Corecell™

The no-problem core

Gurit composite technologies

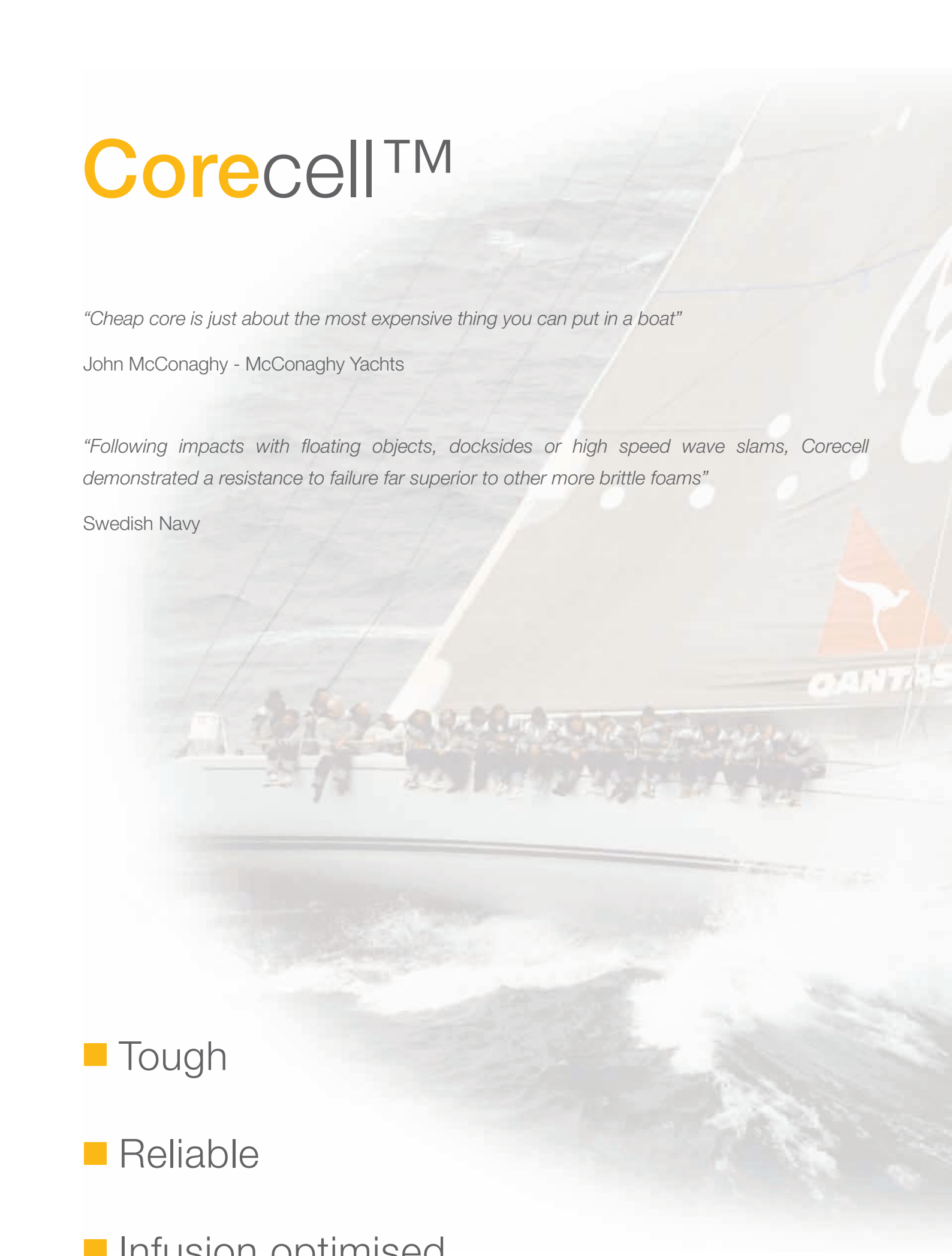
Corecell™

“Cheap core is just about the most expensive thing you can put in a boat”

John McConaghy - McConaghy Yachts

“Following impacts with floating objects, docksides or high speed wave slams, Corecell demonstrated a resistance to failure far superior to other more brittle foams”

Swedish Navy



- Tough
- Reliable
- Infusion optimised

Optimised for the marine industry

Corecell is the first structural core designed specifically for marine applications. It's styrene acrylonitrile (SAN) polymer base gives it unique processing and in-service properties.

Tough

Reliable

Stable

Corecell **A-Foam**
For hulls and other dynamically loaded structures

Corecell **P-Foam**
Heat-stabilised A-Foam for prepreg processing

Corecell **T-Foam**
For superstructures, decks and interiors

Corecell **S-Foam**
Specialist core for sub sea applications

Corecell **structural cores successfully meet the needs of the professional boat builder and their customers**

The Corecell™ Advantage

New
Corecell's unique styrene acrilonitrile (SAN) chemistry has been developed in the last fifteen years to answer the shortcomings of older core materials.

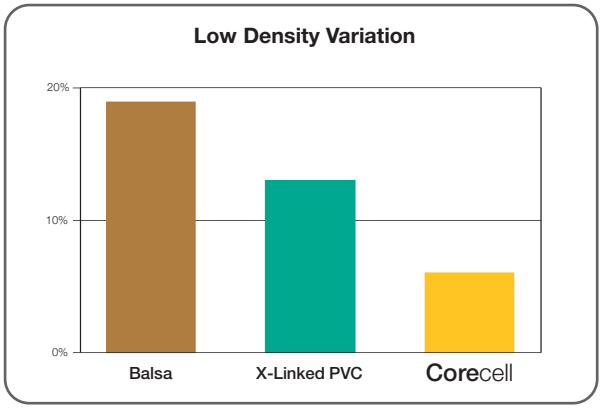
Tough
Exceptional resistance to impact, dynamic loading and fatigue.

Simple
Easy to use, resistant to handling damage and easy to machine.

Stable
Unaffected by water and highly resistant to fuel oil and hydraulic fluid.

Reliable
Minimal density variation ensures predictable laminate strength.

Infusion optimized
Available in all common infusion formats. Special knife-cut **Core**cell infuses quickly and uses up to 50% less resin than other foam cores.



Infusion ready
Complete **Core**cell infusion technical support package from concept through to testing of completed laminate.

No outgassing problems
Corecell does not suffer from the problems of laminate outgassing or the associated cure inhibition.

Compatible
Suitable for use with all polyeser, vinylester and epoxy resins

Highly thermoformable
Corecell has exceptional thermoforming characteristics

Corecell™

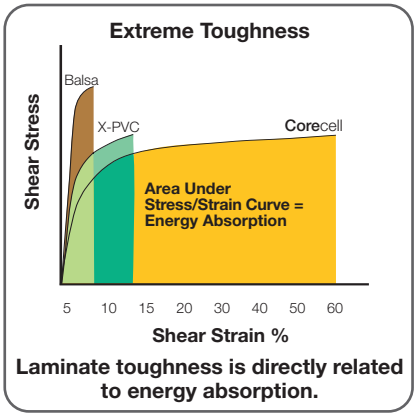
The no-problem core

Corecell™ A-Foam
Corecell™ P-Foam

The Ultra Tough Foams

- Extremely resistant to impact, slamming and fatigue
- The safest core available
- Superior styrene and heat resistance to linear PVC foam

Properties of A-Foam and P-Foam
Far higher shear elongation than balsa or cross-linked PVC. This high shear elongation is directly related to toughness.



Laminate toughness is directly related to energy absorption.

Shock, impact and slamming resistance
Corecell A-Foam and P-Foam are specifically designed for dynamic loading. No other core material is as safe in a marine environment.

High styrene and temperature resistance
Corecell A-Foam and P-Foam have excellent styrene and heat resistance. This sets Corecell apart from other ductile core materials.

Proven
Approved by Lloyds, DNV, ABS and GL and tested in the world's toughest yacht races.

Impact Testing

Single Skin Fibreglass

- Serious structural damage
- Punctured
- Heavy

X-Linked PVC Foam

- Serious structural damage
- Core shear failure
- Skin delamination

Balsa

- Total structural failure
- Core shear failure
- Damage not visible on surface
- Heavy

Corecell

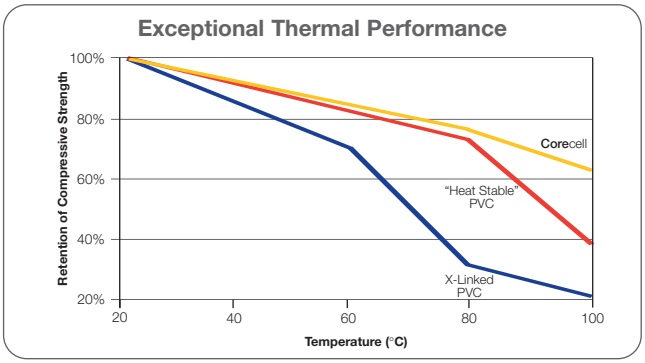
- No structural damage
- No core shear failure
- Easily repaired
- Lightweight

Hulls and dynamically loaded structures

Corecell™ T-Foam

The Stable Foam

- Ideal replacement for cross-linked PVC and balsa
- Excellent mechanical properties
- 120°C Processing
- Outstanding chemical resistance



Properties of T-Foam

Tough
High mechanical toughness compared to cross-linked PVC and balsa.

Thermal Performance
Corecell T-Foam has remarkable thermal stability, reducing print-through and maintaining mechanical properties at high temperatures.

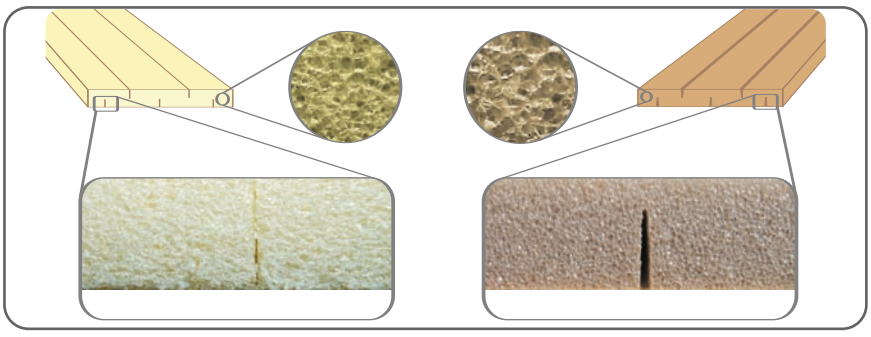
Process stability
Ideal for use with prepregs and in liquid infusion processes where high resin temperatures are common.

Compatibile
Corecell T-Foam is suitable for any manufacturing process common to PVC and balsa cores.

Infusion optimised
The low resin absorption characteristics of **Core**cell and it's unique knife cut formats make **Core**cell T-Foam a great choice for higher performing infusions, lower resin cost and lower weight than other structural core materials.

Trusted
Approved by GL and is in the process of DNV approval.

Corecell T-Foam vs Cross-Linked PVC. **Core**cell's knife cut infusion channels and smaller cell size minimises resin uptake reducing panel weight and cost.



Decks, superstructures and interiors

Corecell™ S-Foam

The foam for high pressure buoyancy

- High hydrostatic crush strength and water resistance
- Ultra-fine cell size
- Lower density than a syntactic resin film

Properties of S-Foam

Designed for sub-sea applications
Corecell S-Foam can withstand the crushing forces at depths of over 1300 metres and does not absorb water.

Manufacturing simplicity
Corecell S-Foams ultra fine cell size gives it excellent machining capabilities as well as minimising resin absorption. Complex shapes can be created using a variety of milling, routing, sawing and drilling techniques without risk of breakage.

Strong
S-Foam's unique properties allow it to replace other materials such as plywood when creating high strength inserts for through bolting in sandwich structures.

Low density
Available at lower densities than resin blended syntactic products. Standard products range from 150 kg/m^3 to over 300 kg/m^3.

Reliable
As with all **Core**cell materials, consistent density is assured.

Deep Sea and High Pressure Applications

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