

ELMC

ELEMENT MINING  
AND CONSTRUCTION

# Filtration Wear and Spare Parts.

# About Company.

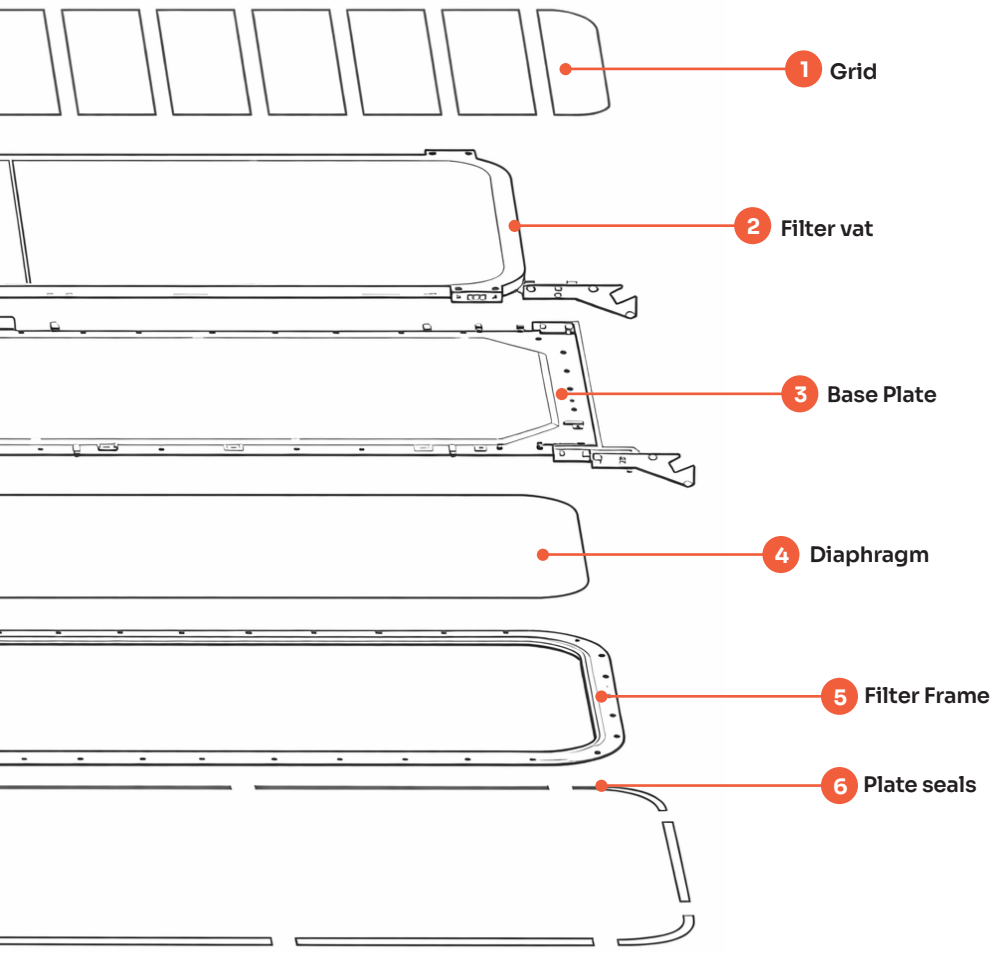
**Element Mining and Construction (ELMC) is a reliable manufacturer of spare and wear parts aimed at providing processing equipment with best-in-class quality and service support.**

Filter presses are continuously exposed to demanding process conditions that reduce the filter parts lifetime. Selecting durable, well-engineered wear and spare parts with extended service life helps stabilise filtration performance, reduce unplanned maintenance, and lower total cost of ownership (TCO).

**Element offers the following alternative spare parts under its own brand:**

- ✓ Spare and wear parts for filtration equipment
- ✓ Spare and wear parts for crushing equipment
- ✓ Spare and wear parts for slurry pumps
- ✓ Custom-engineered parts

Our comprehensive range covers all critical parts of tower press filters, including filter plates, diaphragms, vats, rollers, seals, frames, and essential wear, and structural components.



# Tower Press Filter parts.





AVAILABLE



UNDER DEVELOPMENT



AVAILABLE FOR ENGINEERING-TO-ORDER

PF 1.6 & 12 Series (1.6m<sup>2</sup>)

PF 30,48 & 60 Series(6m<sup>2</sup>)

Part

Filter Plate assemblies



Plate Packs



Top & Lowest Plates



Filter Vats



Diaphragms



Grids / Grid Sets



Seals



Scrapers



Rollers



Collectors



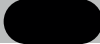
Hydraulic Parts



Quick Action Cylinders



Filter Cloths

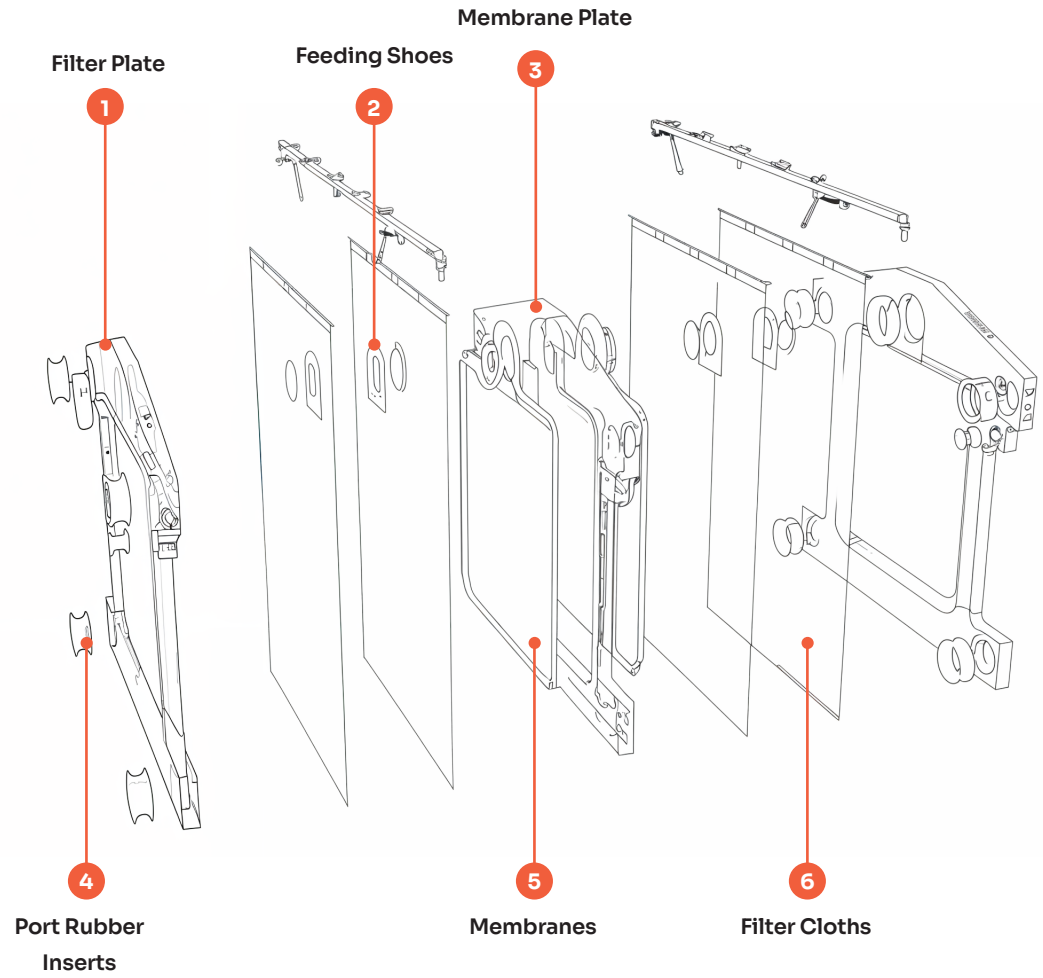


Engineering-to-order means designing components specifically for the actual operating conditions of each site. At Element, this approach starts with analysing equipment performance in real process environments, including wear behaviour, process demands, and maintenance constraints.

By combining field data, engineering expertise, and advanced material knowledge, we develop customised solutions that optimise overall equipment performance. The result is not just a replacement, but a purpose-built upgrade that delivers measurable operational value.

# Filter Press Parts.

We supply a complete selection of key elements, from filter plates and membranes to cloth systems, inlet/outlet components, discharge parts, and vital wear and structural items





AVAILABLE



UNDER DEVELOPMENT

Part	VPA 10	VPA 15	VPA 20	FFP 1516	FFP 2512	FFP 3512
Chamber Filter Plate Assemblies						
Membrane Filter Plate Assemblies						
Membranes						
Filter Cloths						
Feeding Shoes / Inlet Collars						
Gaskets						
Slide pieces						
Press Heads (Moving & Fixed)						
Misc. Spare & Wear Parts						
Hydraulic Parts						

**We offer a wide selection of materials, including polypropylene for excellent chemical resistance, polyester for good thermal performance, and polyamide for outstanding abrasion resistance.**

Choose from various yarn types, permeabilities, and reinforcements to match your exact process needs. We go beyond standard options by using your operational data (slurry characteristics, pH levels, and production targets) to recommend or custom-engineer the ideal cloth solution.

**YARN TYPES**

**Monofilament Yarn**

Single smooth filaments for excellent cake release and resistance to blinding.

**Multifilament Yarn**

Multiple fine filaments for superior particle retention and improved filtrate clarity.

**Spun (Staple) Yarn**

Short fibers spun together, creating a textured surface for versatile woven applications.

**Needle Felt (Nonwoven)**

Needle-punched fibers offering depth filtration and exceptional filtrate clarity.

**WEAVE TYPES**

**Plain Weave**

Rigid structure with good particle retention; prone to blinding.

**Twill Weave**

Diagonal pattern for better abrasion resistance and flow rates.

**Satin Weave**

Smooth surface for excellent cleanability, high flow, and easy cake discharge; lower retention.

**FINISHINGS**

**Calendering**

Smooths surface for better permeability and cake release.

**Heat Setting**

Stabilizes fabric for dimensional accuracy and durability.

**REINFORCEMENTS**

**Edge Sealing with Glue**

Prevents leaks and fraying along cloth edges.

**Seeding Reinforcement**

Options include fabric/plastic rings, and glued reinforcements, among other solutions to resist high pressure and abrasion.

**Bottom Fold Protection**

Reinforced stitching, velcro securing, or protective strips to prevent cuts and wear on folds.

**Double Cloth Neck Design**

Added protection against pressure spikes during dewatering.

# Filter Cloths



# Successful Cases.

## FILTER PRESS CLOTHS FOR VPA 15. COPPER CONCENTRATE. CENTRAL EUROPE

### CHALLENGE

Improve the service life of filter press cloths under demanding operating conditions while maintaining reliable filtration efficiency and reducing replacement frequency.

### SOLUTION

Element supplied an initial trial set at the end of 2024 for process evaluation. Based on performance data from the first trial, the cloth design was further optimized through material and construction improvements tailored to the customer's operating conditions.

### RESULTS

- The trial reached 2,255 cycles
- Service life exceeded OEM filter cloth performance
- Reduced replacement frequency and improved operational stability
- Customer qualified Element as an approved supplier and placed a follow-up order

**Our product line includes not only analogues of parts for different brands, but also products designed specifically for the needs of our customers**

Through material selection, design refinement, and application-specific engineering, we enhance component durability, filtration performance, and service life — helping customers maintain stable operation and lower maintenance costs under evolving process conditions.

## **PROJECT EXAMPLES**

### **REINFORCED FILTER PLATES FOR ABRASIVE FEEDS**

When slurry and process conditions exceed standard plate limits, we can improve performance by completely changing the plate material to a more resistant grade or by reinforcing high-stress areas.

### **ABRASION-PROTECTED TUBING IN FILTER VATS**

Integration of durable steel tubes inside the vat structure to shield against severe abrasive wear while preserving drainage efficiency and structural integrity.

### **ENHANCED RUBBER AND POLYMER FORMULATIONS FOR AGGRESSIVE CHEMISTRIES**

Selection of tougher, chemically resistant compounds that prevent swelling, cracking, or rapid degradation in low-pH, high-temperature, or reagent-rich environments.

### **SEALING SYSTEMS FOR INTENSE PRESSURE CYCLES**

Custom seal profiles made from reinforced elastomer compounds that maintain sealing integrity longer under repeated high-pressure operation, reducing leakage and downtime.



**ENGINEERING-  
TO-ORDER.**



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AND CONSTRUCTION OY**

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