



The new standard in sustainability and durability for RAS tanks



blutanQ coated steel tanks help land-based aquaculture producers accelerate production and protect yields.

Balmoral recirculating aquaculture system (RAS) tanks represent the leading edge of innovation to fish farmers around the world. Our patented **blutanQ** technology enables aquaculture producers to harvest more fish more efficiently, increasing yields and maximising profitability.

Exceptional durability

- blutanQ coated steel tanks and RAS solutions are built to last
- All tank furniture — including nuts and bolts — is capped or coated to protect the substrate and avoid corrosion
- blutanQ installations are easy to clean and disinfect, extending their useful life even further

Complete customisation

- Bespoke RAS solutions for each customer, including the ability to choose colour options and size
- Select tanks based on species, location and a variety of other factors
- Solutions for every stage of the fish production lifecycle for a variety of species including salmon, shrimp, yellowtail, turbot, and everything in between

Global end-to-end support

- At Balmoral, we're committed to building long-term relationships with our clients
- We work with you from conceptual design through completion of the project, using our solution-driven engineering approach to deliver the perfect end product
- Our job isn't done once your RAS solution is installed
- We stand by our work and offer an extended warranty and regular inspections to ensure you get the most out of your investment

Why choose Balmoral for your land-based tanks?

- We are a privately owned Scottish company steeped in engineering tradition
- Group founder, chairman and managing director, Jim Milne CBE, is a multi-award-winning entrepreneur who started his working life on the family farm
- Balmoral Group has an annual turnover exceeding \$190m
- We believe our reputation for innovation and customer service sets us apart in the market place
- [Click here](#) to find out what our customers tell us



For details on how to add value to your RAS operations, contact [Jonathan Smith](#)
www.balmoral-blutanq.com



Bringing 40+ years' experience to the RAS sector

Balmoral Tanks is a leading independent European design and manufacturing company providing services across tank design and manufacture, installation, pipework, commissioning and technical after sales care.

These comprehensive services are now available to the RAS industry via our coated steel tank technology designed to help aquaculture producers increase yields and maximise profitability.

With a choice of epoxy coated or glass fused to steel (GFS) tanks you can be sure that the most suitable solution for your project will be offered. Each system's coating performance and quality standards are outlined in the tables below but please contact us or visit our website for further technical information.

Coating performance and quality standards



Epoxy coated steel tanks

Internal coating: Thermoset resin fusion bonded epoxy

Description	Test standard	Result	Colour
Dry film thickness	Industry standard device	Target 180µm/7mils (efusion) or 400µm/15mils (efusion 1500)	
PH range		PH 2-11 (subject to temperature)	
Corrosion resistance (Salt spray test)	EN ISO 9227	Pass - 0mm creep from scribe at 1440hrs	
Hot water immersion 90 days, 75°C	EN ISO 21809-2	Pass rating 1	
Humidity	EN ISO 6270-2	Pass - 1000 Hrs	
Adhesion	EN ISO 21809-2	Pass - 0mm	
Hardness	EN ISO 2815 - Bucholtz Hardness Test	Pass - Indentation resistance = 91	
Impact resistance	EN ISO 6272-2	Pass >15J	
Abrasion resistance	Abrasion wheel ASTM 4060	CS17,1000g,1000 cycles < 27mg	
Chemical immersion	50% NaOH, 50% H2SO4	Meets/exceeds industry standard	
Holiday test	1100v/1500v every panel	100% defect free at test voltage	

External coating: Durable polyester

Description	Test standard	Result	Colour
Dry film thickness	Industry standard device	150µm – 230µm (6-9mils)	
Corrosion resistance (Salt Spray Test)	EN ISO 9227	16mm creep from scribe at 1000 Hrs	
Humidity	EN ISO 6270-2	Pass - 1000Hrs	
Adhesion	EN ISO 21809-2	Pass - 0mm	
Hardness	EN ISO 2815 - Buchholtz Hardness Test	Pass - Indentation Resistance = 80	
Impact resistance	EN ISO 6270-2	2.5Nm/22 inch-pound (no sign of detachment)	
Weathering	EN ISO 16474-2	Pass -1000Hrs, residual gloss ≥50%, Colour change ΔE according to Qualicoat requirements (appendix A7)	
Weathering Environment	EN ISO 16474-3 ISO 12944	Pass - 300Hrs, Residual gloss ≥ 50% Suitable for use in a C5M Environment	Other colours available on request

Glass fused to steel tanks

Internal coating

Description	Test standard	Test type	Result
Dry Film Thickness	ISO 2178	Coating Thickness	260µm – 460µm (10-18mils)
Citric Acid / Sulphuric Acid / Hydrochloric Acid	ISO 28706-1 Clause 9 / 10 / 11	Chemical Resistance	Min. Class AA
Boiling Citric Acid	ISO 28706-2 Clause 10	Accelerated Chemical – Non-Linear	Max. 0.75 g/m ²
Boiling Water – Liquid Phase	ISO 28706-2 Clause 13	Accelerated Chemical – Non-Linear	Max. 2.5 g/m ²
Detergent Solutions	ISO 28706-3 Clause 9	Accelerated Chemical – Non-Linear	Max. 2.5 g/m ²
Hot Sodium Hydroxide	ISO 28706-4 Clause 9	Accelerated Chemical - Linear	Max. 0.876 mm/a
Boiling Water – Vapour Phase	ISO 28706-2 Clause 13	Accelerated Chemical –Linear	Max. 0.328 mm/a
Boiling Hydrochloric Acid	ISO 28706-2 Clause 12	Accelerated Chemical - Linear	Max. 0.146 mm/a
Vapour Phase			
Thermal Shock	ISO 28763 Annex A	Physical Properties	No Damage at 350c
Adhesion	EN10209 Annex C	Physical Properties	Min. Class 2
Impact Resistance	ISO 4532	Physical Properties	Min. 40N
Abrasion Resistance	ISO 6370-2	Physical Properties	Max. 45g/m ²
Scratch Hardness	EN 15771	Physical Properties	Min. Mohs 5
Holiday Test	ISO 2746 – Test A	Coating Porosity	100% discontinuity free at test voltage

External coating

Description	Test standard	Test type	Result	Colour
Dry Film Thickness	ISO 2178	Physical Properties	160µm – 500µm (6-19mils)	
Colour	L.a.b. Colour Space	Spectrophotometry	Min. EN ISO 28765	
Adhesion	EN10209 Annex C	Physical Properties	Min. Class 2	
Scratch Hardness	EN 15771	Physical Properties	Min. Mohs 5	
Impact Resistance	ISO 4532	Physical Properties	Min. 40N	