

Active Birth Pools: Proprietary Materials, Innovative Ergonomic Design and Bespoke Engineering

Proprietary materials and innovative ergonomic design combine with bespoke engineering and manufacturing techniques to produce water birth pools that deliver superior safety, value and performance.

This statement describes the design philosophy behind Active Birth Pools and explains why they differ fundamentally from conventional birthing pools made from acrylic, fibreglass or other laminated materials.

In a maternity setting, a water birth pool is not simply a large bath.

It is a clinical sanitary product used in a demanding environment where safety, infection control, manual handling, durability, cleaning, comfort and long-term value all matter.

Every surface, curve, fitting, support point and construction method has practical consequences for mothers, babies, midwives, estates teams and hospital managers.

Active Birth Pools are built around three interdependent strengths: Ficore® composite, ergonomic design developed around the real movements of mothers and midwives, and bespoke manufacturing techniques that allow those design ideas to be translated into strong, seamless, long-lasting hospital-grade pools. [1]

1. Ficore® Composite: The Material Foundation

At the heart of every Active Birth Pool is Ficore®, a proprietary solid composite developed by Design & Form who manufacture Active birth Pools. Ficore is not acrylic, fibreglass, gel-coated laminate or a bonded surface over a weaker core.

It is a composite of eight materials chemically fused during manufacture and heat-cured at high temperature. Because it is not laminated or bonded, it cannot delaminate, separate or come apart in the way lesser materials can. [2]

This matters because birth pools are exposed to warm water, body weight, cleaning chemicals, repeated filling and emptying, frequent disinfection and constant clinical use.

A material that flexes, chips, cracks, separates or degrades can create hygiene risks, maintenance costs and premature replacement needs.

Design & Form developed Ficore specifically to overcome the shortcomings of traditional bath materials.

It is strong but comparatively light, requires no chassis, will not flex, and permits fine detailing, tighter curves and more precise forms than many conventional bath materials.

It can also be produced in gloss or matt finishes and in almost any colour. [3]

The physical properties are particularly relevant to maternity care.

Ficore's surface is based on isophthalic neo-pentyl-glycol.

Ficore is 50% harder than acrylic when both materials are hot, replicating real-world use when a bath or pool is filled with warm water.

Independent abrasive slurry wear testing to ANSI methods showed only 0.5% loss of reflectance after 10,000 cycles, compared with a typical 2% figure for acrylic. [4]

This hardness helps the pool resist scratching, retain gloss and withstand repeated cleaning.

Ficore is also documented as resistant to most chemicals, including acidic and alkaline solutions, and able to withstand continuous exposure to hot water at 80°C as well as thermal shock from alternating hot and cold water. [5]

For hospitals, these properties are not cosmetic.

They support long service life, cleaning reliability, reduced maintenance and a more robust infection-control profile.

2. Seamless One-Piece Construction and Hygiene by Design

Water birth pools must be designed to minimise avoidable contamination risks.

Any seam, crevice, surface-mounted fitting, protrusion, poorly drained contour or inaccessible area can become a dirt trap or a place where biofilm may develop.

Active Birth Pools address this by combining Ficore's moulding capabilities with seamless one-piece construction.

The result is a smooth, non-porous shell with organic contours that are easy to clean thoroughly.

The design avoids unnecessary surface-mounted metalwork and keeps fixtures away from the rim wherever possible, reducing obstructions and helping eliminate areas where microorganisms could propagate. [6]

The catalogue describes this as "minimising risk by design": smooth surfaces, gentle contours, minimal fittings and carefully considered drainage details all contribute to safer, cleaner birthing environments.

Recessed stainless steel handgrips are fully bonded into the structure rather than bolted or rim-mounted, improving both hygiene and practical safety. [7]

This design approach is especially important because water birth pools can harbour organisms such as *Pseudomonas* and *Legionella* if poor design or inappropriate water systems create stagnant, inaccessible or difficult-to-clean areas.

By treating hygiene as a design problem rather than an afterthought, Active Birth Pools reduce risk at the source. [8]

3. Ergonomic Design: Supporting Mothers and Protecting Midwives

The design of a birth pool must support two groups simultaneously: the mother using the pool and the midwives caring for her.

A pool that is comfortable for the mother but difficult for staff to access is incomplete.

A pool that allows staff access but restricts maternal movement is equally compromised.

Active Birth Pools are shaped around the physiology of labour and the practical requirements of maternity care.

Their flowing forms, spacious interiors, wide rims, integrated seating and recessed handgrips are intended to support freedom of movement, upright postures, leaning, kneeling, squatting, resting and instinctive repositioning during labour. [9]

The ergonomic design is also intended to reduce strain on midwives.

The contoured profiles allow staff to work in more upright, balanced postures, reducing bending, twisting and overreaching.

Wide, rounded rims cushion the forearms and give midwives stable support close to the mother during extended periods of care. [10]

This is a critical safety issue. Manual handling risk in maternity care is not limited to dramatic emergency evacuations.

It occurs through repeated awkward postures, leaning, reaching, assisting mothers into and out of the pool and working around obstructions.

Active Birth Pools reduce those risks by giving midwives clear access, soft support surfaces and freedom to move around the pool.

4. Safer Entry: The “Sit and Swivel” Method

One of the most important moments in water birth practice is entry into the pool.

A mother in strong labour should not have to climb awkward steps, step over a high rim or depend heavily on staff support.

Active Birth Pools use a wide rim and step arrangement that allows mothers to sit on the rim, swivel and lower themselves into the water while maintaining three points of contact.

This “sit and swivel” method is simple, intuitive and reduces the risk of slips, strain and over-assistance. [11]

A single step unit provides a height advantage without creating the trip hazards and obstructions associated with larger multi-step units.

When not in use, it can be moved easily and does not compromise access around the pool.

This design benefits mothers and midwives at the same time: mothers gain a safer, more dignified way to enter the pool, while midwives are less exposed to manual handling risks.

5. Emergency Evacuation

Emergency evacuation from a birth pool is uncommon, but the pool must be designed for it.

Active Birth Pools have extra-wide rims, internal support seats and unobstructed access to help staff move a mother safely and efficiently if evacuation becomes necessary.

The mother can be moved onto an internal seat and be supported while a trolley and staff are positioned, and then slid over the wide, softly contoured rim onto the trolley.

The absence of rim-mounted metalwork or obstructing plumbing is central to this approach. [12]

The pools are compatible with portable hoists because access under and around the rim remains unobstructed.

This is an important example of how design, ergonomics and engineering combine: the same wide rim that supports mothers during labour and helps entry also supports evacuation planning.

6. Bespoke Engineering and Manufacturing

Ficore allows design freedom, but design freedom alone is not enough.

A birth pool must be engineered to remain stable under load, resist flexing, drain correctly, sit securely on the finished floor and remain reliable for years of hospital use.

Active Birth Pools use bespoke manufacturing techniques developed to take advantage of Ficore’s properties. Double-wall construction adds strength and stability while adjustable feet, and a wrap-around flange distributes load evenly. [13]

This engineering approach means the pool is not dependent on a separate metal or wooden chassis.

Ficore’s inherent strength allows the pool to remain rigid and stable without reinforcement, while the manufacturing process supports refined shapes, strong integrated features and seamless construction. [14]

The result is not a generic bath adapted for maternity use.

It is a purpose-designed water birth pool in which the material, form and structure are developed together.

7. Long-Term Value and Sustainability

Value in hospital procurement is not simply the lowest purchase price.

A lower-cost product can become expensive if it requires frequent repair, loses surface integrity, becomes difficult to clean, suffers from premature wear or needs replacing after a relatively short period.

Active Birth Pools are positioned as a long-term investment.

They are built to order in England from Ficore composite, engineered to last for decades and guaranteed for life. [15]

Ficore pools require minimal maintenance, reduce replacement costs and support sustainability by extending service life. [16]

Ficore's heat-retention properties also contribute to operating value.

Ficore keeps water hot six times longer than standard acrylic backed by glass fibre and twelve times longer than vitreous enamelled cast iron.

Better insulation can reduce the need to top up warm water, helping save water, energy and staff time. [17]

Repairability also matters.

Ficore is fully repairable if damage occurs, and the repair instructions show a practical process using bonding paste, gelcoat, sanding and polishing to restore the surface. [18]

A repairable pool is more sustainable and cost-effective than one that must be replaced when damaged.

8. Performance in Real Clinical Environments

Performance is the combined result of material strength, hygiene, ergonomics, engineering and usability.

Active Birth Pools are shaped by nearly four decades of experience in water birth environments and are designed to help mothers move freely, feel safe and supported, and use upright, physiological positions during labour. [19]

9. Backed by a Unique Lifetime Guarantee

Engineered to last for decades and guaranteed for life, each pool is built to order in England from Ficore composite, a strong, solid and durable material developed for long-term use. [15]

The pools are made using seamless one-piece construction, double-wall engineering and robust integrated features, giving them the strength and stability required for demanding maternity environments.

The lifetime guarantee reflects the basic quality of the product: the material, the manufacturing process and the engineering are designed for long service life.

These are not intended to be short-life products that need regular replacement; they are long-term assets for hospitals, birth centres and maternity units.

This gives customers better value over time.

A pool that lasts for decades reduces replacement costs, reduces disruption and supports sustainability by extending the working life of the product.

Ficore is also repairable if damage occurs, helping preserve the pool rather than replace it. [16] [18]

Conclusion

Active Birth Pools demonstrate that superior performance in a water birth pool cannot be achieved through material choice alone, design alone or manufacturing alone.

It is the integration of all three that creates the difference.

Ficore provides strength, durability, chemical resistance, heat retention, repairability and design freedom.

Ergonomic design transforms that material potential into practical benefits for mothers and midwives.

Bespoke engineering and manufacturing turn the design into a stable, seamless, hospital-ready product built for decades of use.

Active Birth Pools are hospital-grade sanitary ware products designed specifically for maternity environments.

They are manufactured under documented quality-control procedures and designed with reference to applicable sanitary-ware and healthcare-estates guidance, including BS EN 14516 / EN 14516 for cleanability and durability, CEN/TR 17221 for sanitary-appliance Declaration of Performance guidance, and HBN 00-10

Part C for sanitary assemblies in healthcare facilities. CE documentation and Declarations of Performance are available where applicable.

Plumbing and electrical components are specified to support local regulatory compliance, with third-party certified components used where required. [21] [22] [23] [24]

Appendix A: Source Mapping and Citation Key

Marker(s)	Source group	Evidence used / relevance
1-5	Active Birth Pools catalogue and website; Design & Form Ficore material specification and technical information; ANSI Z124.1 test documentation.	Supports Ficore as the proprietary material foundation: solid composite construction, resistance to delamination, rigidity, hardness, chemical resistance, hot-water performance and long-term durability.
6-8	Active Birth Pools Catalogue and Guide; HBN 00-10 Part C sanitary assemblies guidance.	Supports seamless one-piece construction, smooth non-porous surfaces, minimal fittings, bonded handgrips, drainage details and hygiene-led sanitary design for healthcare environments.
9-12	Active Birth Pools Catalogue and Guide.	Supports ergonomic design, freedom of maternal movement, midwife access, safer entry using the sit-and-swivel principle, and emergency evacuation planning.
13-14	Active Birth Pools Catalogue and Guide; Active Birth Pools Ficore data sheet; Design & Form Ficore technical specification.	Supports bespoke engineering: double-wall construction, adjustable feet, wrap-around flange, structural rigidity and no need for separate metal or wooden reinforcement.
15-18	Active Birth Pools Catalogue and Guide; website; sustainability/life-cycle value materials; Ficore data sheet and repair instructions.	Supports long-term value: build-to-order manufacture in England, lifetime guarantee, minimal maintenance, reduced replacement burden, heat retention and repairability.
19-20	Active Birth Pools Catalogue and Guide; website; Design & Form Ficore technical information.	Supports the overall performance claim that material quality, ergonomic design and bespoke manufacturing combine to deliver safety, value and performance in clinical use.
21-23	BS EN 14516 / EN 14516; CEN/TR 17221; HBN 00-10 Part C.	Supports references to cleanability, durability, CE/Declaration of Performance guidance and healthcare sanitary-assembly context, subject to the applicable project jurisdiction.
24	Active Birth Pools product compliance documentation; project plumbing/electrical specifications.	Supports statements on CE documentation and Declarations of Performance where applicable, and plumbing/electrical components specified for local regulatory compliance.

Appendix B: Reference List and URLs

1. Active Birth Pools - Catalogue and Guide PDF. <https://activebirthpools.com/wp-content/uploads/2025/10/Catalogue-and-Guide.pdf>
2. Active Birth Pools - Catalogue PDF. <https://activebirthpools.com/wp-content/uploads/2025/02/Active-Birth-Pools-Catalogue-.pdf>
3. Active Birth Pools - Ficore Data Sheet 2019. <https://activebirthpools.com/wp-content/uploads/2019/08/Ficore-Data-Sheet-2019.pdf>
4. Active Birth Pools website. <https://activebirthpools.com/>
5. Design & Form - FICORE®: The Bath Design Revolution. <https://www.designandform.com/ficore-the-bath-design-revolution/>
6. Design & Form - 40 Years of Excellence in Bath Manufacture. <https://www.designandform.com/40-years-of-excellence-in-bath-manufacture/>
7. BSI Knowledge - BS EN 14516:2015+A1:2018 Baths for domestic purposes. <https://knowledge.bsigroup.com/products/baths-for-domestic-purposes>
8. CEN/TR 17221:2018 - Guidance on CE marking and preparation of Declaration of Performance for sanitary appliances. <https://standards.iteh.ai/catalog/standards/cen/ca30116c-cc32-46a7-885f-655f449a2f70/cen-tr-17221-2018>
9. NHS England - Health Building Note 00-10: Part C - Sanitary assemblies PDF. https://www.england.nhs.uk/wp-content/uploads/2021/05/HBN_00-10_Part_C_Final.pdf
10. ANSI Z124.1 test documentation for Ficore material performance. Uploaded/internal source document.
11. Ficore Repair Instructions for Birth Pool. Uploaded/internal source document.
12. Design & Form - Active Birth Pools Material Specification: FICORE. Uploaded/internal source document.
13. Design & Form - Ficore Specification Sheet. Uploaded/internal source document.
14. Active Birth Pools - Data Sheet - Ficore. Uploaded/internal source document.
15. Active Birth Pools product compliance documentation and any issued Declaration of Performance / CE documentation for the applicable product and project.
16. Project plumbing and electrical specifications, including third-party certified components where required by local regulations.

Appendix C: Certifications, Standards and Compliance Context

Certification / standard / document	Relevance to this assessment
BS EN 14516 / EN 14516 - Baths for domestic purposes	Provides the sanitary-ware context for bath-type products, including cleanability, load resistance, durability, test methods and conformity assessment. Applicability should be confirmed for the specific product and market.
CEN/TR 17221 - Guidance on CE marking and preparation of Declaration of Performance for sanitary appliances	Supports reference to CE-marking and Declaration of Performance guidance for sanitary appliances under the Construction Products Regulation framework where applicable.
Health Building Note 00-10 Part C - Sanitary assemblies	Provides healthcare-estates context for sanitary assemblies in healthcare facilities, including the importance of cleanable surfaces, suitable fittings and infection-control-aware sanitary design.
Active Birth Pools product compliance documentation	Supports statements that CE documentation and Declarations of Performance are available where applicable and should be read alongside product-specific documentation.
Project plumbing and electrical specifications	Supports statements that plumbing and electrical components should be specified to comply with local regulatory requirements and that third-party certified components should be used where required.
ANSI Z124.1 test documentation for Ficore material performance	Supports the abrasive slurry wear-test reference used in the assessment to discuss Ficore surface performance and reflectance loss after repeated cycles.
Ficore repair documentation	Supports repairability claims and the practical ability to restore damaged surfaces rather than replace the entire pool where appropriate.