GWARANT-EKO

geko

FILTRATION

FILTER BAGS MANUFACTURER

Gwarant-Eko GEKO FILTRATION
specializes in manufacturing filter bags
and various types of textile and fabric filters,
as well as other components
required in the filtration process.

HISTORY

The development of the Gwarant-Eko brand started in 1997. Since then, we have been the advocates of clean ambient air.

DEVELOPMENT- CARE FOR THE ENVIRONMENT

The key objective of GEKO FILTRATION is to continue its growth in the field of production of various filtration components, striving for the goal to prove that we all care for the environment by ensuring the quality of air near the largest industrial facilities and populated areas of countries all over the world.

CHALLENGES

We are open-minded and crave for new challenges. Ambition is what motivates us to satisfy all business needs of our Customers, even if they involve the most intricate air filtration components.

FLEXIBILITY

Our products are customized to the customer's needs (dimensions, material, filtration performance, filter work conditions).

COOPERATION

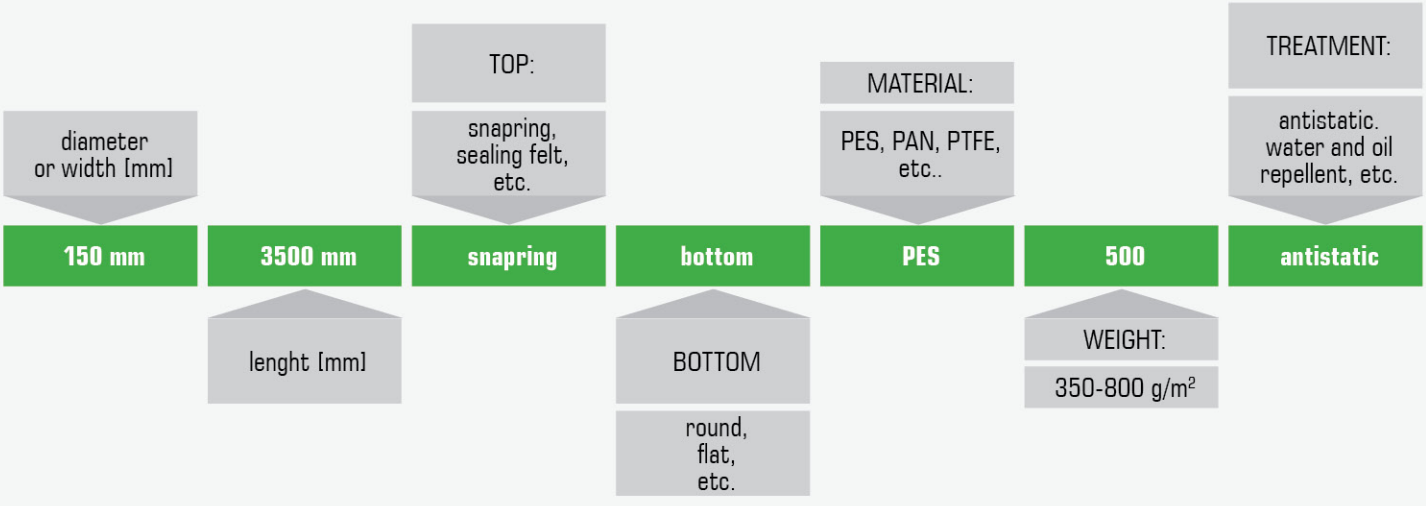
We communicate and cooperate with our customers, so that the product we provide meets 100% of their expectations and gives satisfaction of our work to our customers and us.

INNOVATIONS

We skillfully adhere to the needs and trends of the market to provide our customers with innovative products of the highest-quality.

FIXING TYPES

SUPPLEMENTARY DIAGRAM



FILTER BAGS

NEEDLE FELTS & FABRICS

Polyester (PES)

PES needle felt is the most commonly used material in the process of dry industrial filtration. Thanks to its popularity and low price, it is the most useful filtration material.

Thermal resistance:
constant temperature 150°C
peaks temperature 160°C

Applies in the following industries:

- Cement
- Gypsum
- Ceramic
- Plastics
- Milling
- Mining extraction
- Steel
- Metallurgical
- Wood and furniture

Polypropylene (PP)

PP needle felt is used in industrial filtration environments, where the temperature does not exceed 90°C, while the filtered medium requires high resistance to acids and hydroxides.

Thermal resistance:
constant temperature 80°C
peaks temperature 90°C

Applies in the following industries:

- Galvanization
- Steel and Chemical fertilizer production

Polyacrylonitrile (PAN)

PAN needle felt is used in dry industrial filtration, aggressive chemical environments where the temperature does not exceed 140°C. It exhibits perfect resistance to hydrolysis.

Thermal resistance:
constant temperature 130°C
peaks temperature 140°C

Applies in the following industries:

- Cement
- Bitumen mass production plants
- Metallurgical
- Drying plants
- Energy production
- Gypsum

Meta-aramid (MA)

MA needle felt is used in dry industrial filtration environments where the temperature exceeds 160°C.

Thermal resistance:
constant temperature 200°C
peaks temperature 230°C

Applies in the following industries:

- Gypsum
- Bitumen mass production plants
- Powder adhesive and cement production
- Metallurgical
- Chemical fertilizer production and Foundries

Filter bag materials should be selected based on detailed process data.

FILTER BAGS

NEEDLE FELTS & FABRICS

Polyphenylene sulfide (PPS)

PPS needle felt is used in chemically aggressive environments of dry industrial filtration where the temperature does not exceed 200°C.

Applies in the following industries:

- Energy production
- Desulfurization installations
- Chemically aggressive environments
- Bitumen mass production plants

Thermal resistance:
constant temperature 160°C
peaks temperature 190°C

Polyimide (PI)

PI needle felt is used in dry industrial filtration environments where the temperature significantly exceeds 200°C.

Applies in the following industries:

- Energy production
- Desulfurization installations
- Cement
- Lime

Thermal resistance:
constant temperature 230°C
peaks temperature 260°C

Glass fabric (GL)

GL fabric is used in industrial filtration environments where the temperature significantly exceeds 200°C, while the process requires highly efficient filtration. Glass fabric is covered with PTFE microporous membrane.

Applies in the following industries:

- Energy production
- Cement

Thermal resistance:
constant temperature 260°C
peaks temperature 260°C

Teflon (PTFE)

PTFE (polytetrafluoroethylene) needle felt is used in dry industrial filtration, in chemically aggressive environments where the temperature may reach 280°C. It exhibits perfect resistance to all types of chemical mixtures in gases.

Applies in the following industries:

- Cement
- Metallurgical
- Waste incineration plants
- Energy production

Thermal resistance:
constant temperature 260°C
peaks temperature 280°C

NEEDLE FELTS & FABRICS

THERMAL AND CHEMICAL RESISTANCE OF FILTRATION MATERIALS

Filter bags are manufactured from filtration textiles and fabrics of various properties. The material used for bags is selected according to the customer's individual needs. Material choice depends on many factors, such as the temperature, presence of acids, alkies, or all types of dust.

TEMPERATURE AND CHEMICAL RESISTANCE OF FILTER MATERIALS										
Material		Continuous temp.	Peaks temp.	Resistance for strong acids	Resistance for weak acids	Resistance for strong alkalis	Resistance for weak alkalis	Oxidizing	Solvents	Hydrolysis
Polyvinyl chloride	PCV	60°C	70°C	• • •	• • • •	• • •	• • •	• • •	• •	• • •
Cotton	BT	75°C	80°C	•	• •	• •	• • •	• • •	• • •	• •
Polypropylene	PP	80°C	90°C	• • • •	• • • •	• • • •	• • • •	•	• •	• •
Polyamide	PA	110°C	110°C	•	• •	• •	• • •	• •	• • •	• •
Polyacrylonitrile	PAN (Dolanit®)	130°C	140°C	• • •	• • • •	• • •	• • •	• • •	• •	• • • •
Polyester	PES	150°C	160°C	• • •	• • • •	•	• •	• • • •	• • •	•
Polyphenylensulphide	PPS (Ryton®)	160°C	190°C	• • • •	• • • •	• • • •	• • • •	•	• • • •	• • •
Meta-aramide	MA (Nomex®)	200°C	230°C	• •	• • •	• • •	• •	• • •	• • • •	• •
Polyimide	PI (P.84®)	230°C	260°C	• •	• • •	• •	• •	• • •	• •	• •
Polytetrafluorethylene	PTFE (Teflon®)	260°C	280°C	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •
Glass	GL	260°C	260°C	• • •	• • •	• •	• • •	• • •	• • •	• • • •

• • - weak resistance
• • - limited resistance

• • • - good resistance
• • • • - excellent resistance

The data presented in the chart has been taken from research and express average values.

Base weight [g/m²]

The most commonly used base weight of materials falls between 350-800 g/m².

Permeability [l/dm² *min]

Materials used in the production process of standard filtration elements exhibit air permeability from 30 to 400 l/dm²*min. We also use materials of lower or higher air permeability, if the filtration system requires it.

Choice of filtration material

Do you need help with choosing the proper filtration materials?
Contact us:

biuro@gwaranteko.pl **biuro@gekofiltration.pl**

NEEDLE FELTS & FABRICS

AVAILABLE TYPES OF FILTRATION MATERIAL ENRICHMENTS

In order to improve the effectiveness of bag filtration and regeneration, various types of enrichments are used. Thanks to new developments in the field of production of filter media, new solutions become constantly available to guarantee high efficiency of dust removal.

THE AVAILABLE TREATMENTS AND TYPES OF MATERIALS											
Material		Antistatic	Water and oil repellency	Water and oil repellency with PTFE	Antibacterical treatment	Slow-burning	Resistant to sparks or any incandescent particles	For contact with food	With PTFE membrane	With microfibres	Resistant to abrasion
Polyvinyl chloride	PCV										
Cotton	BT		•								
Polypropylene	PP	•	•	•		•	•		•		
Polyamide	PA										
Polyacrylonitrile	PAN	•	•	•		•	•		•	•	•
Polyester	PES	•	•	•	•	•	•	•	•	•	•
Polyphenylensulphide	PPS	•	•	•		•	•		•	•	•
Meta-aramide	MA	•	•	•		•	•		•	•	•
Polyimide	PI	•	•	•			•		•	•	
Politetrafluoroethylene	PTFE	•	•	•			•		•	•	
Glass	GL		•	•					•		

• - it is mean that material can be available with this industrial treatment.

PTFE MEMBRANE

GLASS FABRIC (MICROSCOPIC IMAGE)

The behavior of a drop of water and oil on the material that has been treated for water and oil-resistant's.

Choice of filtration material

Do you need help with choosing the proper filtration materials?
Contact us:

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FILTER MATS

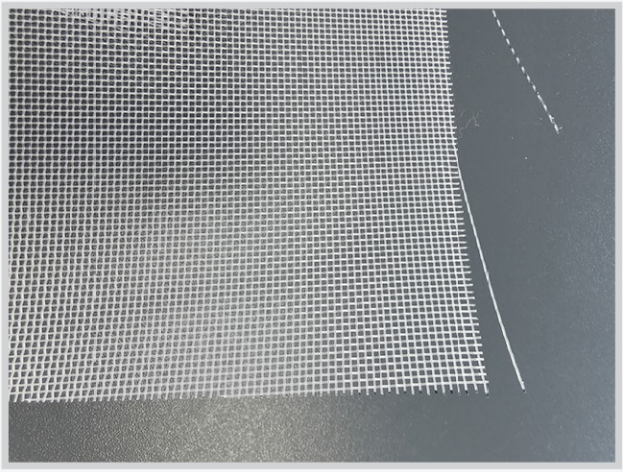
Mats are a type of filtration fabric used in ventilation systems.

Filter mats can be used as a preliminary filtration, they exhibit high air permeability. They are also used for preparing many non-standard filtration elements, where basic filtration is ensured while limiting the flow resistance at the same time.

NYLON (POLYAMIDE) MESH

A mesh filtration fabric that is mainly utilized in liquid filtration. Our assortment includes the following mesh sizes (expressed in microns):

- 34, 50, 75, 80, 100, 125, 150, 200, 250, 300, 400, 500, 600, 750, 1000, 1200, 1680, 2200 μm
- By special order



Depending on your needs, we are able to use such mesh to produce any filtration element you need:

- Large-size silos (e.g. for polystyrene)
- Sieves
- Wet sawdust separators
- Bags for active carbon
- Bags of any diameter, length and with any type of fixing

LIQUID FILTRATION

The filtration process of dust may, in some circumstances, require the application of a wet dust extraction phase. In such cases, special bags are required for such a process are used. We produce filter bags for liquid filtration from the following materials:

- Polyamide (nylon) mesh (mesh size: 34-2200 microns)
- Polyester material (filtration efficiency: 1-200 microns)
- Polypropylene material (filtration efficiency: 1-200 microns)

FABRIC COMPENSATORS

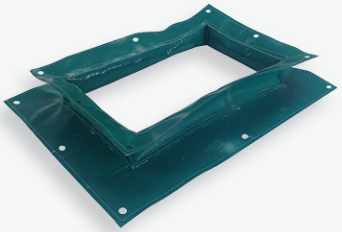
EXPANSION JOINTS

Fabric compensators and expansion joints are intended to ensure the correct performance of dust extraction systems, ceramic exhaust, and combustion pipe systems. They facilitate connection of elements thanks to a verity of structural features they can be used in any industrial sector. We offer fabric compensators and elastic connectors featuring thermal resistance up to 90°C or up 260°C.

Collar thermal resistance

Silicone thermal resistance + UV

Asymmetric



Reduction collar compensator

MISCELLANEOUS FILTRATION ELEMENTS

Due to the flexibility and creativeness of our employees at Gwarant-Eko GEKO FILTRATION, we are able to produce the most intricate filtration elements. Thanks to our well equipped machine park we are able to produce complex units, our production capabilities are very diverse.

We are able to provide every type of:

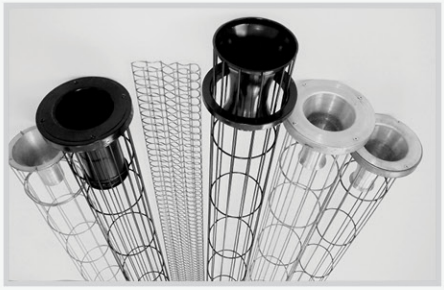
Patron filters

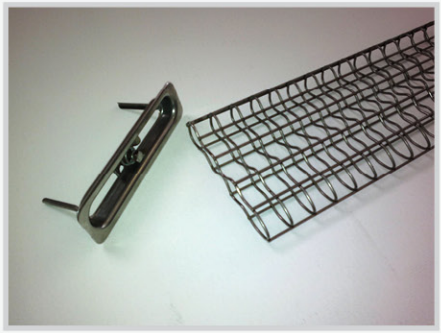
Multi-pockets, deaeration bags, sifter sleeves

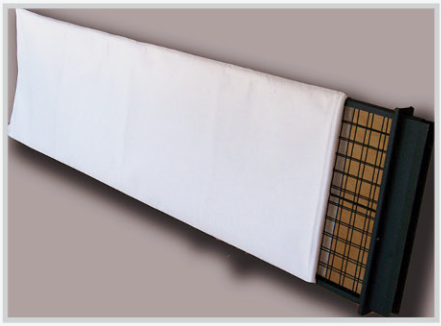
Pocket filters

Chute sleeves with rings

HEPA filters





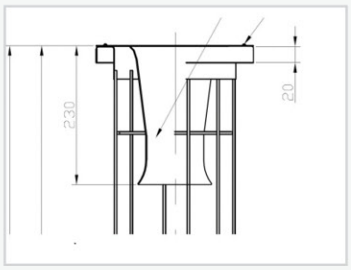


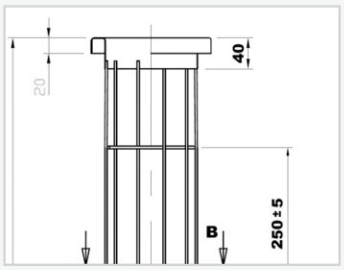
SUPPORTING CAGES

Supporting cages, which are often the key structure element of industrial filters, condition the proper operation and regeneration of filter bags. The multitude of construction-related solutions regarding dust extraction systems determines the varied nature of construction.

Supporting cages can be easily divided into several types, mainly by:

- Shape: round, flat, oval
- Installation method
- Type of material they are made of
- Finish of its upper part
- Number of bars
- Number of cage elements





Depending on the need, we can use the following types of steel to produce supporting cages:

- Untreated carbon steel
- Galvanized
- Secured through cataphoresis
- AISI304L
- AISI316L
- Other types of material to the Customer's request

We provide single- and multi-element cages.
The length ranges from 500 mm to 10 000 mm.

Venturi nozzles

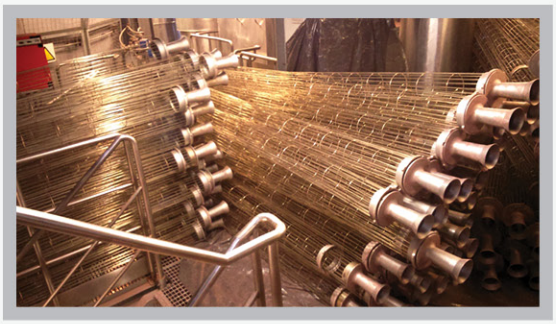
In order to ensure more efficient regeneration of bags, supporting cages are facilitated with so-called nozzles, also known as Venturi tubes.

Depending on the working environment, the nozzles can be made of galvanized steel, stainless steel, aluminum, or plastic.

SERVICING

GEKO FILTRATION
offers the following services:

- Disassembly of worn and installation of new filter bags
- Disassembly and installation of supporting cages
- Dust cleaning of the compartment for clean air
- System tightness test
- Utilization of worn bags
- Cleaning system valve replacement
- Consultancy in case of issues
- Consultancy regarding choice of filtration materials, determination of optimum load of the filtration fabric and pre-coating



As the manufacturer of filter bags, we are perfectly aware of the principles of proper construction and installation of bags.

By cooperating with us within the scope of filter bag installation, you ensure proper sealing of the filtration compartment, which results in efficient operation of the filtration system.

We have a professional team that will comprehensively guide you through the process of maintaining the filter in an optimum and effective condition.

Gwarant-Eko GEKO FILTRATION Sp. z o.o.

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