

(ULW) Ultra Light Weight Resin Screeds and Deck Flooring Systems

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Wednesday 14th January 2015,
Southampton, UK

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Company overview



➤ Worldwide organisation

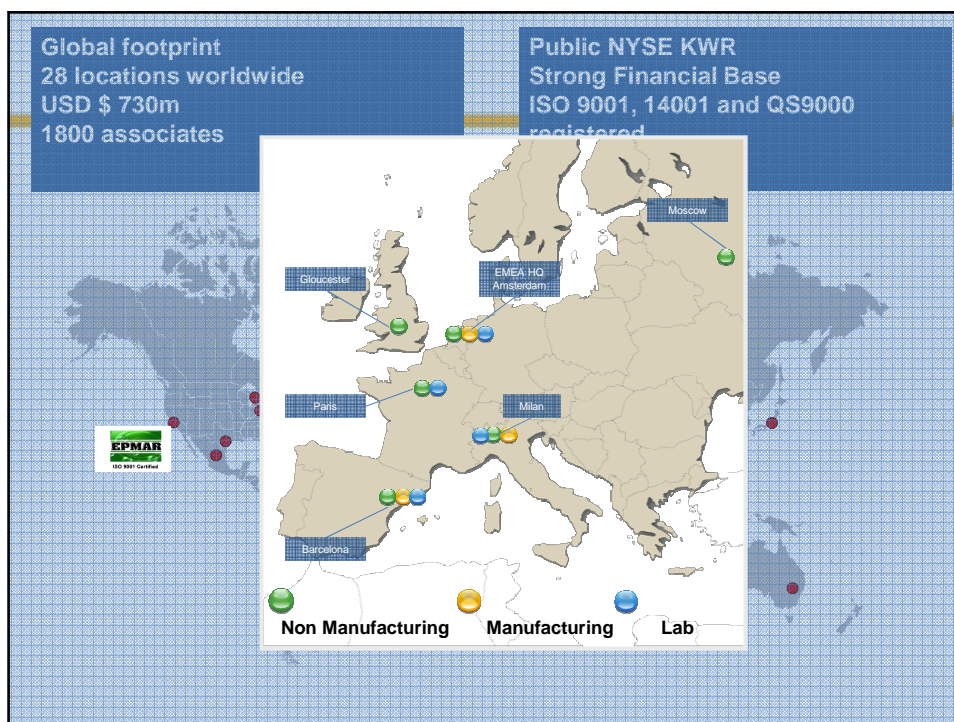


➤ Epmar is the Quaker Coatings centre of excellence and manufacturing site



➤ SynDeck is the product name for our range of Marine Resin systems

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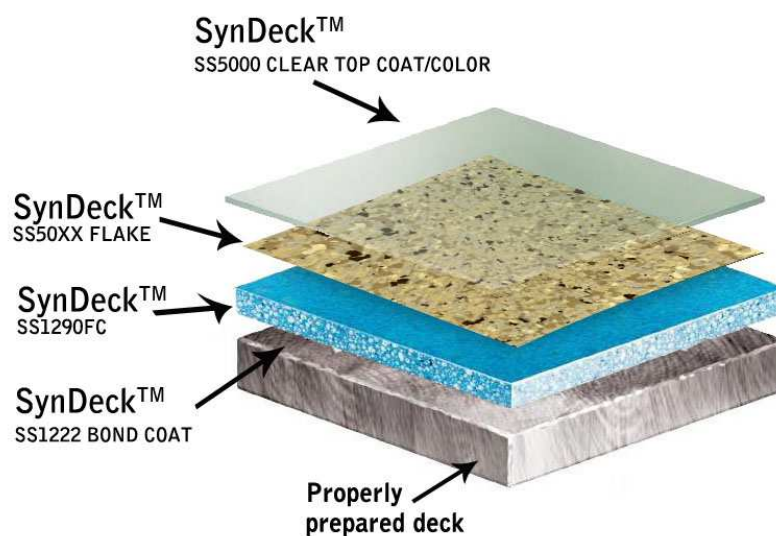
Epmar Division



- California; R & D, Manufacturing, Sales and Distribution
 - Epmar 1980, (Aerospace Div 1970), Quaker 2002
 - Turnover 2014; \$45m
 - Employees; 62
- Products
 - **SynDeck Marine**
 - Aerospace Maskants
 - Kemiko construction Materials
 - RapidShield UV instant cure coatings
 - Rapid Armour, Adhesives



SynDeck; example ULW



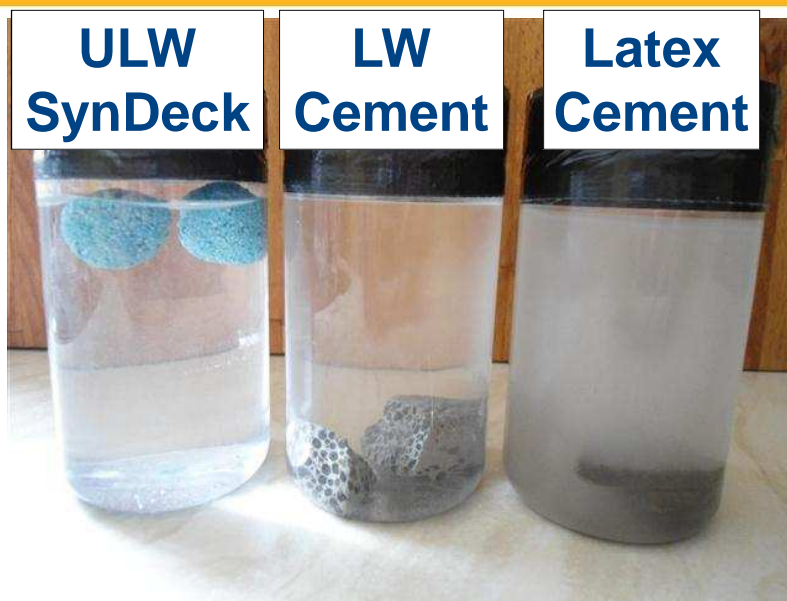
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Technical Specifications

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Water absorption & weight comparisons



Consumption, calculations



Consumption and weights @ 6.35mm

- SynDeck ULW per SqM = 4 Kgs
- Each kit (A +B + C) gives 1.8 SqM
 - Combined weight per Kit = **7.2 Kgs**
 - Indicative Cement screed = **20-25 Kgs**

Technical Data



- Compressive strength (PSI / 145.04 = Mpa)
 - US Navy standard 2000 Psi

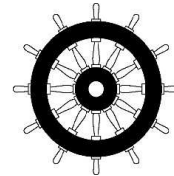
Product	Compressive, psi Average	Mpa	Compressive Yield, psi with Coating	Mpa
ULW 1290FC	2800	19.31	4,004	28.25

- Density/Specific Gravity
 - Example ULW 1290FC = 0.62
 - Example LW 1295 = 1.15

Certification approvals



- IMO Certification (United States coast Guard approved)
Parts 2 and 5 / 6 of Annex 1 of FTP Code for Primary
Deck Covering and Floor Covering



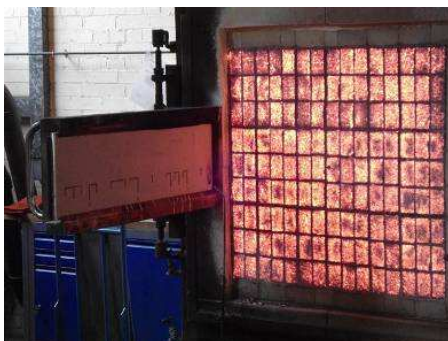
- US Navy Mil Spec approved
MIL-PRF-3135H Type I,2 & 3 Class 2
MIL-PRF-24613A (SH)–Deco System), Type I, Class 2

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Certification



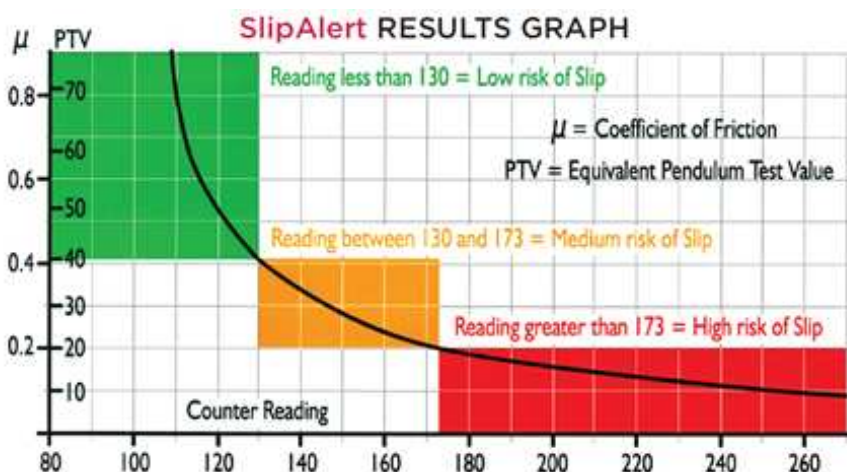
- Def Stan UK Navy Fire and Toxicity tests
Def Stan 02-711, 02-713, BS476 Part 6, BS476 Part 7
(Similar to IMO), ISO 4589-2 Oxygen Index



Slip Resistance



- Slip alert (Slip resistance): Def Stan 02-157
- Pass rates: **Dry 130 and 140 Wet**



Slip Alert BS 8204 – In situ Floors



Approved for System Galley's / Laundries and Passageways



Key product Benefits



- Ultra Light weight = fuel savings, stability
- Trowel applied = to drains and coved edges
- No latex, very good adhesion
- Higher Chemical resistance
- IMO Flex; very flexible and gives seamless flooring
- Decorative options
- Marine approvals; IMO Wheel Mark, US Navy MilSpec, UK INM, UK Navy Def Stan



Applications

Key application areas



- Wet rooms; toilets, showers all wet areas
- Galleys and eating areas
- Laundries
- Medical centres, waiting rooms
- Gym and fitness areas
- Passageways
- High visual appearance areas

Product application; ULW



Product: Flexible Top coats



RFA UK Navy: Wet spaces





Current Markets and Projects

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References USA



- » **Bush USS**
- » **Ford USS**
- » **DDG 1000 Class**
- » **JHSV**
- » **Roosevelt USS**
- » **Enterprise USS**
- » **Eisenhower USS**
- » **Nimitz USS**
- » **Carl Vinson USS**
- » **Lincoln USS**
- » **Truman USS**
- » **Regan USS**
- » **LCS**



USS George H.W. Bush



USS Gerald R. Ford



The **Zumwalt-class** destroyers



Joint High Speed Vessel



USS Theodore Roosevelt



USS Nimitz

US Innovative projects



- US Navy examples; BAE, Austal, Marinette (Fincantieri),

- Littoral fast attack single and Multi hull classes
- Recent Ships USS Fort Worth LCS-3 , USS Independence LSC-2



Projects Case Studies



EU Case Study; RFA



EU case study



Territory:	UK
Vessel:	RFA
Areas:	Wet spaces, toilets
Size:	In total 400 SqM (small % of ship deck area, additional project, March 15)
Location:	Falmouth
Date:	May 2012

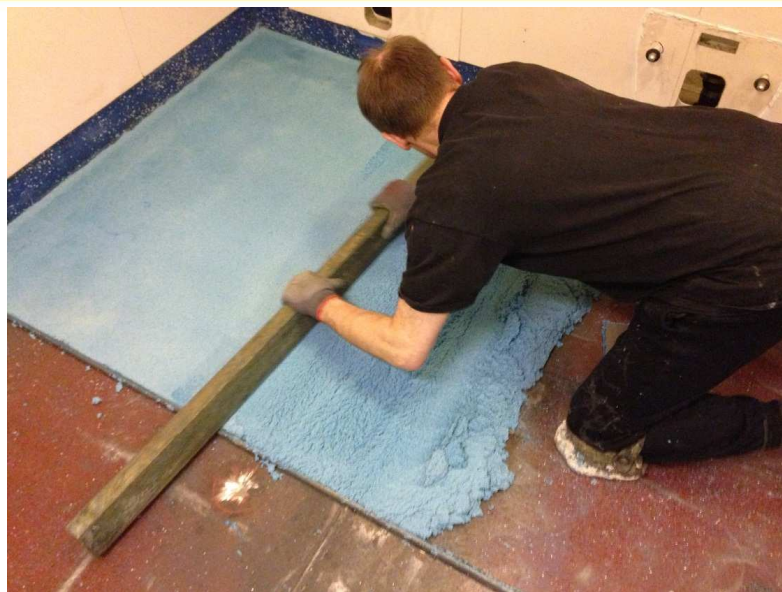
Project Specification



- 1. Supply longer term flooring system due to failed conventional cement screed**
- 2. A water proof solution with good visual appearance**
- 3. Seamless system that minimises any water or other contaminate ingress**
- 4. Reduce weight by 30%-50% compared to existing systems.**

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Specification: Installation



Installation



Flexible Epoxy Coating

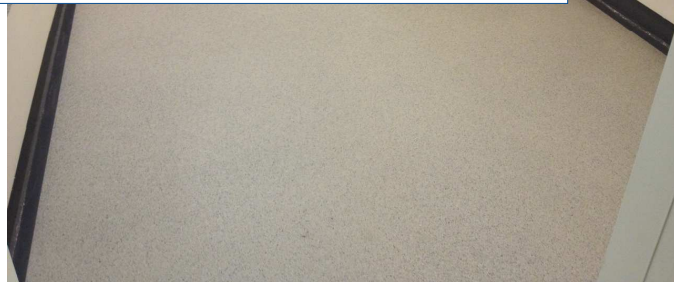


Waterproof and Seamless



**Removed over 10 tonnes
of failed cements**

**Replaced with less than 3
Tonnes SynDeck**



EU Case Study; Condor Ferry



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Project Specification



- 1. Supply a more aesthetically pleasing and maintainable flooring system**
- 2. Fully waterproof with enough flexibility to combat the movement of the ships light weight aluminium construction**
- 3. A seamless and well adhered system that stops any water or other contaminate ingress**
- 4. Must not increase weight to maintain critical fuel and load carrying benefits of the aluminium design**

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Old specification: Amtico Tiles



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Fully Flexible SL Epoxy



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Decorative and Seamless



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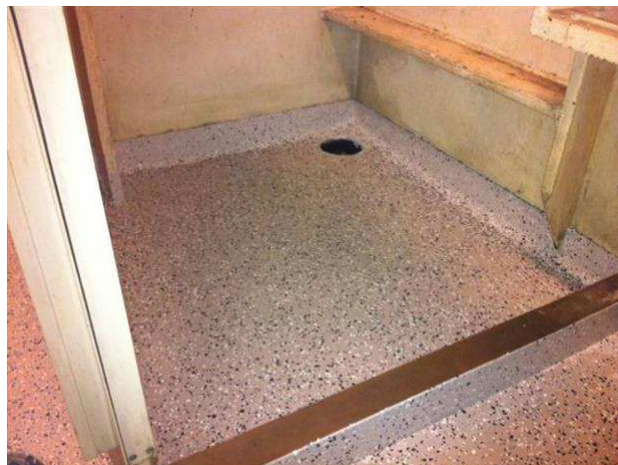
Case studies



Selection of ideal applications for Ultra Lightweight Resin Underlayment

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Ferry; Tile removal, ULW & IMO Flex



HMS; 52 Wet Spaces, IMO Flex





Navy; Tile removal, ULW & IMO Flex




Container ship; Wet Spaces ULW Terra


It's what's inside that counts.

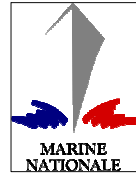




EU Marine References


It's what's inside that counts.

































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Questions



It's what's inside that counts®