Alderprufe HC Geomembrane (hydrocarbon)

- Suitable for use on hydrocarbon contaminated sites
- High Puncture & Tear Resistance
- Excellent Chemical Resistance
- Excellent Welding Properties
- Low Permeability to Hydrocarbon Gases

Description

Alderprufe HC Geomembrane is a high quality single layer HDPE membrane and is suitable for use as a barrier membrane on brownfield sites that require protection from dangerous contaminants such as hydrocarbons and methane, together with excellent damp proofing characteristics.

Application

Alderprufe HC Geomembrane has a proven track record as a barrier membrane on gas contaminated and hydrocarbon contaminated brownfield sites.

Alderprufe HC Geomembrane combines strength with flexibility enabling high levels of stress/crack resistance to be achieved together with excellent bi-axial load absorption characteristics. Due to its high puncture and impact resistance HC Geomembrane generally requires no protective screed or boarding when laying reinforced concrete above it.

Alderprufe HC Geomembrane has been designed to exhibit superior welding properties when compared to conventional materials. High quality welding can be performed in a wide range of climate conditions. The material can be welded with one of three welding systems,

- Hot Edge Welding
- Air Welding
- Extrusion Welding

Material Specification

Alderprufe HC Geomembrane can be manufactured in a range of sizes to suit individual applications; standard rolls are also available and the membrane can also be prefabricated into panels prior to installation. Alderburgh strongly advise the use of the following components when installing the membrane

Alderburgh Limited
Sladen Mill, Halifax Road , Littleborough OL15 OLB
For Further Assistance Contact our Sales Office on
Tel: 01706 374416 Fax: 01706 376785

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HC Geomembrane: 1mm x 1.2m x 30m (36m^2) Standard Roll

Pre-formed Top Hat Units: For sealing around service pipe penetrations

HC DPC: 600mm / 700mm x 20m Roll. A flexible DPC designed to prevent the transmission of hydrocarbon gases through the cavity.

Pre-formed DPC Internal and external Corner Units: To form an effective seal at corners.

Installation

Installation Details

Alderprufe HC Geomembrane is designed to exhibit superior welding properties therefore we recommend factory welding or on-site welding methods of jointing when the membrane is to be installed below a ground floor construction.

In certain applications where the membrane is to be installed above a suspended in-situ concrete slab or block and beam suspended floor, the sealing of laps can be achieved using the HC Jointing system. In these instances Alderprufe HC Jointing Tape should be applied approximately 50mm from the edge. The next width of Alderprufe HC Geomembrane should then be overlapped. For effective protection all laps must be a minimum of 100mm. Always ensure that the membrane is clean, dust free and dry at the time of jointing.

Alderprufe HC Geomembrane and ancillary components must be installed in accordance with the recommendations of Building Research establishment BRE 414 "Protective measures for housing on gas contaminated land", Ciria Report 149 "Protecting development from methane", together with codes of practice CP102 and BS 8102.

Alderprufe HC Membrane should be installed on a blinded or smooth surface allowing adequate overlap for jointing between the sheets and avoiding bridging, i.e. areas of unsupported membrane. A final floor covering should be installed above it and care should be taken to ensure the membrane is not damaged prior to this.

To avoid slip or shear planes it is not recommended to take membranes through the wall. In order to provide a continuous barrier across the cavity Alderprufe HC DPC should be sealed to the membrane, taken through the blockwork, up the wall and incorporated below the damp proof course on the outer leaf.

Alderprufe HC DPC should be installed in accordance with BS 8215: 1991, BS 8000: Part 3, 1989 and BS 5628: Part 3: 1985. All horizontal DPCs must be bedded on both sides with fresh mortar. All DPCs must project through the full width of the wall, including any externally applied rendering and project 5mm beyond the finished external face.

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Please contact the Alderburgh Technical Support Team for more information

Technical Support

Due to the wide variety of hydrocarbon contaminants found, we strongly recommend the use of the Alderburgh Ltd Technical Support Team at an early design stage so that the most appropriate detailing and material specification are adopted.

Typical Properties	
Density (ASTM D1505)	1mm: 941kg/m^3 +/- 1% / 1.5mm: 941kg/m^3 +/- 1%
Thickness (BS2782-630A Av.across roll width)	1mm: +/- 5% 1.5mm: +/- 5%
Melt Flow Index (ASTM D1238	1mm:<0.5gm/10 minutes 1.5mm:<0.5gm / 10 minutes
Unaged Tensile (Mpa)	1mm: 31.2 1.5mm: 29.3
Unaged Elongation (%)	1mm: 860 1.5mm: 845
Unaged instrument Impact (N)	1mm: 2220.1 1.5mm: 3357.5
Tear Strength (N/mm)	1mm: 156.8/145.6 1.5mm: 1498.1/156.5
Petrol Permeability (g/m^2/hr)	1mm: 7.0 1.5mm: 3.8
Diesel Permeability (g/m^2/hr)	1mm: 14.8 1.5mm: 1.7
Aged (Petrol) Tensile Strength (Mpa)	1mm: 32.65 1.5mm: 26.4
Aged (Petrol) Elongation @ break (%)	1mm: 925 1.5mm: 805
Aged (Diesel) Tensile Strength (MPa)	1mm: 29.2 1.5mm: 30.4
Aged (Diesel) Elongation @ break (%)	1mm: 780 1.5mm: 835
Methane Permeability (m^2/sec/Pa)	1mm: 8.61 x 10-18 1.5mm: 7.96 x 10-18
Methane Permeability (cc/m^2/day/bar)	1mm: 76.2 1.5mm: 46.0
Methane Permeability (cc/m^2/hr)	1mm: 3.2 1.5mm: 1.95

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