

### Application:

Apogee's High Silica Fiberglass mesh filters are ideal for in-mold filtration of gray, malleable, white, compacted graphite and ductile irons. These filters are also well suited for filtration of non-ferrous aluminum, copper based metals alloys as well, small scale steel filtration. These filters are versatile in use as they can be used for:

- For in mold filtration.
- For riser sleeves.
- To facilitate riser knock-off.
- For investment casting situated in the pouring cup.

### Molten Metal Filtration:

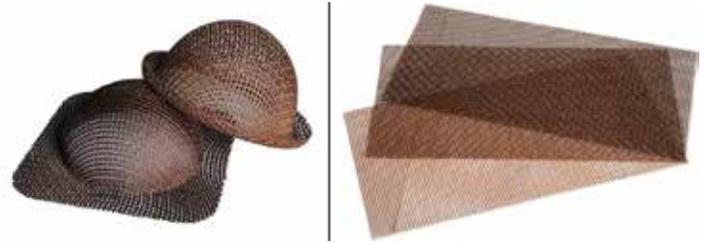
High silica fiberglass mesh filters are weaved with high silica fiberglass yarn and coated with a phenolic resin, a smokeless carbonized treatment or high temperature ceramic. They are effective at removing slag, refractory particles and non-metallic inclusions from molten metals. Made from specially treated silica yarns, the silica mesh filters are capable of withstanding pouring temperatures up to 1620°C/2948°F.



## Optiflo HSF: High Silica Fiberglass Mesh Filter

### 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 High Silica Mesh filters can achieve significant benefits throughout the foundry process. Some of the notable benefits include:

- Improved cast surface finish.
- Low cost and easy to use.
- Reduced casting machining costs.
- Improves metal distribution.
- Can be used with existing pattern equipment.
- Reduced machining costs due to reduced tool wear.
- Reduced inspection costs - destructive and non-destructive.
- Reduced micron sized inclusions and impurities.

## Physical Properties:

Product code	HSFG-15	HSFG-20	HSFG-25	HSFG-15S	HSFG-20S	HSFG-25S
Warp x Weft	10 x 10	8 x 8	7 x 7	8 x 7	7 x 6	6 x 5
Mesh size (mm)	1.5 x 1.5	2.0 x 2.0	2.5 x 2.5	1.5 x 1.5	2.0 x 2.0	2.5 x 2.5
Thickness (mm)	.5	.5	.5	1.5	1.5	1.5
Weave type	Leno	Leno	Leno	Mock-leno	Mock-leno	Mock-leno
Weight (g/m <sup>2</sup> )	160	190	180	580	550	520
Max. Temp. (°C/F)	1450/2642			1620/2948		
Color	yellow/black					

Material Composition	96% SiO <sub>2</sub>
Maximum Operating Temperature (°C/F)	≤1450°C / ≤2642°F @ 0.5mm ≤1620°C / ≤2948°F @ 1.5mm
Color	Dark Yellow
Mesh Size (mm)	1.5 x 1.5mm, 2.0 x 2.0mm, 2.5 x 2.5mm
Fiber Thickness (mm)	0.35 & 1.10mm

## Dimensions:

- Cut pieces can be rectangular or round, size from 20 x 20mm to 900 x 1000mm.
- Preformed cup filter OD can be 100/110/115/120mm or as per request. Preformed cups can be manufactured with flat or curled edges to suit most pouring cups.

# Optiflo HSF: High Silica Fiberglass Mesh Filter

## Flow Capacity:

General filter capacity calculations. Values based on experience and should be used as guidelines only.

- HSFG - 15/20/25 type for gray iron: 5kg/cm<sup>2</sup>.
- HSFG - 15/20/25 type for ductile iron: 2.5kg/cm<sup>2</sup>.
- HSFG - 15S/20S/25S type for gray iron: 10kg/cm<sup>2</sup>.
- HSFG - 15S/20S/25S type for ductile iron: 5kg/cm<sup>2</sup>.

Continuous Working Time:

<10 minutes (1400 - 1450°C)

<4 minutes (1450 - 1560°C)

<15 seconds (1560 - 1620°C)

*Note: Above mentioned area means the effective active area of the filter that the metal is passing thru. Does not include extra material for holding the filter in place.*



**Apogee**  
ceramics inc.