STAUFF ANGLIA

Pipeline Products for all Industries

Product Information

FILTER ELEMENTS

STAUFF®

# STAUFF FILTRATION TECHNOLOGY


**Stauff Anglia Limited**
405 Coppersmith Way | Wymondham | Norfolk NR18 0WY
**T: 01953 857158 F: 01953 857159 E: Sales@stauffanglia.co.uk**

**www.stauffanglia.co.uk**

# Filter Elements

## Replacement Filter Elements for SF and RF series

STAUFF replacement filter elements for SF and RF series filters are manufactured in the common filter materials such as stainless fibre, stainless mesh, polyester fibre, paper, and inorganic glass fibre. All replacement elements made by STAUFF comply with quality specifications in accordance with international standards.

## Ordering Code Filter Elements

**SE 014 G 10 V**

| **Series** | |
|---|---|
| **SE** | for pressure filters SF |
| **RE** | for return line filters RF |

| **Group** |
|---|
| according to filter housing |

| **Filter material** | | **SE** | **RE** | Micron ratings available |
|---|---|---|---|---|
| Code | Material | max Δp* | max Δp* | |
| **A** | Stainless fiber | 210 bar | 30 bar | 03, 05, 10, 20 |
| **C** | Polyester fiber | 210 bar | – | |
| **N,** D | Paper | 30 bar | 16 bar | |
| **G,** E | Inorganic glass fiber | 30 bar | 30 bar | |
| **H,** F | Inorganic glass fiber | 210 bar | – | |
| B**, S** | Stainless mesh | 30 bar | 30 bar | 25, 40, 60, 100 |
| T, **W** | Stainless mesh | 210 bar | – | |
| | *collapse / burst resistance as per ISO 2941 | | | |

| **Seal material** | |
|---|---|
| **B** | NBR |
| **V** | FPM |
| **E** | EPDM |
| other seal materials on request | |

| **Micron rating** | |
|---|---|
| **03** | 3 µm |
| **05** | 5 µm |
| **10** | 10 µm |
| **20** | 20 µm |
| **25** | 25 µm |
| **40** | 40 µm |
| **60** | 60 µm |
| **100** | 100 µm |
| other micron rating on request | |

Bold type identifies preferred material

# Filter Elements

## Replacement Filter Elements for existing installations

STAUFF also **manufacture** filter elements for existing installations. They meet the technical requirements with regard to quality and dimensions and consequently can be used with confidence in the installations.

Continuing research and development of filter materials used by STAUFF, and observance of strict Quality Assurance procedures together with the relevant international standards, ensures consistently high performance of our filter elements.

STAUFF manufacturing and stocking policies are designed to give our customers ready access to a wide range of filter elements from the one source.

Please refer to our filter element Interchange Guide to see a precise listing of the elements. Filter elements are available **to suit housings** of the following manufacturers:

- **Argo**
- **Internormen**
- **Mahle**
- **Eppensteiner**
- **Hydac**
- **Pall**

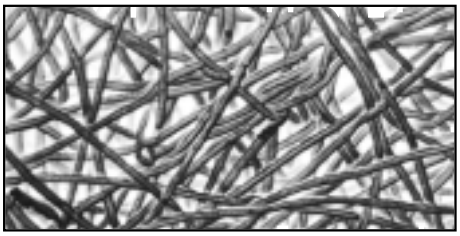
Other types are available on request.

## Filter Materials

### Metal Fibre

Material specification A collapse / burst resistance as per ISO 2941:
210 bar (Pressure filters)
30 bar (Return line filters)

- Sintered stainless metal fibre with a three dimensional labyrinth structure for depth filtration.
- Low flow resistance with a high dirt holding capacity.
- Exellent chemical and thermal resistance.



Metal fibre

### Stainless wire mesh

Material specification B, S collapse / burst resistance as per ISO 2941: 30 bar
Material specification W, T collapse / burst resistance as per ISO 2941: 210 bar

- Woven stainless steel wire in 1.4301/1.4404 grade with a square mesh or double milled twill lace weave.
- Low flow resistance.
- Surface filtration. Excellent chemical and thermal resistance.

Stainless wire mesh

### Polyester fibre

Material specification C collapse / burst resistance as per ISO 2941: 210 bar

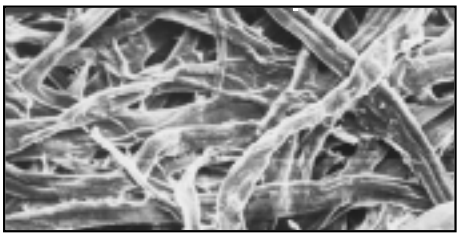
- 100% polyester fibre with fibres thermally bonded creating a tearproof material with no electrostatic charging.
- Exceptional shear strength.
- Depth filtration gives large dirt holding capacity with low flow resistance.
- Good chemical resistance.
- High filtration efficiency even on small particle sizes.

Polyester fibre

### Paper

Material specification D, N collapse / burst resistance as per ISO 2941:
30 bar (Pressure filters)
16 bar (Return line filters)

- Filter material made from impregnated cellulose paper.
- Low cost design with good dirt holding capacity.
- Not suitable for use with any water based fluids.



Paper

### Inorganic glass fibre

Material specification G, E collapse / burst resistance as per ISO 2941: 30 bar
Material specification H, F collapse / burst resistance as per ISO 2941: 210 bar

- Non-woven glass fibre material with acrylic resin bond.
- High dirt holding capacity.
- High filtration efficiency, even on small particle sizes, achieved by the depth filtration produced by the three dimensional labyrinth structure of the material.
- Excellent cost effectiveness.

Inorganic glass fibre

# Filter Elements

## STAUFF filter elements are tested according to

- ISO 2943
  Compatibility with hydraulic fluids
- ISO 3968
  Flow characteristics
- ISO/DIS 3724
  Flow fatigue characteristics
- ISO/DIS 4572
  Filter performance test (Multi-pass test)
- ISO 2942
  Proof of integrity and quality (Bubble point test)
- ISO 3723
  Verification of the end cap stress
- ISO 2941
  Collapse / burst pressure verification

Multi-pass-test stand

## Filter Element Assessment

The Beta Ratio ($\beta_x$) is considered one of the most important criteria in assessing the capability of a filter to remove contaminant particles. This value is determined by means of the multi-pass test, according to ISO/DIS 4572.

**Definition:** The Beta Ratio is the ratio of the number of particles, greater than a given size, upstream of the filter to the number of particles, greater than the same size, downstream of the filter in the same size fluid sample.

$$\beta_x = \frac{\text{Number of particles} > x\mu m \text{ upstream}}{\text{Number of particles} > x\mu m \text{ downstream}} \quad (x = \text{particle size})$$

The Beta Ratio can be used to calculate the Filter Efficiency Rating by the following formula.

$$E_x = \frac{\beta_x - 1}{\beta_x} \times 100 \qquad E_x = \% \text{ efficiency}$$

Example for a given particle size of 10 µm

$$\beta_{10} = \frac{9360}{45} = 208 \qquad E_{10} = \frac{208 - 1}{208} \times 100 = 99{,}52\ \%$$

**All STAUFF inorganic glass fibre filter elements have a Beta Ratio >200 at their rated micron rating.**

| β Raito vs Efficiency | |
|---|---|
| **β Ratio** | **Efficiency** |
| 1 | 0,00% |
| 2 | 50,00% |
| 20 | 95,00% |
| 50 | 98,00% |
| 75 | 98,67% |
| 100 | 99,00% |
| 200 | 99,50% |
| 1.000 | 99,90% |
| 10.000 | 99,99% |