



# ULVA SEAL

## SINGLE PART MASTIC SEALANT



**ULVA SEAL** is a single part, cartridge applied, mastic sealant adhesive for use with ULVA Shield II, ULVA Mineral PC & ULVA Flex PC.

<i>Coverage Rate</i>	<i>16M<sup>2</sup> of bonded area per litre</i>
<i>Service Temperature</i>	<i>- 50 °C to 150 °C</i>
<i>Storage Temperature</i>	<i>5 °C to 30 °C</i>
<i>Cartridge Size</i>	<i>300ml</i>

**ULVA Ltd.,**  
**Unit H, Horton Enterprise Park, Hortonwood 50,**  
**Telford, Shropshire TF1 7GZ**  
**Tel + 44 (0) 1952 676 025**  
**Fax + 44 (0) 1952 676 026**  
**Email [sales@ulva.co.uk](mailto:sales@ulva.co.uk)**      **Web [www.ulva.co.uk](http://www.ulva.co.uk)**



# ULVA SHIELD

## NON-METALLIC INSULATION CLADDING

### ULVASEAL

#### APPLICATIONS

UlvaSeal is a 1 component silicone based product for sealing of Ulvashield membrane joints and around penetrations including areas where high temperature resistance is required.

#### PROPERTIES

UlvaSeal is a 1 component non-sagging material based on silicon. Curing takes place by a chemical reaction with humidity from the air while Methylisobutylketoxime is released. After curing the product is inodorous. The product is fast to light, resistant to ageing and ozone and reveals a very good chemical resistance.

#### TECHNICAL DATA

Colour	Grey (others on request)
Spec. gravity acc. To DIN 53479	1.07g/cm <sup>3</sup>
Composition	pasty, non sagging
Processing temperature	+5°C up to +40°C
Temperature resistance	up to 250°C
Film formation (at 23°C/50%r.h.)	10 mins
By-product of curing	Methylisobutylketoxime
Hardness (shore A) acc. DIN 53505	40°
Tensile strength/elongation at break (cross section 750mm <sup>2</sup> , layer thickness 1.5mm)	1.0MPa/200%
Listing acc. To UL94	File No. 107866

**PACKAGING** 400ml foil-packs / 25 pcs.  
Per carton Other sizes upon request

**SHELF LIFE** Up to 12 months in dry rooms between +5°C and 25°C

#### BEHAVIOUR UNDER TEMPERATURE

UlvaSeal should not be subjected to temperatures in excess of 40°C until fully cured.

#### BONDING WITH ULVASEAL

UlvaSeal is developed specifically for bonding to ULVASHIELD and associated pipework. Surfaces should be clean, free of grease and dry. ULVA CLEANING SOLVENT should be used to prepare contaminated areas of ULVASHIELD prior to application.

Unique applications might require specific pre-treatment and can be tested by Ulva's Technical department.

#### SAFETY INSTRUCTIONS

Please observe the notes given in the safety data sheet. Should UlvaSeal be applied in confined spaces, ensure adequate ventilation at all times. Material Safety Data Sheet (in accordance with 91/155/EWG) is available on request.

#### Important Note:

The above recommendations are made in good faith for the guidance of users and are without liability. Any queries should be referred to our Technical Services Department.

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

#### ULVA INSULATION SYSTEMS LIMITED

Hortonwood 31,  
Hortonwood Industrial  
Estate, Telford, Shropshire  
TF1 7GS

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# ULVA SHIELD

## Non-Metallic Insulation Cladding



### ULVA SHIELD :

Fully sealed system  
reducing the risk of  
corrosion under insulation

Fire resistance to BS 476  
Part 6 Class 'O', & 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 cost-effective, 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.



# ULVA SHIELD

## Non-Metallic Insulation Cladding

### EXAMPLES OF ULVASHIELD INSTALLATIONS

**BP/AIOC - PLATFORM**  
 SHAH DENIZ TPG 500  
 CENTRAL AZERI  
 WEST AZERI  
 EAST AZERI  
 CENTRAL AZERI CWP  
**BP/AIOC - ONSHORE TERMINAL**  
 SANGACHAL ACG PHASE 1  
 SANGACHAL ACG PHASE 2  
 SHAH DENIZ TERMINAL  
**TOTAL - FPSO**  
 DALIA FPSO  
**HUSKY - FPSO**  
 WHITEROSE FPSO  
**NEXEN - PLATFORM**  
 BUZZARD  
**BOL - PLATFORM**  
 BRITANNIA SATELLITES  
**BP/APACHE - PLATFORMS (4)**  
 FORTIES A,B,C & D  
**SHELL - PLATFORM**  
 GOLDENEYE  
 SHEARWATER  
**SHELL - ONSHORE TERMINAL**  
 GOLDENEYE  
 ST.FERGUS  
**CONOCOPHILLIPS - ONSHORE**  
 THEDDLETHORPE TERMINAL  
**BP - ONSHORE TERMINAL**  
 DIMLINGTON  
**EXXONMOBIL - ONSHORE**  
 TERMINAL  
 CROMARTY  
**ELF - PLATFORM**  
 ELGIN FRANKLIN  
**BLUEWATER - FPSO**  
 BLEO HOLM FPSO  
**PETROCANADA - FPSO**  
 TERRA NOVA FPSO  
**HUNTSMAN - CHEMICAL PLANT**  
 C9 PROJECT NORTH TEES  
**BRITISH GAS - PLATFORMS (2)**  
 BG ECA

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

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 Hortonwood 31,  
 Hortonwood Industrial  
 Estate, Telford, Shropshire  
 TF1 7GS

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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



# ULVA SHIELD

## Non Metallic Insulation Cladding

### ULVASHIELD TECHNICAL DATA

PROPERTY	TEST METHOD	TYPICAL VALUES
Nominal Thickness	-	1mm ( $\pm 10\%$ )
Glass Scrim	-	6.9 x 3.2
Breaking Strength - lbs force	ASTM D 751 - Grab method	200
Tongue Tear - lbs force	ASTM D 751 - Modified sample	60
Mullins Burst - PSI (Hydrostatic resistance)	ASTM D 751 - Method A	375
Puncture Resistance - lbs force at 20°C	FTMS 101 - B Method 2031	200
Low Temp Resistance -	ASTM D 2136	-30°F No Failure
Brittleness -	ASTM D 746 Procedure B	-45°F No Failure
Dimensional Stability - (per cent)	ASTM D 1204 - 54 2 hrs 160°F/1 hr 212°F	2
Ozone Resistance	ASTM D 1149 - 3PPM At 30% strain at 104°F for 70 hrs	No cracks visible under x7 magnification
Water Absorption (per cent weight gain)	ASTM D 471 (14 days at 70°F)	3
Density	BS903 part 1 (Black unreinforced membrane)	1.7g/cc max
Ply Adhesion - lbs/inch	ASTM D 413 - Machine method	8
Accelerated weathering (Carbon-arc)	ASTM D 750	10,000 hours No chalking, cracking, crazing No loss of flexibility
Artificial weathering (5000 hours = 15 years approx)	5000 hours under Xenon weather-ometer	Very slight crazing under x21 magnification
WVT - Water Vapour Transmission	ASTM E 96 Method BW (no 2) (7 day)	0.75g/M2/24hrs
Linear co-efficient of Thermal expansion	ASTM D 864	20 x 10 <sup>-5</sup> per °C
Flame Resistance	BS 476 Part 7 BS 476 Part 6 IMO MSC 61 (67) 1996 - part 5	Class 1 Class 'O' Pass *
Conversion factors:	lbs x 4.45 = Newtons lbs x 2.2046 = Kilos -30°F = -34°C -45°F = -42°C	70°F = 21°C 104°F = 40°C 160°F = 70°C 212°F = 100°C

FOR FURTHER INFORMATION ON THE RANGE OF SIZES AND OPTIONS PLEASE CONTACT.

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\*INTERNATIONAL MARITIME ORGANISATION - TEST RESULTED IN CLASSIFICATION FOR USE ON BULKHEADS, CEILINGS AND DECK FINISH MATERIALS - THIS IS THE BEST RATING AVAILABLE FROM THIS TEST.



# ULVA BOND

## SINGLE PART CONTACT ADHESIVE



**ULVA BOND** is a single part, brush applied, non flammable contact adhesive for use with ULVA Shield II, ULVA Mineral PC & ULVA Flex PC.

<i>Coverage Rate</i>	<i>2.2M<sup>2</sup> of bonded area per litre</i>
<i>Service Temperature</i>	<i>- 50 °C to 150 °C</i>
<i>Storage Temperature</i>	<i>5 °C to 30 °C</i>
<i>Tin Size</i>	<i>1 litre</i>

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# ULVA SHIELD

## NON-METALLIC INSULATION CLADDING

### ULVABOND

#### PHYSICAL CHARACTERISTICS:

Appearance	Translucent Yellow/Brown Liquid
Base	Polychloroprene/ Phenolic
Viscosity	5000 - 6000cps
Solid Content	15%
Specific Gravity	1.39
Flammability	None
Diluent	Ulva Solvent/Activator
Cleaner	Ulva Solvent/Activator
Shelf Life (Under Recommended Storage Conditions)	12 months

#### RECOMMENDED USAGE:

UlvaBond is designed for bonding of UlvaShield weatherproofing membrane by brush application.

Ensure UlvaShield surfaces to be bonded are adequately prepared and clean. Apply UlvaBond Adhesive to both surfaces and allow drying for between 2 to 10 mins when making a cold contact bond (touch dry), apply even pressure by roller or press firmly and evenly by hand. When bonding to substrates, some absorbent materials may require two coats of adhesive. Where the adhesive has been coated out and left to dry fully, heat activation will be required in order to achieve successful bonding. Suggested temperature for heat activation of between 70°C to 80°C. Press at 80 psi for approximately 15 seconds. Where no "hot work" is permissible, overcoat existing cured layer or remove existing material with solvent.

#### PRECAUTIONS IN USE:

**Important:** For full details please refer to the separate Material Safety Data Sheet for this product.

#### ENVIRONMENTAL AND WASTE ISSUES:

Dispose of excess material, residues and containers according to Local Authority guidelines. Solvent Based residues should be disposed of as hazardous waste.

#### STORAGE:

Store between 5°C and 25°C in sealed containers in designated areas. Rotate stock - use oldest material first.

#### IMPORTANT NOTE:

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