

CLAIMS:

1. A downhole expandable apparatus for restricting ingress of solids in a wellbore, comprising:
 - 5 a base pipe;
 - a fluid permeable expandable foam material mounted on the base pipe configurable between a non-expanded and an expanded configuration; and
 - a retractable sleeve moveable between a first configuration in which the retractable sleeve retains the expandable foam material in the non-expanded configuration, and a second configuration in which the retractable sleeve is retracted to provide a free portion of the expandable foam material, permitted to radially expand towards the expanded configuration and into engagement with a surface in the wellbore.
- 15 2. The downhole expandable apparatus according to claim 1, wherein the fluid permeable expandable foam material at least partially defines a filtration assembly.
3. The downhole expandable apparatus according to claim 1 or 2, configured for the production of a fluid from a wellbore and/or injection of a fluid into a wellbore.
- 20 4. The downhole expandable apparatus according to any preceding claim, comprising a flow channel extending axially along the length of the apparatus.
5. The downhole expandable apparatus according to any preceding claim, wherein the base pipe comprises an aperture in a wall thereof.
- 25 6. The downhole expandable apparatus according to any preceding claim, wherein the base pipe comprises a plurality of apertures in a wall thereof, and the plurality of apertures are substantially evenly spaced along the base pipe.
- 30 7. The downhole expandable apparatus according to claims 5 or 6, wherein the aperture, or the plurality of apertures, comprises a valve therein.

8. A downhole expandable apparatus according to any of claims 5 to 7, wherein the aperture, or the plurality of apertures, is positioned on a section of the base pipe onto which the expandable foam material is mounted.
- 5 9. The downhole expandable apparatus according to claim 8, wherein the aperture, or the plurality of apertures, is positioned under the expandable foam material.
- 10 10. The downhole expandable apparatus according to any preceding claim, comprising a flow port for the introduction and/or removal of a fluid from the wellbore.
- 15 11. The downhole expandable apparatus according to any preceding claim, wherein the retractable sleeve prevents or restricts a flow of fluid through the apertures in the base pipe.
12. The downhole expandable apparatus according to any preceding claim, wherein fluid flow through the expandable foam material is prevented or restricted when the expandable foam material is in the non-expanded configuration.
- 20 13. The downhole expandable apparatus according to any preceding claim, wherein the expandable foam material is mounted on the base pipe so as to fully circumscribe the base pipe.
- 25 14. The downhole expandable apparatus according to any preceding claim, wherein the expandable foam material is configured to the non-expanded configuration by compression under the retractable sleeve.
15. The downhole expandable apparatus according to any preceding claim, wherein the expandable foam material comprises an open-cell foam material.
- 30 16. The downhole expandable apparatus according to any preceding claim, wherein the expandable foam material has a varying coarseness.

17. The downhole expandable apparatus according to claim 16, wherein the expandable foam material has a graduated coarseness from a relatively coarse portion of expandable foam material, to a relatively fine portion of expandable foam material.
- 5 18. The downhole expandable apparatus according to any preceding claim, wherein the expandable foam material is provided in a single layer.
19. The downhole expandable apparatus according to any preceding claim, wherein the retractable sleeve is axially moveable between the first configuration and
10 the second configuration.
20. The downhole expandable apparatus according to any preceding claim, wherein the retractable sleeve is detachable from the expandable apparatus.
- 15 21. The downhole expandable apparatus according to any preceding claim, configured to be installed in a wellbore as a retrofit apparatus.
22. The downhole expandable apparatus according to any of claims 1 to 20, configured to be installed as part of a completion string.
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23. The downhole expandable apparatus according to any preceding claim, comprising a pump located downhole of the expandable foam material.
24. A method for restricting ingress of solids in a wellbore, comprising:
25 positioning a downhole expandable apparatus in a wellbore;
retracting a retractable sleeve of the downhole expandable apparatus to provide a free portion of expandable foam material, mounted on the downhole expandable apparatus, to radially expand towards an expanded configuration and into engagement with a surface in the wellbore.
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25. A method for repairing/plugging a defect in a sand screen or tubular, comprising:
positioning a downhole expandable apparatus in a wellbore adjacent a defect, the expandable apparatus comprising a base pipe and an expandable foam material

mounted thereon, the expandable foam material being retained in a non-expanded configuration by a retractable sleeve;

retracting the retractable sleeve of the downhole expandable apparatus to
configure a portion of the expandable foam material to an expanded configuration, in
5 which the expandable foam material is expanded so as to contact the defect.

26. A method for stabilising a subsurface formation, comprising:

positioning a downhole expandable downhole apparatus in a wellbore adjacent
a subsurface formation, the expandable apparatus comprising a base pipe and an
10 expandable foam material mounted thereon, the expandable foam material being
retained in a non-expanded configuration by a retractable sleeve;

retracting the retractable sleeve of the downhole apparatus to configure a
portion of the expandable foam material to an expanded configuration, in which the
expandable foam material is expanded so as to contact the subsurface formation.