers
- PLUSPOINT Filter Press

DUST COLLECTOR ACCESSORIES:

- NFF Filter Bags & Cages
- GOYEN Diaphragm Valves
- MECAIR Diaphragm Valves

OTHER PRODUCTS:

- Air Slide Canvass
- Putzmaus Boiler Tube Cleaning System
- Air Cannon
- Wire Mesh
- ESP Parts & Components

WET FILTRATION PRODUCTS:

- NFF Cloths for Filter Press & Centrifuges
- Filter Press System & Parts
- Klinkau Filter Plates
- Cartridge Filters
- Pressure Filter Vessel
- Belt Press

AIR FILTRATION PRODUCTS:

- Disposable Pleated Air Filters
- Polyester Panels & Cube filters
- Paint Booth Filters
- Medium & High Efficiency Filters
- Washable Filters
- HEPA / ULPA Filters

