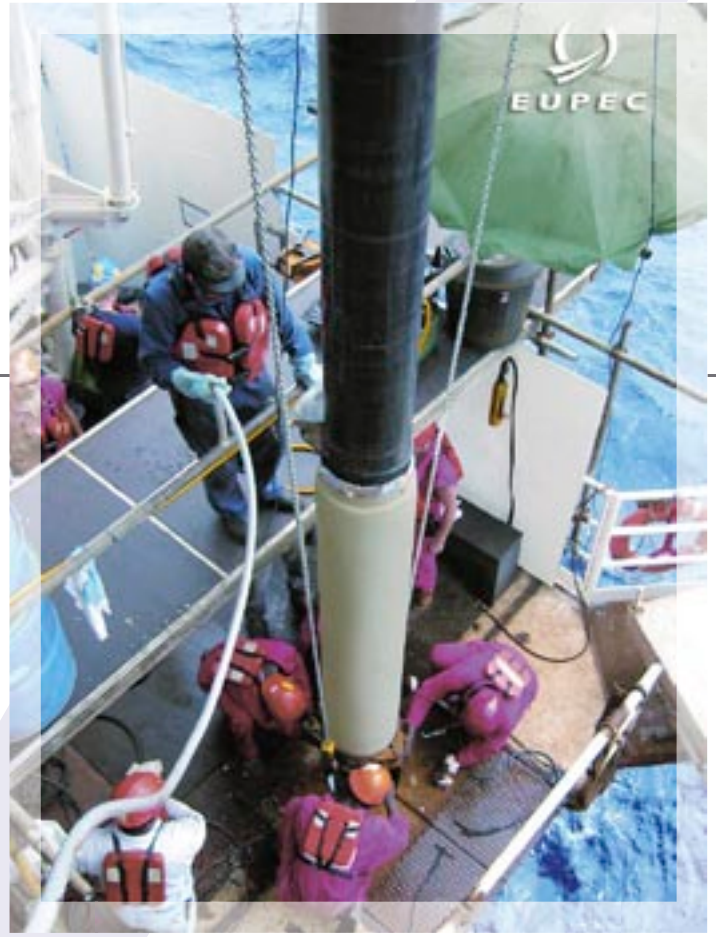
PIPELINE PERFORMANCE ENGINEERING
insulation and protection

Hyperlast Pipe and Tank Solutions
engineering polyurethane excellence



Dow Hyperlast



Courtesy of EUPEC

SPU

HYPERLAST SYNTACTIC™ 512

Water depths to 250 metres (800ft)
Temperature performance to 125°C (257°F)
Mouldable or rotationally castable

HYPERLAST SYNTACTIC™ polyurethanes have been used for over twenty five years for the protection and insulation of oil and gas flowlines, manifolds, risers, field joints, xmas trees, jumpers, spool pieces and related sub-sea architecture.

These materials have excellent thermal insulation, corrosion protection, adhesion, impact strength and are durable in harsh working environments.

Hyperlast pipeline products have been tested in the field and are widely used as pipeline coatings from the North Sea, Gulf of Mexico, South East Asia, South America to the west coast of Africa.

Hyperlast pipeline materials offer many application advantages

- flexibility
- range of hardness
- low processing temperatures
- mould or rotationally cast
- non-mercury catalysed versions available

GSPU

HYPERLAST SYNTACTIC DW 512™

Water depth capabilities –
DW-512 / 150 - 1500 metres (5,000ft)
DW-512 / 300 - 3000 metres (10,000ft)
Temperature performance to 115°C (239°F)
Mouldable and rotationally castable versions available
Over eight-year record of deepwater installations

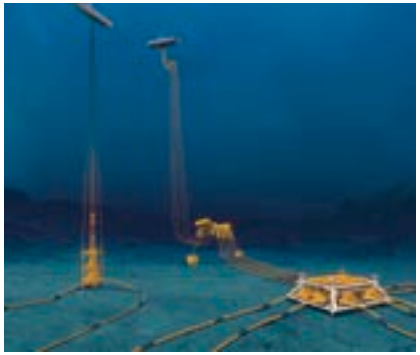
Simulated service tests have been carried out on these materials at the Heriot-Watt University in Edinburgh to analyse the properties of DW-512 when subjected to deep-water conditions with internal pipe temperatures up to 115°C (239°F).

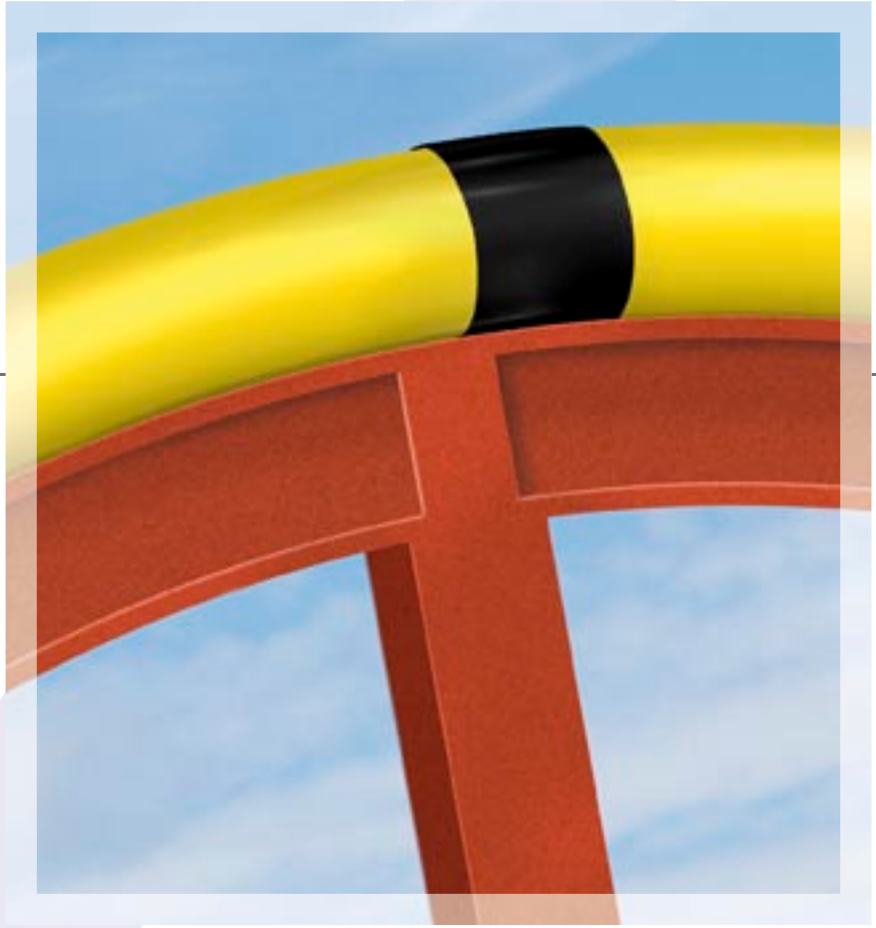
The results indicate:

- minimal change in thermal conductivity to ensure consistent insulation properties
- minimal change in coating thickness due to compression by hydrostatic pressure
- very low water absorption
- K value in the range of 0.13 – 0.165 w/m°K (0.075 - 0.095 Btu/ft.hr.°F)

Hyperlast pipeline materials offer many application advantages

- excellent adhesion to FBE
- excellent interfacial bond strengths with Dow Hyperlast field jointing systems
- capable of J-lay, S-lay and reel barge application.





FIELD JOINTING

HYPERLAST™ FJ

Polyurethane Elastomer

In addition to flowline protection, Dow Hyperlast polyurethanes have been used to produce in excess of 220,000 field joints both onshore and offshore. The fast curing times of Hyperlast jointing polyurethanes help to enable fast cycle times of as little as 5 minutes to be comfortably achieved.

Faster cycle times to suit faster lay conditions can be offered. Dow Hyperlast's products are compatible with polyurethanes and polypropylene parent coatings. Excellent bonds are achieved with suitable pretreatment of the parent coating. Please contact Dow Hyperlast for more details.

PU Rigid Foam

Dow Hyperlast also offer a proven range of rigid polyurethane foam systems for the in-field jointing of large diameter pipelines in conjunction with pipe-in-pipe and/or concrete weight-coated gas transmission lines.

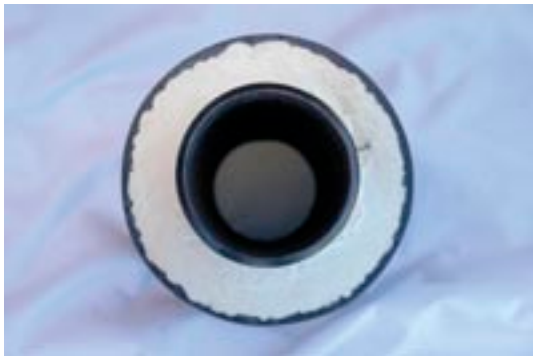
Photograph of 'Deep Blue' courtesy of Technip

HYPERLAST™ PUF

Dow Hyperlast polyurethane rigid foams comprise a range of systems formulated to suit a variety of pipeline situations.

These systems are available in a range of compressive strengths with various degrees of open/closed cell content to address the needs of typical applications such as onshore line-pipe insulation and field jointing, pipe-in-pipe insulation of sub-sea flowlines and field joint infill of concrete weight coated sub-sea pipelines.

Systems are available at different densities, with particular insulation characteristics according to the level and type of blowing agent included within the formulation. These systems are typically designed to be processed through high pressure meter mixing equipment for cast and spray applications.

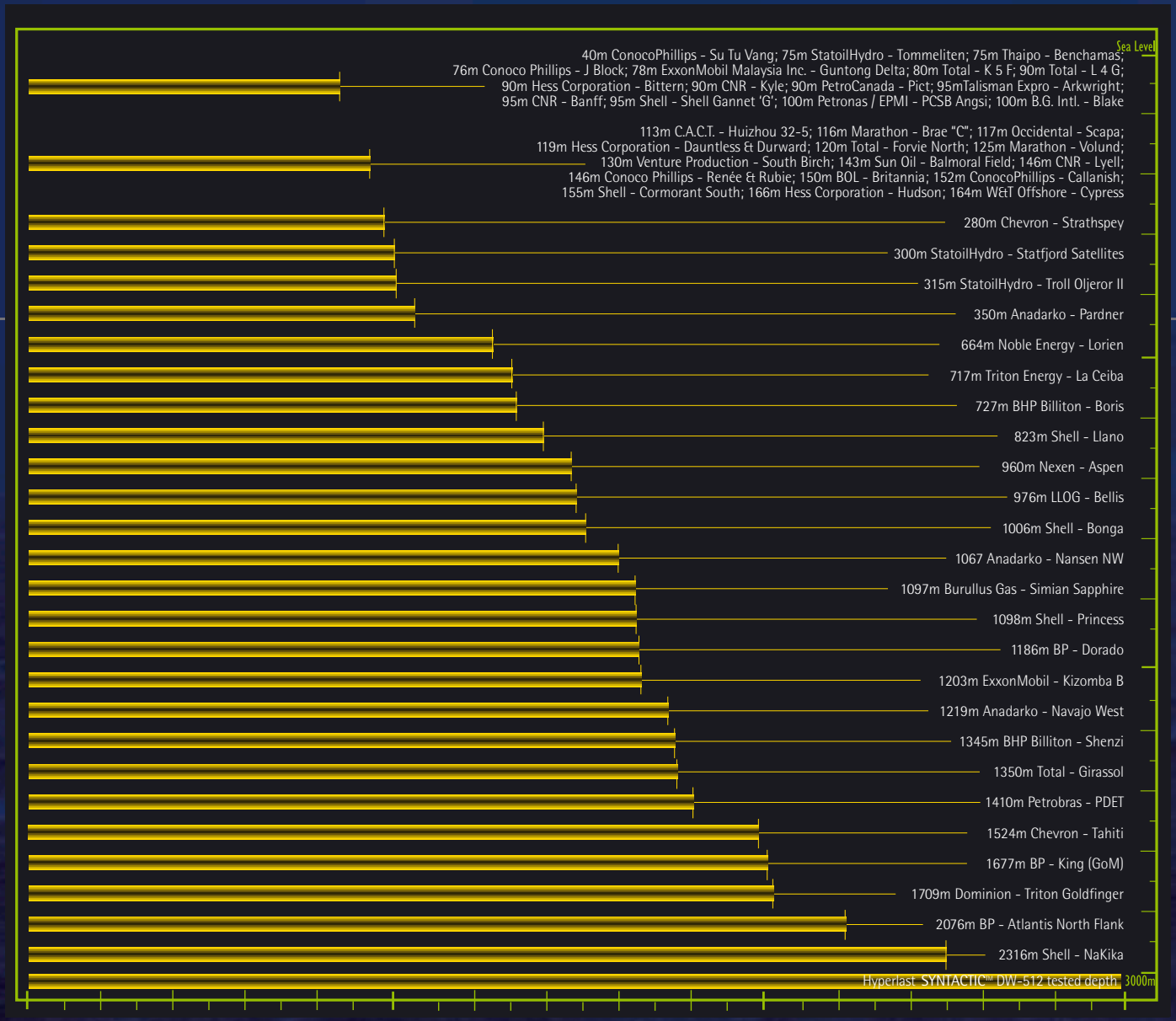


CUSTOM COATING

Custom Coating

To compliment the parent coat and field jointing system, Dow Hyperlast offers insulation systems for manifolds, risers, jumpers, spool pieces, xmas trees and related subsea architecture.

Dow Hyperlast two component liquid processable polyurethane systems readily lend themselves to the protection and thermal insulation of complex sub-sea architectures. Their inherent flexibility and processing characteristics makes them particularly useful for coating in situations where thermoplastic materials are difficult to apply and where adhesion to the metal surface is of paramount importance.



DOW®

Dow Hyperlast

Dow Hyperlast Depth of Experience

Over many years numerous offshore engineering projects and pipelines have benefited from the use of Dow Hyperlast polyurethane solutions to optimise the flow assurance capability of the overall installation. The particular insulation coating characteristics, flexibility of application and compatibility with installation unparalleled track record in the industry. Furthermore, our products are backed by the global logistical reach and technical service excellence of Dow Polyurethane Systems world-wide systems house network.

Hyperlast Pipe and Tank Solutions
engineering polyurethane excellence

This paper is
CarbonNeutral®

Designed and produced sustainably and using vegetable based inks. The paper contains 75% recycled fibre, produced at a local mill that holds the ISO14001 certificate resulting in an embedded carbon footprint of around 70% less than the typical UK paper stock, which has been offset appropriately. Please recycle or return after use.

Dow Hyperlast

Dow Hyperlast
Station Road, Birch Vale
High Peak, Derbyshire
SK22 1BR UK
T: +44 (0) 1663 746518
F: +44 (0) 1663 746605
E: help@dowhyperlast.com

www.dowhyperlast.com