



ULVA SHIELD

NON-METALLIC INSULATION CLADDING



ULVA SHIELD

Fully sealed system
reducing the risk of
corrosion under insulation

Fire resistance to BS 476
part 7 Class "1",
IMO A653 (16).

Easily installed single
application dry fix system
without the need of
specialist tools or skills -
Not dependant on
environmental conditions

Lloyds register of shipping
approval

Light weight

Low smoke and toxicity
emissions

Long life cycle

Our continuous product development programme has created a highly costeffective, world-leading, non-metallic thermal insulation cladding system - ULVA Shield. It's the ideal solution for protecting thermal and acoustic insulation systems, especially in exposed environments.

ULVA Shield is a 1-mm thick polymeric compound for application over thermal insulation to any pipe or vessel arrangement. The ULVA Shield system is rendered completely weatherproof with the use of ULVA Bond and ULVA Seal.

ULVA Shield is supplied in conveniently sized rolls, 20 metres long and either 500mm or 1000mm wide and is complemented with the use of ULVA pre-moulded fittings.

To ensure complete confidence and efficient installation, comprehensive fitting instructions and safety data sheets are provided. Additionally, approved applicator, training courses are available, professionally run by ULVA to ensure optimum applicator skill levels.



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EXAMPLES OF ULVA SHIELD INSTALLATIONS

BP/AIOC

SHAH DENIZ TPG 500, CENTRAL, AZERI, WEST AZERI, EAST AZERI, CENTRAL AZERI CWP, SANGACHAL ACG PHASE 1, SANGACHAL ACG PHASE 2 & SHAH DENIZ TERMINAL

TOTAL

DALIA FPSO

HUSKY

WHITEROSE FPSO

NEXEN

BUZZARD

BOL

BRITANNIA SATELLITES

BP/APACHE

FORTES A,B,C & D, WYTCH FARM, EASINGTON, SULLOM VOE, GRANGEMOUTH, MAGNUS, HARDING & BRUCE

SHELL (TERMINAL)

GOLDENEYE & SHEARWATER

SHELL (PLATFORM)

GOLDENEYE & ST.FERGUS

CONOCOPHILLIPS

THEDDLETHORPE TERMINAL

BP - ONSHORE TERMINAL

DIMLINGTON

EXXONMOBIL

CROMARTY, BERYL ULGA, BERYL BRAVO & SKENE

ELF

ELGIN FRANKLIN

BLUEWATER

BLEO HOLM FPSO

PETROCANADA

TERRA NOVA FPSO

HUNTSMAN (CHEMICAL PLANT)

C9 PROJECT NORTH TEES

BRITISH GAS

BG ECA

For further information on the range of sizes and options please contact...

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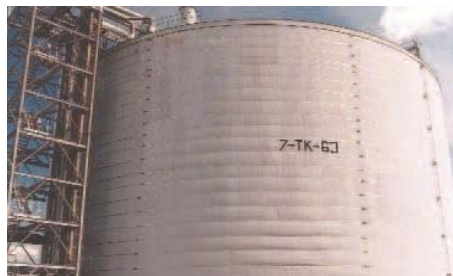
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Ulva Shield site-applied to complex spool, including multiple penetrations.



Ulva Shield, (moulded and site applied), to corrosion-protect a hub connector.



Ulva Shield cladding to propane storage tank 26m high X 55m diameter.



Ulva Shield applied to vessel at vendor fabrication yard prior to transit.



Ulva Shield site-fabricated, recessed penetration detail.



Ulva Shield and Ulva IJS applied to vendor metering skid.



Ulva Shield valve box details.



Ulva Shield, applied to vendor skid.

ULVAShield

Non-Metallic Insulation Cladding



Corrosion Under Insulation (CUI) is a very real threat to the Oil & Gas Industry. The risk of loss of integrity of pipelines and equipment is well understood in terms of both safety and financial cost. Rupture of hydrocarbon product lines from external corrosion can lead to explosion and fire therefore the risk must not be ignored.

Features of ULVAShield

- Flexible non-metallic cladding, with a high CSPE content
- Comprehensive range of moulded pipe fittings for ease & speed of installation
- Light weight
- Fully NORSOK compliant
- Cini & DEP compliant
- Resistant to foot traffic, reducing damage during construction and operations
- Suitable for ALL insulation types
- Fire resistant – tested over insulation
- 100% Weather proof
- Proven long life cycle

ULVA

ULVA INSULATION SYSTEMS LTD

COUNTERING CORROSION UNDER INSULATION (C.U.I)

ULVA Insulations Systems Ltd is a Global Leader in the field of non-metallic insulation cladding systems for combating corrosion under insulation, and has an unparalleled history as a manufacturer of high quality water proof cladding solutions to the oil, gas and petrochemical industry.



ULVASHield, a CSPE based flexible non-metallic cladding system, is a 100% water tight cladding for application over all forms of insulation materials. With an already proven in-field history approaching 20 years, no other water proof membrane can match the demonstrable life cycle benefits of ULVASHield.

With an unrivalled wealth of knowledge and practical experience ULVA can assist asset owners, design engineers, constructors and application contractors to deliver best practice CUI mitigation from specification through to on-site installation for on or offshore facilities worldwide.



ULVASHield is ideal for off-site modular fabrication, protecting high value equipment against water ingress right from the moment it is installed. Due to the flexible nature of the product the risk of damage in transit through movement and vibration is eliminated

In 2014 ULVA commissioned a brand new production line in order to meet the growing



demand for the ULVASHield system. Full in house production in accordance with BS EN 9001:2008 assures the quality of product supplied.

ULVASHield is suitable for various pipe work configurations, vessels and storage tanks.





ULVABond

ULVABond is a one component contact adhesive specifically formulated for application with the ULVASHield system. Brush applied to all overlapping surfaces of ULVASHield and/or ULVAForm ULVABond delivers a strong mechanical joint as the first fix of the system. ULVABond is supplied in 1 litre tins with a resealable lid. A trigger fed brush ULVABond Applicator Can is also available.

ULVASEal

Based upon an adhesive used to glue inspection windows into furnaces, ULVASEal has been developed to adhere well to ULVASHield.

ULVASEal is constantly rated for applications up to 250°C. Third party independent testing has demonstrated that ULVASEal has vastly superior UV and weathering resistance compared to most commercially available marine sealants and is therefore an essential component contributing to the longevity of the ULVASHield system.

ULVASEal is supplied in 400ml recyclable soft cartridges for use in the ULVASEal Applicator Gun. Pre-shaped cards are supplied free of charge by ULVA with ULVASEal to assist the applicator to quickly achieve a good aesthetic finish to the sealant beads.



Compliance

The ULVASHield system is fully compliant with the requirements of both NORSOK R004, and Cini and holds system certification from Lloyds Register of Shipping, The American Bureau of Shipping and the International Maritime Organisation.

ULVAForm

The ULVASHield system is complemented by a complete range of pre-formed fittings covering all sizes of bend, elbow, T-piece, branch and end cap etc.

ULVAForm fittings are manufactured from the same compound as ULVASHield sheet and are nominally 1mm thick. ULVAForm incorporates a standard 50mm overlap for joining by ULVABond and the flexibility to increase or decrease the overlap during application to achieve the best fit over the insulation.

ULVAForm substantially reduces application time in comparison to both metallic cladding and fabricated non-metallic cladding systems. The simplicity of two half shells and the reduced metreage of sealant required compared to fabricated fittings assists the applicator to achieve a quality water-tight application.



ULVAComposites

ULVA produces a range of composite systems with ULVASHield pre-applied to insulation. Composite systems further reduce application time at site with the insulation and cladding applied in a single action.

Systems available include cellular glass, mineral wool, PIR, PUR, phenolic foam, and several areogel blanket and pipe section systems.



For further information
on the range of sizes and
options please contact...

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TECHNICAL INFORMATION

Product reference	ULVA Shield II
Thickness	1mm Standard – up to 10mm on request
Roll size	20M x 1M Standard – other sizes available on request.
Weight	1.7 Kg / M2
Specific gravity	1.7 Nominal
Colour	Grey standard, other colours available upon request
Base polymer	Chlorosulfonated Polyethylene (CSPE)

TYPICAL PHYSICAL PROPERTIES

Operating temperature range	- 50°C to + 100°C	When in direct contact with substrate. High temperature termination details available for up to 500°C
Fire resistance	BS 476 Pt 7 ASTM E84 NFPA 274 IMO A 653 (16) Pt.5	Class 1 (tested over insulation) Class 1 Pass (tested over insulation) Pass
Smoke & toxicity	IMO MSC 61/67 Pt.2	Pass
Hydrostatic joint resistance	ASTM D5385	No Leakage at 70.4m
Water vapour permeability	BS EN 12086	0.0007g / (m2.h.mmHg)
Water vapour diffusion resistance	BS EN 12086	$\mu \geq 210000$
Weathering	ISO 20340	No loss of physical properties after 4,200 hours
Median tensile strength	ASTM D751	14.5 MPa Machine direction 13 MPa Across machine direction
Elongation at break	ASTM D751	>200% Machine direction >500% Across machine direction
Lap shear strength	ASTM D 751	> 50 kPa
Puncture resistance	ASTM D751 – 06	110 N
Shore A hardness	BS ISO 7619-1 : 2010	82.5
Fungal resistance	ASTM C 1338 – 08	No growth
Leachable Chloride	ASTM C 871-11	3mg/Kg

