



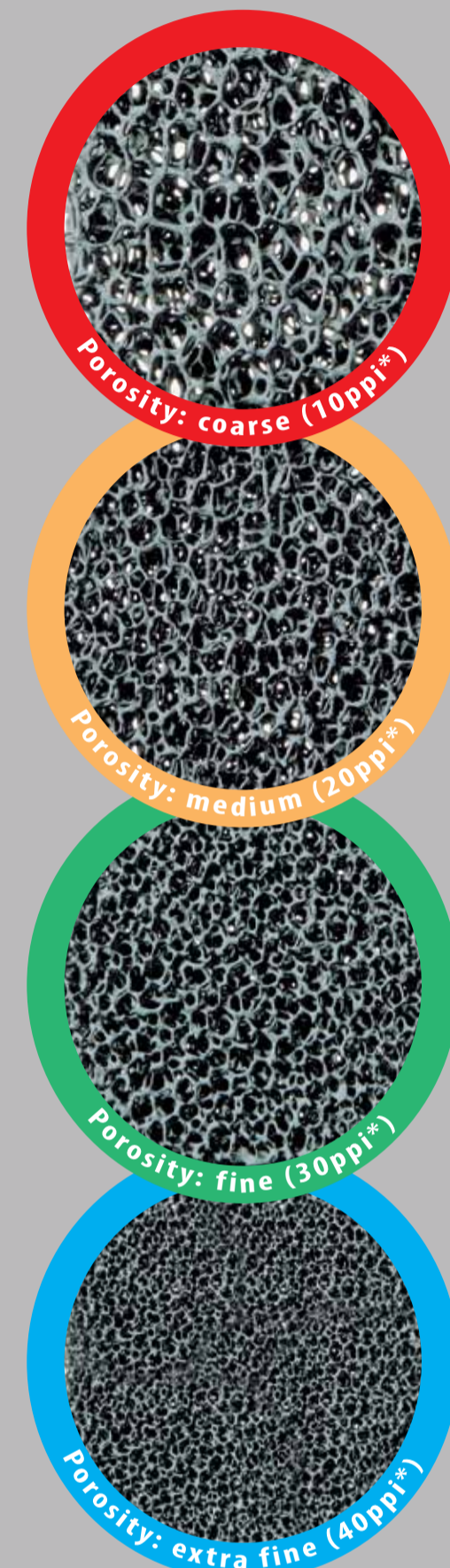
# SEDEX\* FILTER TECHNOLOGY

PROVEN BILLIONS OF TIMES

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## SEDEX FILTERS ARE APPLIED AS FOLLOWS



- The filter area and size is dependent upon the quantity of iron to be filtered
- The choice of filter porosity is influenced by type of iron to be filtered

| Alloy or Process        | Porosity        | Filtration capacity [kg/cm <sup>2</sup> ] |
|-------------------------|-----------------|-------------------------------------------|
| Flake graphite iron     | medium (20 ppi) | max. 4.0                                  |
| Malleable iron          | fine (30 ppi)   | max. 4.0                                  |
| Compacted graphite iron | coarse (10 ppi) | max. 2.0                                  |
| Ductile iron            | coarse (10 ppi) | 1.4 to 2.0                                |
| Simo Inmold Process     | coarse (10 ppi) | 0.8 to 1.0                                |
| Ductile Ni-Resist       | coarse (10 ppi) | 0.8 to 1.0                                |

Note: The capacity of SEDEX ceramic filters is influenced by a variety of process factors so the values given above are for guidance only.

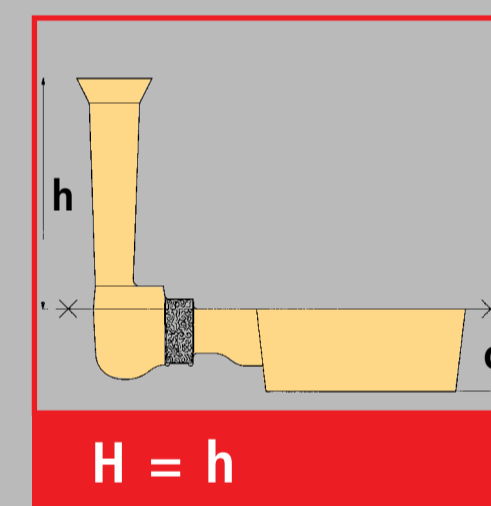
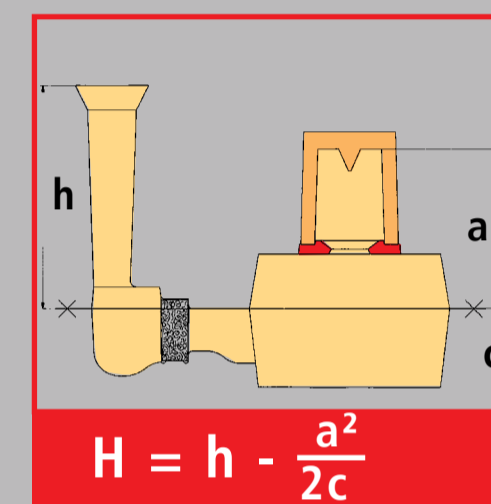
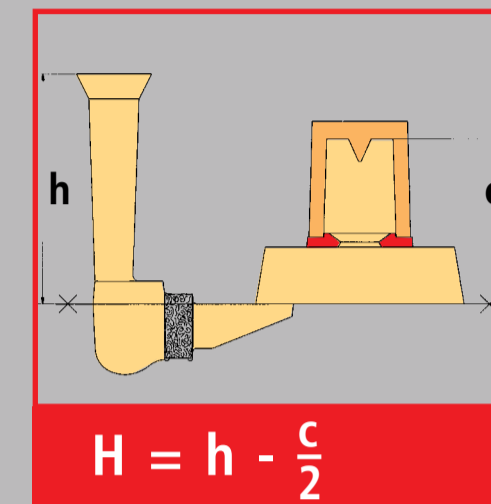
- Make the complete entry face of the filter available for filtration
- For grey iron the filter area should be at least two and for ductile iron at least three times the downsprue area
- Position the filter as close as possible to the mould cavity
- The runner bar behind the filter should remain in the drag (short, direct and turbulence free)
- To ensure correct filter location the use of Foseco filter position prints are strongly recommended
- For gating system calculation purposes the friction factor is usually in the range 0,2 to 0,6 – complex, bottom poured castings will have a lower value (higher losses) whilst simpler, thicker section castings (side or top gated) would have higher values (lower losses)

\* ppi: pores per linear inch

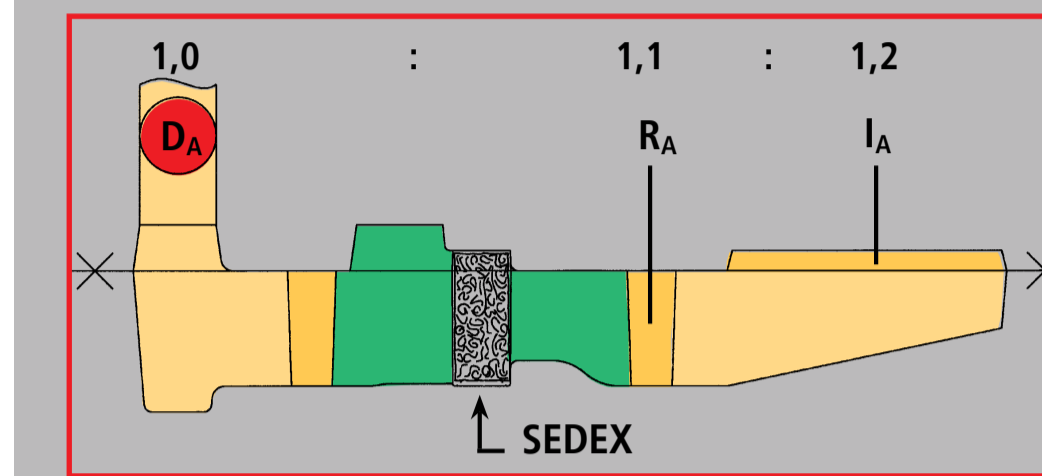
## GATING SYSTEM CALCULATION

$$D_A = \frac{22.6 \times W}{\xi \times \rho \times t \sqrt{H}}$$

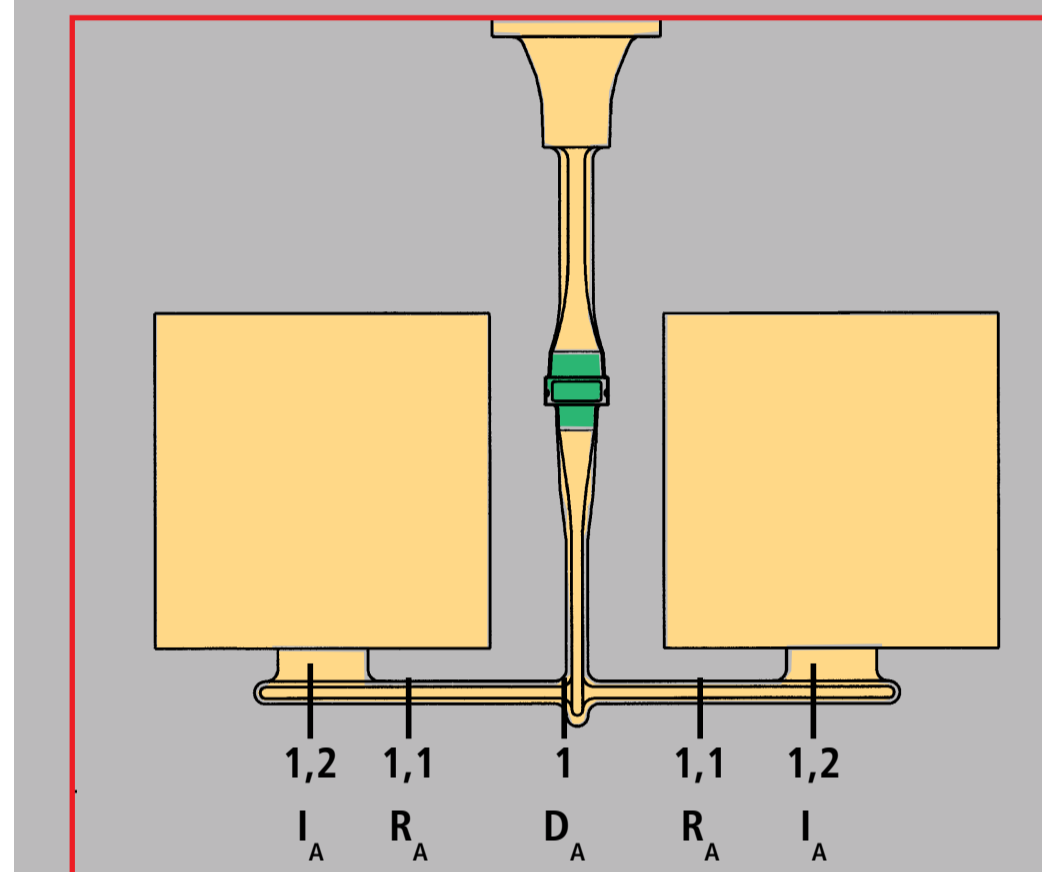
- $D_A$  : Downsprue area [cm<sup>2</sup>]
- 22.6 : Constant
- $W$  : Weight to be poured, including feeders and gating system [kg]
- $\xi$  : Friction factor
- $\rho$  : Iron density [g/cm<sup>3</sup>]
- $t$  : Pouring time [s]
- $H$  : Effective pouring height [cm]



## RECOMMENDED GATING SYSTEM AREA RATIOS



Horizontal parted mould



Vertical parted mould

The advantages of using SEDEX filters:

- Optimum pattern plate utilisation
- Short and direct gating systems
- Improved yield
- Reduced turbulence
- Cleaner castings
- Improved machinability and reduced allowances
- Improved fatigue properties
- Greater process security

## SEDEX FILTER PRINTS FOR HORIZONTAL PARTED MOULDING LINES<sup>1)</sup>

| Print               | Dimensions |        |        |        |
|---------------------|------------|--------|--------|--------|
|                     | A (mm)     | B (mm) | C (mm) | F (mm) |
| FP 2 - 35 x 50 x 22 | 36         | 51     | 22,5   | 265    |
| FP 2 - 50 x 50 x 22 | 51         | 51     | 22,5   | 403    |

| Print                 | Dimensions |        |        |        |
|-----------------------|------------|--------|--------|--------|
|                       | A (mm)     | B (mm) | C (mm) | F (mm) |
| FP 4 - 40 x 40 x 15   | 41         | 41     | 16     | 595    |
| FP 4 - 50 x 50 x 15   | 51         | 51     | 16     | 788    |
| FP 4 - 60 x 60 x 15   | 61         | 61     | 16     | 1.326  |
| FP 4 - 35 x 35 x 22   | 36         | 36     | 22,5   | 421    |
| FP 4 - 35 x 50 x 22   | 36         | 51     | 22,5   | 642    |
| FP 4 - 50 x 50 x 22   | 51         | 51     | 22,5   | 788    |
| FP 4 - 60 x 60 x 22   | 61         | 61     | 22,5   | 1.326  |
| FP 4 - 50 x 75 x 22   | 51         | 76     | 22,5   | 1.125  |
| FP 4 - 50 x 100 x 22  | 51         | 101    | 22,5   | 1.575  |
| FP 4 - 75 x 75 x 22   | 76         | 76     | 22,5   | 1.723  |
| FP 4 - 75 x 100 x 22  | 76         | 101    | 22,5   | 2.574  |
| FP 4 - 100 x 75 x 22  | 101        | 76     | 22,5   | 2.574  |
| FP 4 - 100 x 100 x 22 | 101        | 101    | 22,5   | 3.441  |
| FP 4 - 150 x 100 x 22 | 151        | 101    | 22,5   | 5.712  |

| Print                 | Dimensions |        |        |        |
|-----------------------|------------|--------|--------|--------|
|                       | A (mm)     | B (mm) | C (mm) | F (mm) |
| FP 5 - 50 x 50 x 22   | 51         | 51     | 22,5   | 788    |
| FP 5 - 50 x 75 x 22   | 51         | 76     | 22,5   | 1.125  |
| FP 5 - 75 x 50 x 22   | 76         | 51     | 22,5   | 1.125  |
| FP 5 - 50 x 100 x 22  | 51         | 101    | 22,5   | 1.575  |
| FP 5 - 100 x 50 x 22  | 101        | 51     | 22,5   | 1.500  |
| FP 5 - 75 x 75 x 22   | 76         | 76     | 22,5   | 1.788  |
| FP 5 - 100 x 75 x 22  | 101        | 76     | 22,5   | 2.574  |
| FP 5 - 100 x 100 x 22 | 101        | 101    | 22,5   | 3.441  |
| FP 5 - 150 x 100 x 22 | 151        | 101    | 22,5   | 5.712  |

| Print                 | Dimensions |        |        |        |
|-----------------------|------------|--------|--------|--------|
|                       | A (mm)     | B (mm) | C (mm) | F (mm) |
| FP 6 - 35 x 50 x 22   | 36         | 51     | 22,5   | 642    |
| FP 6 - 50 x 50 x 22   | 51         | 51     | 22,5   | 788    |
| FP 6 - 50 x 75 x 22   | 51         | 76     | 22,5   | 1.125  |
| FP 6 - 75 x 50 x 22   | 76         | 51     | 22,5   | 1.125  |
| FP 6 - 75 x 75 x 22   | 76         | 76     | 22,5   | 1.788  |
| FP 6 - 75 x 100 x 22  | 76         | 101    | 22,5   | 2.574  |
| FP 6 - 100 x 75 x 22  | 101        | 76     | 22,5   | 2.574  |
| FP 6 - 100 x 100 x 22 | 101        | 101    | 22,5   | 3.441  |

## SEDEX FILTER PRINTS FOR VERTICAL PARTED MOULDING LINES

| Print                              | Dimensions |        |        |        |
|------------------------------------|------------|--------|--------|--------|
|                                    | A (mm)     | B (mm) | C (mm) | F (mm) |
| DPB 2 - 40 x 40 x 15               | 41         | 41     | 15,5   | 625    |
| DPB 2 - 50 x 50 x 22 <sup>2)</sup> | 51         | 51     | 22,5   | 1.156  |

| Print                              | Dimensions |        |        |
|------------------------------------|------------|--------|--------|
|                                    | A (mm)     | B (mm) | F (mm) |
| DPB 3 - 50 x 50 x 22 <sup>2)</sup> | 51         | 51     | 1.156  |
| DPB 3 - 50 x 75 x 22               | 51         | 76     | 1.575  |

| Print              | Dimensions |        |        |
|--------------------|------------|--------|--------|
|                    | A (mm)     | B (mm) | C (mm) |
| D 1 - 40 x 40 x 15 | 41         | 41     | 16     |
| D 1 - 50 x 50 x 15 | 51         | 51     | 16     |
| D 1 - 55 x 55 x 15 | 56         | 56     | 16     |
| D 1 - 35 x 35 x 22 | 36         | 36     | 22,5   |
| D 1 - 50 x 50 x 22 | 51         | 51     | 22,5   |

- Upon request we can supply you with any of the above filter prints.
- This filter print can be used for 15mm and 22mm filter thickness.