

FILTER MEDIA



FOR ALUMINIUM INDUSTRY

GAS AND LIQUID FILTRATION



Introduction

Testori enjoys long time experience in supplying **filter bags, cloths, filter media, fluidization fabrics, accessories and services for the aluminum industry.** Testori vertically integrated production guarantees high quality and renown competences in industrial processes and environment protection.

Our products & services are available in the five continents thanks to a capillary presence of Testori Group companies, agents and distributors. **Testori Headquarters (Italy), TTL France, Testori Emirates, Testori USA can all supply the aluminium plants; TTL France, based in Mulhouse, is world leader in the production and sales of multi-channel bags for primary aluminium industry.**

Testori range of products satisfies **alumina production process, primary aluminium smelters** and also **secondary aluminium** foundries. All these processes can require liquid and/or gas filtration.



Aluminium warehouse



Alumina production

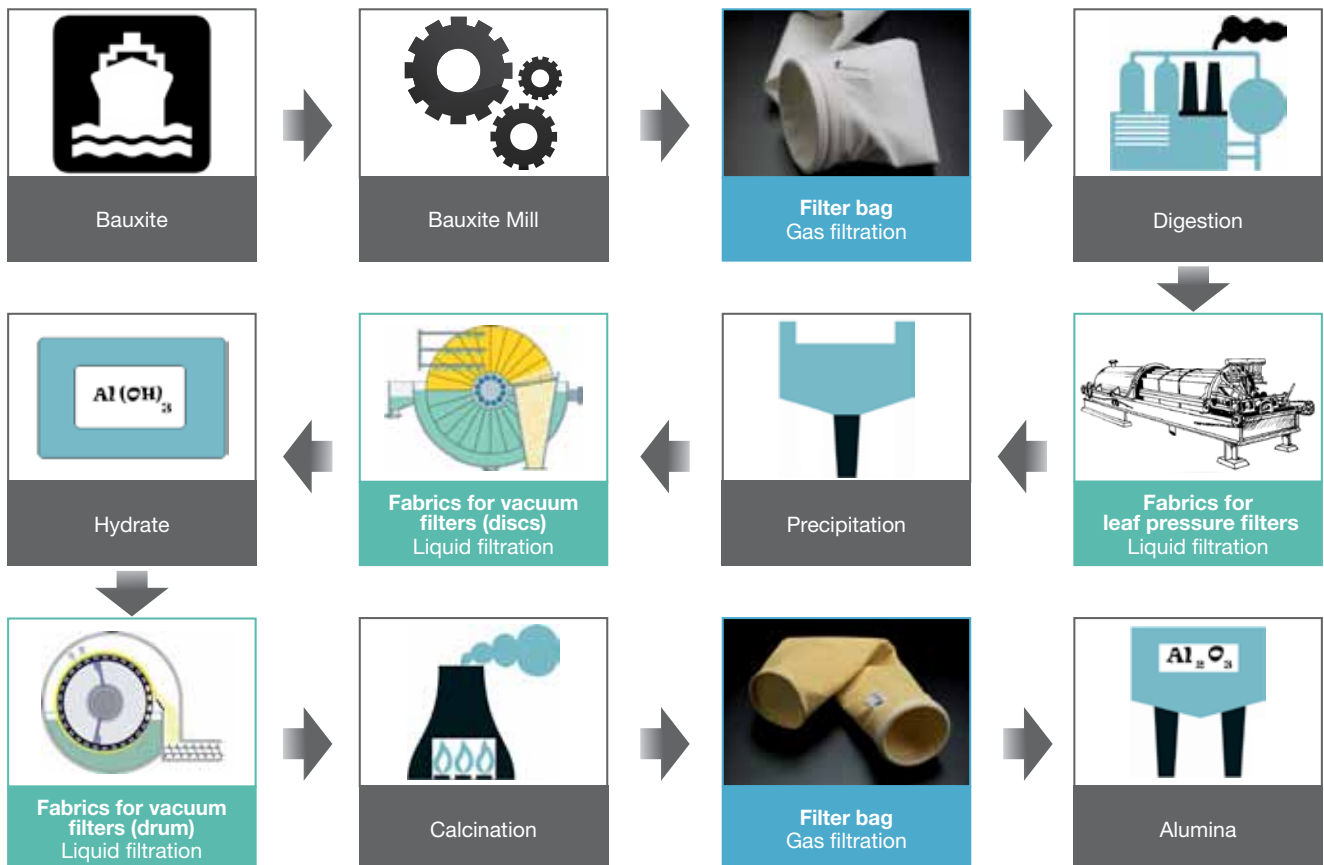


Aluminium production

FILTER MEDIA FOR ALUMINA PRODUCTION

Our Group supplies filter rolls or finished products (bags and various cloths designs) for any process step involving both solid-gas and solid-liquid separation. The following scheme and table schematize Testori's all-embracing presence in this field with felts (mainly polyester, aramid fibers) and fabrics (mainly polypropylene and polyamide fibers).

From Bauxite to Alumina



OUR FILTER MEDIA FOR ALUMINA PRODUCTION

| Process step | Filtration | Testori solution (fiber) | Testori solution (code) | Filtering requirements |
|--|--------------|--------------------------|-------------------------|------------------------------|
| Bauxite mill: Crushing & Grinding | Solid/gas | PES Felt | T 552 SA | Low emissions |
| Digesting | Solid/liquid | PP Fabric | P 1826 T | Chemical-mechanical strength |
| Precipitation/ Liquor clarification | | PA Fabric PP Fabric | N 4421 CQ P 9419 TC | High efficiency |
| Hydrate | | PA Fabric | N 4423 CQ | |
| Calcination | Solid/gas | Meta-aramid | X 551 SA | High temperature resistance |
| | | Polyimide | X 584 SA or X 584 RH | |
| Red Muds | Solid/liquid | PA Fabric | N 4461 CQ | High velocity |



Fabrics



Drum filter



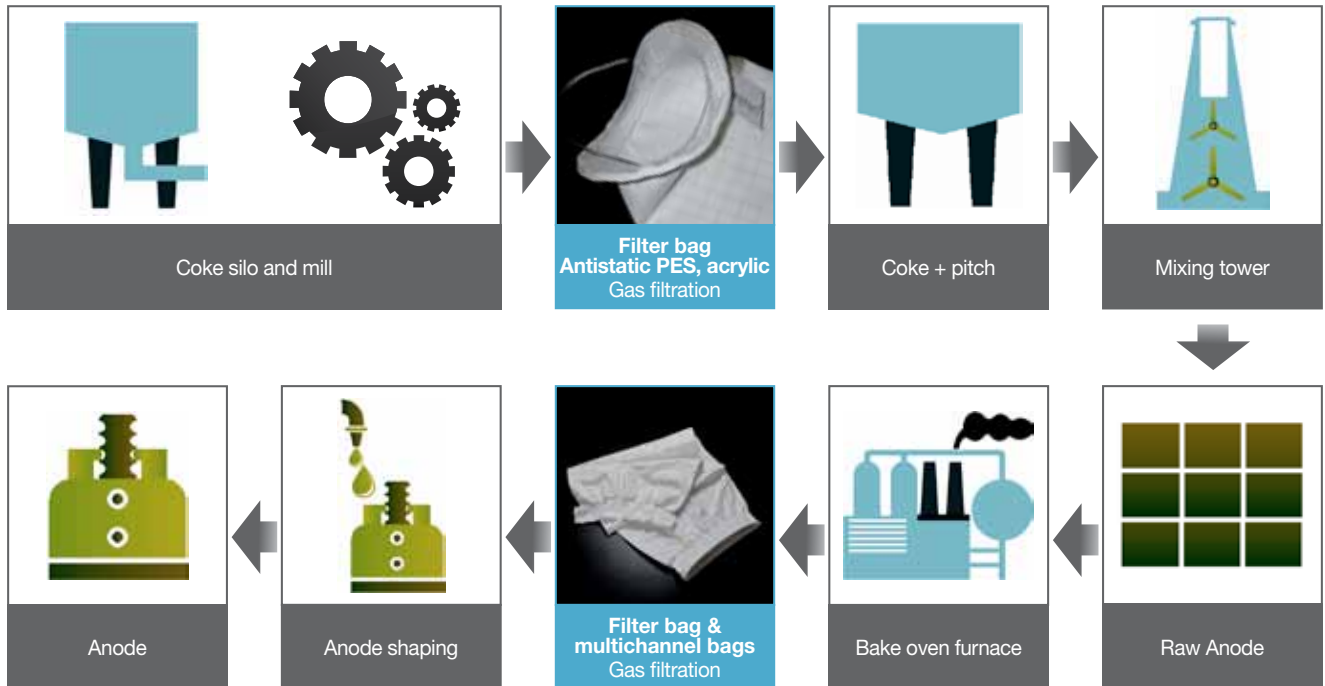
Filter bags

FILTER MEDIA FOR PRIMARY & SECONDARY ALUMINIUM PRODUCTION

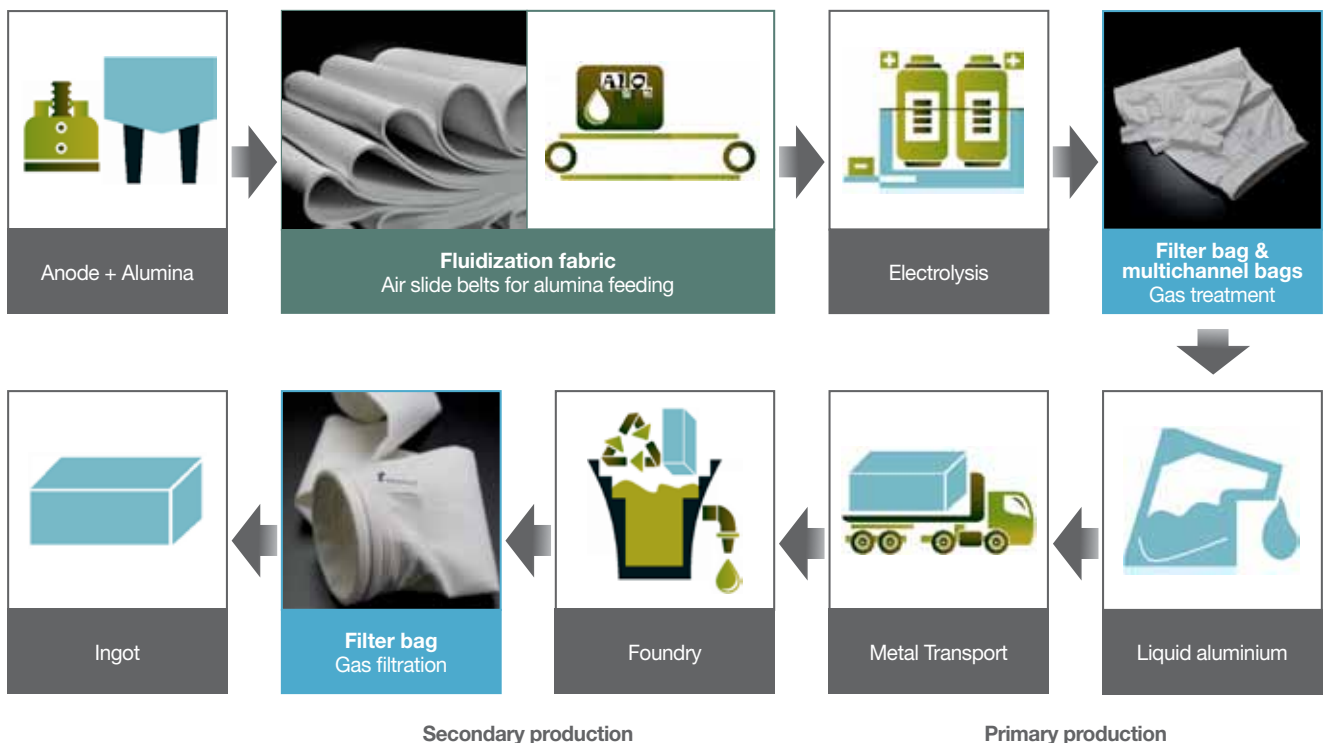
The production scheme presents two main steps: the “black area” (the carbon plant for anodes production) and the **electrolysis** (potlines where alumina is treated to become aluminium). The black area involves two solid-

gas separation steps for our bags and multichannel bags. The electrolysis requires our fluidization fabrics for alumina feeding and our bags for dedusting (both during primary and secondary aluminium production).

Black area - Carbon plant



Electrolysis - Aluminium production



Examples of Our product line:

| Process step | | | Filtration | Testori fiber | Testori code | Finished item | Technical requirements |
|--------------------------------|------------------------------|-----------------------------------|----------------------|----------------------------------|-----------------------|------------------------------------|-------------------------------------|
| Primary Aluminium Production | Carbon plant (or black area) | Coke mill-paste plant-pitch fumes | Solid/gas | PES | T 552 KL TW 552 KL | Bags | Chemical resistance |
| | | Anodes baking | Solid/gas | PAN | D 550 RH H 8U47 DY | Multichannel pockets; bags | |
| | Electrolysis | Alumina Feeding | Fluidization | PES | T5 | Air slide belts | Mechanical - abrasion resistance |
| | | | | PES | T10 | | |
| | | | | Meta-aramid | X5 | | |
| | | Reduction cells potlines | Solid/gas | PES | T 556 SA HV40ALU+ | Multichannel pockets; bags | Temperature and abrasion resistance |
| Cast house | Solid/gas | PES | T 556 SA T 556 KL | Bags | Mechanical resistance | | |
| Secondary Aluminium Production | Foundry | Solid/gas | PES - PAN | T 552 SA D 550 SA X 502 RH | Bags | Mechanical and chemical resistance | |
| | Salt recovery | Solid/liquid | PP | P 6124 CQ | Belts | Mechanical resistance | |

Our products are customized with specific treatments to guarantee high resistance in different process conditions.



Multichannel bag



Antistatic felt



Air slide belt fabric roll

ACCESSORIES, SPARE PARTS & SERVICES

Testori Group offers its know-how and **experienced team** for:

- installation and replacement of filter bags
- maintenance and inspections on the plant
- leakage tests (with fluorescent inert powder)

We supply accessories and spare parts to guarantee the correct functioning of the equipment:

- Support **cages**: in carbon or stainless steel, pre galvanized, mild steel + cataphoresis coating. Construction in two or three part (for long bags up to 8 m, with special junction, top part with collar or ring and bottom with embossed cap)
- **Venturis**: available in mild steel (treated or not) Vydyn, cast aluminium and stainless steel
- **Electrodynamic probe** for baghouse (TUV approved in according to EN 15859): to allow continuous monitoring of flow rates and dust concentrations. Maintenance costs are significantly reduced

Our internal laboratories have **analytical capabilities** to optimize the filter performance and its maintenance:

- Fiber type identification & chemical tests: to verify process conditions and the powder nature
- Dynamometric test to evaluate mechanical properties
- Granulometric and porometric test
- Permeability and efficiency test (VDI)
- Antistatic properties measurement
- Optical and electronic microscopy tests
- Used bags and pockets analyzes



Bags installation



Multichannel bag production and analysis



Metaramide felt



Laboratories activities



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