



COMPANY OVERVIEW

Beier Envirotec (Pty) Ltd, is an energetic, experienced and professional South African filter bag manufacturer. We boast a shareholding team of highly-qualified and driven individuals, of which 51.25% are black owners, who have all been key in achieving Beier Group's consolidated annual turnover of R1.75 billion. Due to this amalgamation of knowledge, passion and vision, we are proud to be a leader in the field of black industrialisation, entrepreneurial development and localisation.

OUR ACCREDITATIONS

- B-BBEE Level 3 Contributor
- ISO 14001 Listed Company
- ISO 9001 Listed Company
- SAMPPF Accredited Supplier
- FP & M SETA Accredited Training Provider



SABS



"If history has taught us anything in our industry, it is that the devil is in the details. If the filter bag's construction is only slightly off, it has far-reaching (and often devastating) consequences. That is why we are fanatical about quality." Senzo Masengemu, Shareholder







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THE SCIENCE OF FILTER BAG PRODUCTION

Exploring the manufacture of high-performance, specificationcompliant and ultra-efficient filter bags in South Africa.



FILTER BAG MANUFACTURING IS OUR SPECIALITY

When it comes to filter bag production, appearances can be deceiving. Seemingly simple in their makeup, filter bags are in reality highly-technical products and the slightest deviation in composition can have significant consequences for the user and our environment.

Using cheap or inferior filter bags leads to dust particles migrating into the filter element, which in turn, leads to increased pressure drop across the bag. This creates energy loss, leading to greater operating costs, lower plant efficiency, possibly elevated particle emissions and significantly reduced filter bag life.

Why Beier Envirotec filter bags?

1. We use only Quality Raw Materials:

- Quality Fibre: Beier Envirotec yarns are spun from different types and dimensions of technical fibres to meet specific temperature and/or chemical conditions. **Reason:** To achieve specific tensile strength characteristics, optimum filtration efficiency, chemical resistance and permeability - amongst others.
- Superior Sewing Thread: Beier Envirotec filter bags are stitched with high-performance sewing threads, using specialised polymers.

Reason: To ensure good sewability and maximum seam strength under the rigours of bag house conditions.

Reliable Stainless Steel Snap Band: Beier Envirotec snap bands are constructed from high-alloy stainless steel. Reason: To allow for easy installation and removal, and most importantly, a secure seal.

2. We Employ State-of-the-Art Production Methods

Weaving: Beier Envirotec weaves a carefully designed base scrim from speciality yarns.

Reason: The base scrim construction is vital for filter bag stability. It must meet critical specifications for linear density, tensile strength, elongation and width, to achieve a balance between permeability, filtration efficiency and chemical/ temperature resistance.

- Blending and needling of fibres: Beier Envirotec's sophisticated carding equipment creates the first webs, which are then layered to the required weight (up to four layers) and then assembled by needling onto the base scrim. **Reason:** The different layers have different functions, giving the filter bag its dust collection efficiency - and importantly it's cleanability which extends the life, thereby reducing costs.
- Finishing the needled fabric: The needled fabric is finished in roll form by three processes:

Singeing - To remove protruding surface fibres, which impede bag cleaning.

Calendering - To compact/smooth/glaze the filter surface and set the air permeability.

Heatsetting - To remove residual shrinkage from the fabric and/or to apply a special water-repellant and chemicalresistant coating.

3. Quality is Crucial and our Filter Bags Pass the Test

Bag manufacture: At Beier Envirotec we understand the harrowing cost and time consequences of using inferior filter bags. For this reason, quality assurance is of the utmost importance to us. Beier Envirotec filter bags hold the record for life, having completed >45,000 hours at Duvha Power Station, which is notorious for its difficult gas conditioners.

Our filter bag manufacture, test- and inspection processes are highly technical and extremely detailed. In a nutshell, we ensure that each and every Beier Envirotec Filter bag carries our seal of approval, having passed the following tests:

FILTER BAG COMPLIANCE CHART

Mass per square meter	\checkmark
Thickness	\checkmark
Air Permeability	\checkmark
Tensile Strength (Warp and Weft)	\checkmark
Thermal Shrinkage Temperature (Warp and Weft)	\checkmark
Dimension	\checkmark



"In the filtration process, temperature excursions may cause certain polymers to age quickly and fail prematurely, limiting the polymers which can be utilised when producing filter bags. This is why Beier Envirotec's quality raw materials and sophisticated design and production methods result in filter bag longevity. "Mike Maziya, Shareholder and Director

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TECHNICAL FIBRE

- Our needlefelt may consist of as many as four layers - two filtration layers, a woven core or scrim, and a clean gas side
- This combination of fibres, fibre blends and multi-layered fabrics provide high filtration efficiency and extend the filter bag life



HIGH FILTRATION EFFICIENCY



Local Content' requirement when procuring filter bags during the tender process. When you consider that we are an experienced and local, high-volume manufacturer, offering a superior product at a highly-competitive price, we are the ideal filter bag supplier." Paulos Ngcobo, Shareholder and Chairman





FILTER BAGS FOR FORM, FIT AND FUNCTION



RELIABLE STAINLESS STEEL SNAP BANDS

- High-alloy stainless steel Easy to install/remove
- Provides a secure seal



HIGH-SPEC SEWING THREAD

- Sewn with thread made for high-tech polymer fibre
- Ensures maximum seam strength
- Contributes to reliability



8167 mm +- 12mm @ 5 Kg pull to the second last row of stitching





$0.165 \pm 1 \, \text{mm}$

1in 2 mm

Seam $15 \pm 3 \text{ mm}$