**CLAIMS**

1. A screen assembly capable of being disposed in a bore, the screen assembly comprising: a swellable material disposed exterior to a base pipe; a tube disposed exterior to the swellable material; and a support material disposed between the swellable material and the tube, wherein, in response to contact with an activating fluid, the swellable material is capable of expanding and displacing at least part of the tube toward a surface of the bore, wherein the swellable material is configured to expand more than the support material in response to the activating fluid.

2. A screen assembly according to claim 1, wherein the support material is a low-swelling rubber compound.

3. A screen assembly according to claim 1 or 2, wherein the tube comprises a plurality of perforations, wherein the support material is configured to isolate at least one perforation of the plurality of perforations from the swellable material.

4. A screen assembly capable of being disposed in a bore, the screen assembly comprising: a swellable material disposed exterior to a base pipe; a tube disposed exterior to the swellable material, the tube comprising a plurality of perforations; and a support material disposed between the swellable material and the tube, the support material being capable of isolating at least one perforation of the plurality of perforations from the swellable material, wherein, in response to contact with an activating fluid, the swellable material is capable of expanding and displacing at least part of the tube toward a surface of the bore.

5. A screen assembly according to claim 4, wherein the support material is a low-swelling rubber compound configured to expand less than the swellable material.

6. A screen assembly according to any preceding claim, wherein the support material is a non-swelling rubber compound configured to retain an initial shape when the swellable material expands.

7. A screen assembly according to any preceding claim, wherein the swellable material includes a groove, wherein the tube and the support material are disposed in the groove.

8. A screen assembly according to any preceding claim, wherein the tube is a filtration tube comprising a filter media for filtering particulate materials from hydrocarbon fluids.

9. A screen assembly according to any preceding claim, wherein the support material is hydrogenated nitrile butadiene rubber (HNBR).

10. A method of manufacturing a screen assembly capable of being disposed in a bore, the method comprising: positioning a casting member exterior to a base pipe; positioning a support material between the casting member and the base pipe; positioning a swellable material between the support material and the base pipe, the swellable material being configured to expand in response to an activating fluid; processing the swellable material to form a groove in which the casting member and the support material are disposed; removing the casting member from the groove; and positioning a tube in the groove.

11. A method of manufacturing according to claim 10, wherein the tube comprises a plurality of perforations, wherein the support material is capable of isolating the plurality of perforations from the swellable material when the swellable material expands.

12. A method of manufacturing according to claim 10 or 11, wherein the support material is a low-swelling rubber compound configured to expand less than the swellable material.

13. A method of manufacturing according to claim 10 or 11, wherein the support material is a non-swelling rubber compound configured to retain an initial shape when the swellable material expands.

14. A method of manufacturing according to any one of claims 10 to 13, wherein the support material is hydrogenated nitrile butadiene rubber (HNBR).

15. A method of manufacturing according to any one of claims 10 to 14, further comprising: positioning a framing member exterior to the base pipe, wherein positioning the casting member exterior to the base pipe comprises coupling the casting member to the framing member.

**Claims:**

What is claimed is:

1. A screen assembly capable of being disposed in a bore, the screen assembly comprising: a swellable material disposed exterior to a first part of a base pipe; a tube disposed exterior to the swellable material, the tube comprising a plurality of perforations, wherein the tube is adapted for directing fluid to an outer housing for filtering the fluid prior to directing the fluid to an inner diameter of the base pipe, the outer housing being is exterior to a second part of the base pipe; and a support material disposed between the swellable material and the tube, the support material being shaped to receive the tube, wherein, in response to contact with an activating fluid, the swellable material is capable of expanding and displacing at least part of the tube toward a surface of the bore, wherein the swellable material is configured to expand more than the support material in response to the activating fluid, the support material being configured for preventing the swellable material from plugging the plurality of perforations of the tube.

2. The screen assembly of claim 1, wherein the support material is a low-swelling rubber compound.

3. The screen assembly of claim 1, wherein the support material is a non-swelling rubber compound configured to retain an initial shape when the swellable material expands.

4. The screen assembly of claim 1, wherein the swellable material includes a groove, wherein the tube and the support material are disposed in the groove.

5. The screen assembly of claim 1, wherein the tube is a filtration tube comprising a filter media for filtering particulate materials from hydrocarbon fluids.

6. The screen assembly of claim 1, wherein the support material is configured to isolate the plurality of perforations from the swellable material.

7. The screen assembly of claim 1, wherein the support material is hydrogenated nitrile butadiene rubber (HNBR).

8. The screen assembly of claim 1, wherein the support material comprises a concave cross-sectional shape.

9. The screen assembly of claim 1, wherein the support material is configured to expand.

10. The screen assembly of claim 9, wherein the support material is configured to expand a lower amount in response to the activating material than the swellable material.

11. A screen assembly capable of being disposed in a bore, the screen assembly comprising: a swellable material disposed exterior to a first part of a base pipe; a tube disposed exterior to the swellable material, the tube comprising a plurality of perforations wherein the tube is adapted for directing fluid to an outer housing for filtering the fluid prior to directing the fluid to an inner diameter of the base pipe, the outer housing being exterior to a second part of the base pipe; and a support material disposed between the swellable material and the tube, the support material being shaped to

receive the tube and being configured for preventing the swellable material from plugging the plurality of perforations, wherein, in response to contact with an activating fluid, the swellable material is capable of expanding and displacing at least part of the tube toward a surface of the bore.

12. The screen assembly of claim 11, wherein the support material is a low-swelling rubber compound configured to expand less than the swellable material.

13. The screen assembly of claim 11, wherein the support material is a non-swelling rubber compound configured to retain an initial shape when the swellable material expands.

14. The screen assembly of claim 11, wherein the swellable material includes a groove, wherein the tube and the support material are disposed in the groove.

15. The screen assembly of claim 11, wherein the tube is a filtration tube comprising a filter media for filtering particulate materials from hydrocarbon fluids.

16. The screen assembly of claim 11, wherein the support material is hydrogenated nitrile butadiene rubber (HNBR).

17. The screen assembly of claim 11, wherein the support material comprises a concave cross-sectional shape.

18. The screen assembly of claim 12, wherein the support material is configured to expand.