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REFURBISHMENT OF ROOFS



Expo Hannover pavilion "Der Grüne Punkt"

RENOLIT WATERPROOFING

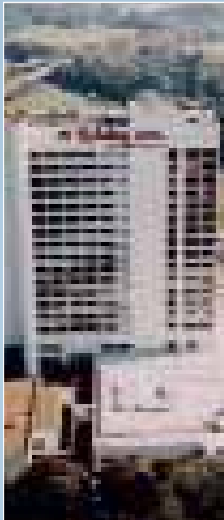
EXCELLENCE IN ROOFING



REFURBISHMENT OF FLAT ROOFS



Project: Heyde Palace, Brussels, Belgium, 1985, 1990
Product: AquaPlan F (Mechanical Fastening, 70,000 sqm) Old waterproofing: Bitumen



Project: Holiday Inn hotel, Antwerp, Belgium, 1995
Product: AquaPlan F (2,400 sqm) Old waterproofing: Bitumen

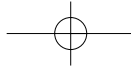
RENOLIT WATERPROOFING is specialised in the production of synthetic single ply waterproofing membranes

for roofs, garden ponds, swimming pools, civil engineering and damp proof membranes.

During the last 30 years, **RENOLIT WATERPROOFING** have produced more than 200 million square meters of membranes for waterproofing applications in all types of climatic conditions.



Project: Aquaine Siles Cesta, France, 1991, 1995
Product: AquaPlan F (Mechanical Fastening, 2,000 sqm)
Old waterproofing: Bitumen



THE PRODUCT RANGE



Project: North Entry Echna, UK, 2006
Product: AlkorPlan A (Adhered, 800 gsm)
Old waterproofing: bitumen



Project: Metro Etc. - Metro Group
Product: AlkorPlan A (Adhered, 50,000 sqm)
Old waterproofing: bitumen

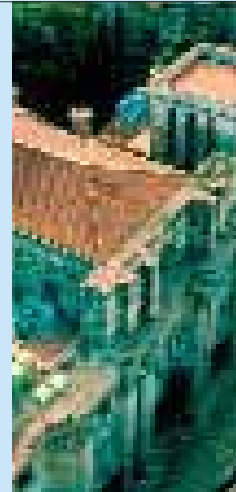


Project: Nestlé Waters France - Penier
Bicorne (Veigbe, France, 2002-2001)
Product: AlkorPlan A (Adhered, 18,500 sqm + 19,700 sqm)
Old waterproofing: bitumen

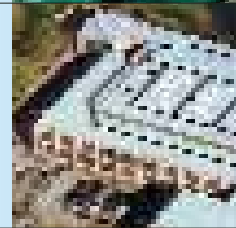
THE PRODUCT RANGE

RENOLIT WATERPROOFING produces two membranes types suitable for the refurbishment of roofs:

- AlkorPlan® (made of PVC-P): experience and proven quality in synthetic membranes.
- AlkorFlex® (in modified PE): flat roof membranes with enhanced safety.



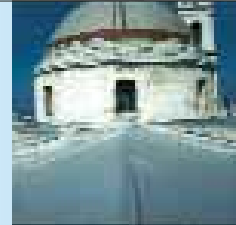
Project: Torosa Cathedral (Teragona, Spain, 1998)
Product: AlkorPlan® (Under Ballast, 3,000 gsm)



Project: Ever House (Oxford, UK)
Product: AlkorPlan® A (Adhered, 3,500 gsm)
Old waterproofing: bitumen

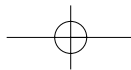


Project: Monasteri Abbay (Monasteri de Montserrat, Spain, 2000)
Product: AlkorPlan® A (Adhered, 1,500 gsm)
Old waterproofing: bitumen



Project: Bari Cathedral (Bari, Italy, 1980)
Product: AlkorPlan® A (Adhered, 3,000 gsm)
Old waterproofing: bitumen

EXCELLENCE IN ROOFING



ADVANTAGES OF SYNTHETIC MEMBRANES



Project: Sint Joseph Hospital (Mons, Belgium, 1992)
Product: AlkorPlan® A (Adhered, 3,500 sqm)
Old waterproofing: bitumen

Advantages of synthetic membranes compared to the "traditional" bituminous waterproofing solutions:

- Light weight : the membranes half the cost of bituminous membranes
- Reduced Fire Risk : seams are welded without the use of naked flame.
- Increased speed of installation : one single 30 m² roll replaces up to 3 bituminous rolls.
- High vapour permeability : AlkorPlan® membranes have the capability to breathe much more easily than traditional bituminous systems (μ ld up to 20 times lower!!).

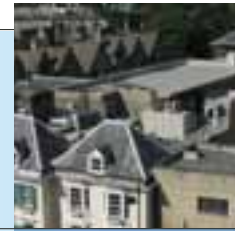
Consequently the removal of the old waterproofing system prior to renovation may be unnecessary.

- **RENOLIT WATERPROOFING** membranes benefit from a 10 years manufacturers guarantee.
- Ability to install over old bituminous waterproofing systems, with or without a separation layer depending on the membrane used.

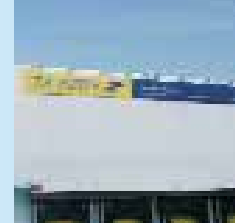
Project: Eurolille, Lille, France, 2000-2001
Product: AlkorPlan® F (Mechanical fastening, 35,000 sqm)
Old Waterproofing: Bitumen



Project: Chassé Theatre Breeda, The Netherlands, 2002
Product: AlkorPlan® F (Mechanical fastening, 1,500 sqm)
Old waterproofing: Synthetic



Project: Blackwell's Library (Oxford, UK), 2002
Product: AlkorPlan® F (Mechanical fastening, 300 sqm)
Old waterproofing: bitumen



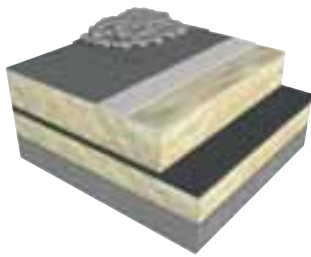
Project: Fodda sort-out center (Bordeaux, France), 2002
Product: AlkorPlan® F (Mechanical fastening, 6,000 sqm)
Old waterproofing: bitumen

The renovation systems

The most commonly used systems for the refurbishment of old bituminous roofs without the removal of the old waterproofing medium are:

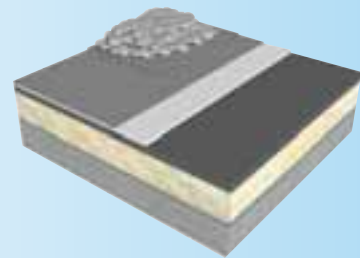
For ballasted roofs:

With extra insulation



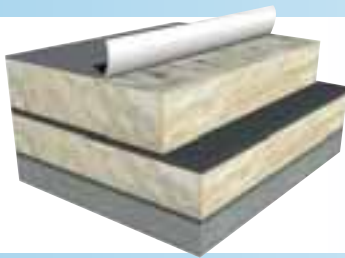
- Ballast
- Protection layer AlkorPlus® 81005/AlkorPlan® 35121 (if required)
- Waterproofing membrane AlkorFlex® L, AlkorPlan® L
- Separation layer (AlkorPlus® 81001 on EPS or PUR insulation, AlkorPlus® 81005 on bitumen surfaced insulation boards) (only on AlkorPlan®)
- Insulation
- Old bitumen/vapor control layer

Without extra insulation



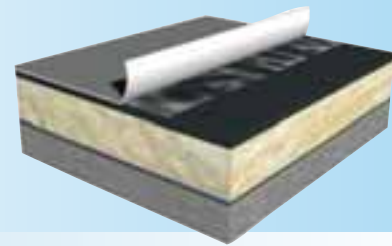
For non-ballasted roofs on a concrete structure:

With extra insulation



- Waterproofing membrane AlkorPlan® A,
- Insulation
- Old bitumen/vapor control layer

Without extra insulation



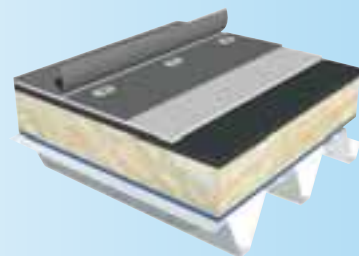
For non-ballasted roofs on a wooden structure or on steel deck:

With extra insulation

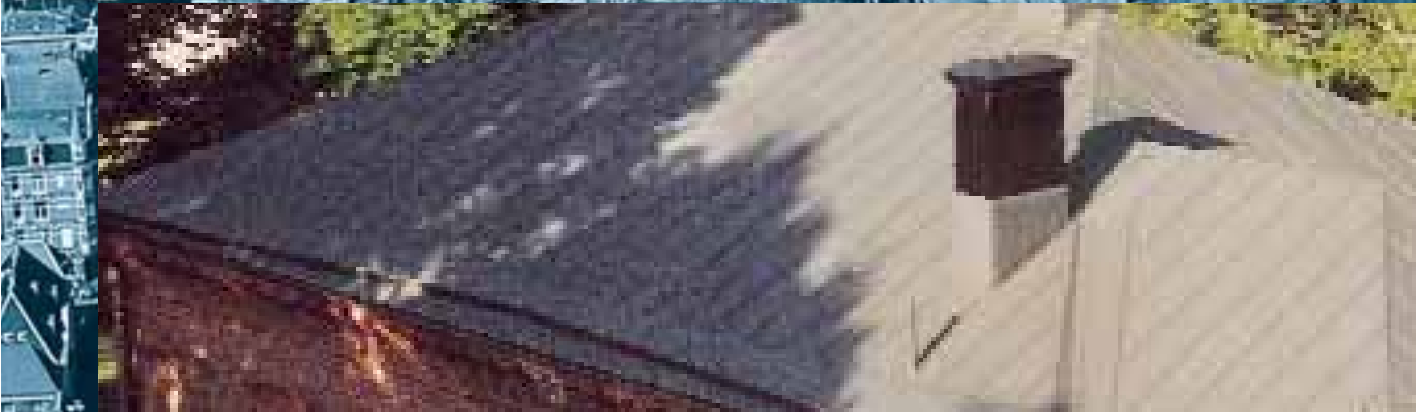


- Waterproofing membrane AlkorFlex® F, AlkorPlan® F, mechanically fixed
- Separation layer (AlkorPlus® 81001 on EPS or PUR insulation, AlkorPlus® 81005 on bitumen surfaced insulation boards) (only on AlkorPlan®)
- Insulation
- Old bitumen/vapor control layer

Without extra insulation



EXCELLENCE IN ROOFING



METAL ROOF REFURBISHMENT



Project: Doctor's private cabinet and psychiatric hospital
(Stockholm, Sweden, 2000)
Product: AlkorDesign (150 sqm)
Old waterproofing: zinc

The AlkorPlan Profile System combines the appearance of an aluminium, lead, zinc or copper roof with the advantages of AlkorPlan® synthetic waterproofing membranes.

The AlkorPlan® Profile System consists of 2 elements:

- AlkorPlan® F mechanically fastened
- Extruded AlkorPlan® PVC-P profiles, hot air welded to the roofing membrane.

The AlkorPlan Profile system avoids many of the disadvantages of metal roofing systems.

- **Cost-effectiveness:** the AlkorPlan Profile System can generate important reductions in the cost of the system and the cost and weight of the roof structure - more than 40% in some of the more complex cases.

• **Shorter Installation time:**

- Fixing without sliding clamp nails or distribution plates
- Neater, integrated detailing
- Hot air welding

• **Less demanding for the structure:**

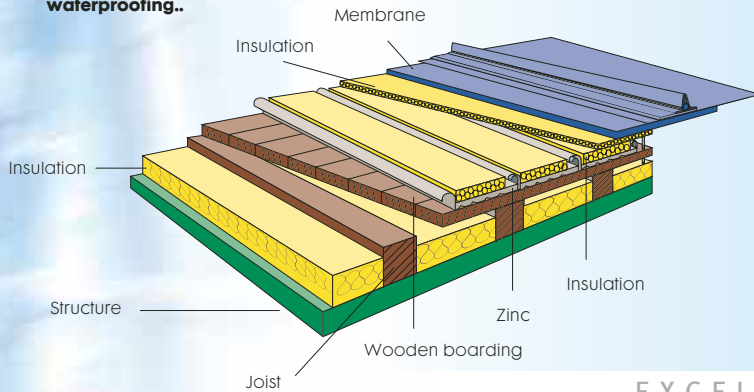
- The vapour permeability of the membrane reduces the risk of condensation and avoids ventilation problems.
- Thanks to the flexibility of the AlkorPlan® waterproofing membranes, they may be easily installed on all geometric shapes of roofs.

- **Limited Weight:** The AlkorPlan® waterproofing membranes weigh no more than 1,8kg/m² (1,5mm thickness), this allows savings to be made on the roof structure.

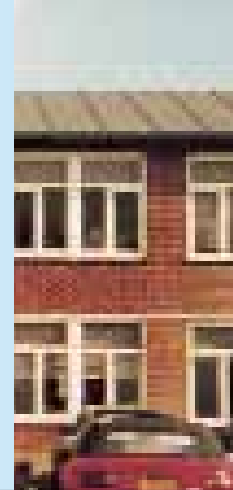
- **Limited maintenance:** in general, a visual inspection and a simple cleaning of the gutters and the outlets is sufficient.

Furthermore, in case of refurbishment, the old metal waterproofing needn't be removed if the mechanical properties allow it. This will keep the roof refurbishment costs low.

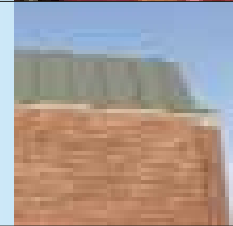
Example of the refurbishment of an old, metal roofing system with maintenance of the old waterproofing..



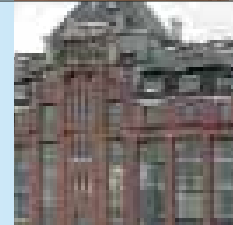
Project: Lowers office "Troopack" (Amsterdam, The Netherlands, 1998/1999)
Product: AlkorDesign (5.000 sqm)
Old waterproofing: zinc



Project: Weigand Struelli Sawdon
(Maastricht, The Netherlands, 2000)
Product: AlkorDesign (1.000 sqm)
Old waterproofing: zinc

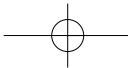


Project: Peterhead Academy
(Peterhead, Scotland, 2000)
Product: AlkorDesign (10.000 sqm)
Old waterproofing: bitumen



Project: Slios (Amsterdam, The Netherlands, 2000)
Product: AlkorDesign (7.000 sqm)
Old waterproofing: zinc

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RENOLIT WATERPROOFING

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The British Board of Agreement have assessed the life expectancy of AlkorPlan® to be in excess of 25 years.



AlkorPlan® roofing products and Systems have a standard guarantee of 10 years, and are installed by approved contractors and installers who are trained and assessed by Alkor Draka.



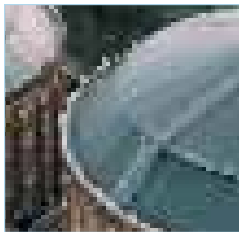
All **RENOLIT WATERPROOFING** membranes for roofing are part of the RoofCollect® collection and recycling programme.



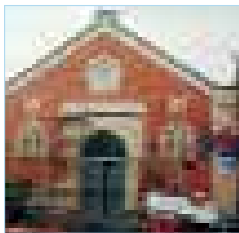
RENOLIT WATERPROOFING is responsible for the roofing activity and has been approved to EN ISO 9001:2000.

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Project: Gar containers (Stockholm, Sweden, 1993)
Product: AlkorPlan® F (mechanical fastening, 3,500 g/m)
Old waterproofing: bitumen



Project: Arenas van Vrijzen (Gent, Belgium, 1997)
Product: AlkorPlan® A (Adhesive, 1,500 g/m)
Old waterproofing: Bitumen



RENOLIT WATERPROOFING: EXCELLENCE IN ROOFING

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