Apogee
ceramics inc.

Optiflo P: Ceramic Pressed Filters for Steel

Application:

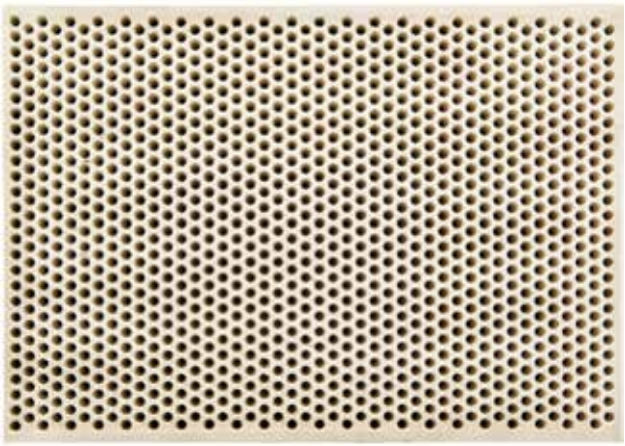
Apogee's OPTIFLO P; ceramic pressed filters for steel are formulated from an alumina/mullite material that has a high resistance to chemical/slag attack and excellent high temperature creep resistance. The maximum application temperature for our pressed filters is 1650°C/3000°F.

Molten Metal Filtration:

Apogee's OPTIFLO P; pressed filters for steel are designed for use with all types of steel to prevent non-metallic inclusions and sand grains from entering the mould cavity. They have a consistent and repeatable structure to ensure that each and every filter will have the same flow characteristics. Apogee's pressed filters exhibit a good level of filtration effectiveness and reduced gating turbulence.

Filtration Efficiency:

Apogee's filters can be positioned vertical, horizontal or diagonally depending on the design of the runner gating system. Filtration efficiency is dependent on the correct application and positioning of the filter. Apogee's Technical Sales teams are able to provide technical support for the design of gating systems. For optimal filter efficiency it is recommended that the filter is positioned correctly and sized according to our guidelines.



Filtration Benefits:

The use of Apogee's Optiflo P: Pressed filters for steel has significant benefits that can be seen throughout the foundry process. Some of the notable benefits include:

- Casting quality improvements with improved surface finish, casting cleanliness.
- Improved mechanical properties due to cleaner metal and reduced internal defects.
- Lower scrap costs by reducing scrap levels.
- Reduced casting machining costs.
- Higher Production yield per tonnage of metal melted due to simplified gating systems.
- Reduced machining costs due to reduced tool wear.
- Reduced inspection costs - destructive and non-destructive.

Optiflo P: Ceramic Pressed Filters for Steel

Physical Properties:

Material Composition	Mullite/Alumina
Maximum Operating Temperature (°C/F)	≤1650°C / ≤3000°F
Color	White
Available Hole Size Diameter (mm)	3mm
Available Open Area	60%

Dimensions:

Apogee's Pressed filters are available in standard filter sizes 50mm to 100mm (square or round):

- **Length/Diameter:** 50mm to 100mm
- **Width:** 50mm to 100mm
- **Thickness:** 15mm to 25mm
- **Dimensional Tolerances:** ±1.0mm for filters under 100mm

Flow Capacity:

General filter capacity calculations.

- **Carbon Steel:** Maximum Filtration Weight (kg) = Filter area (cm^2) x 2

  Example: 50 x 50 x 25mm
  Filtering capacity is: 5 x 5 x 2 = 50kg

- **Stainless Steel:** Maximum Filtration Weight (kg) = Filter area (cm^2) x 3

  Example: 50 x 50 x 25mm
  Filtering capacity is: 5 x 5 x 3 = 75kg

Typical Filter Dimension (mm)	Maximum Pour Weight (kg)		Suggested Flow Rate Range (kg/s)	
	Carbon	Stainless	Carbon	Stainless
50 x 50 x 25	50	75	3.5 - 5.0	5.3 - 7.5
75 x 75 x 25	113	169	7.9 - 11.3	11.8 - 16.9
100 x 100 x 25	200	300	14.0 - 20.0	21 - 30
50 x 25	39	59	2.8 - 3.9	4.1 - 5.9
75 x 25	88	133	6.2 - 8.8	9.3 - 13.2
100 x 25	157	236	11.0 - 15.8	16.5 - 23.6

NOTE: Above capacity and flow rate figures are for reference only. Metal type and gating system will dictate the final values for each size of filter.

Apogee ceramics inc.

71 Folsetter Drive • Paris, ON Canada • N3L 0E2
Phone: 519-442-3636 • Fax: 519-442-9898 • info@apogeeceramics.com