

# Combo Roof Plus

## A Built-Up Roofing system

A comprehensive roofing system comprising of waterproofing, thermal insulation, and finishing, suitable for all types of flat roofs.

### DESCRIPTION

Combo Roof Plus presents a modern solution that redefines roofing with its unique blend of functionalities. This innovative built-up roofing system is meticulously engineered to revolutionize the concept of roofing, offering a comprehensive blend of waterproofing, thermal insulation, UV protection, and elevated solar reflectance index (SRI > 95%). Its versatility makes it suitable for all flat roof types, from residential to commercial settings. The use of polyurethane foam in the system contributes to an improved U-value, enhancing thermal efficiency and reducing energy consumption in structures. The system aligns with the standards of Dubai Central Laboratory (DCL) and is marked with ASTM C-1029 compliance for rigid cellular spray polyurethane foam. The thermal properties, including K-value and resistance, are certified by the Dubai Central Laboratory (DCL).

### USES

Combo Roof Plus can be installed on all types of flat roofs, including residential villas and commercial buildings.

### MATERIALS

#### Polyfoam SS45

A two-component spray-applied polyurethane foam system based on polyol and polymeric MDI. Within the Combo Roof system, Polyfoam serves as the thermal insulation layer and creates a seamless, monolithic barrier against water vapor and air.

#### Polyflex Combo

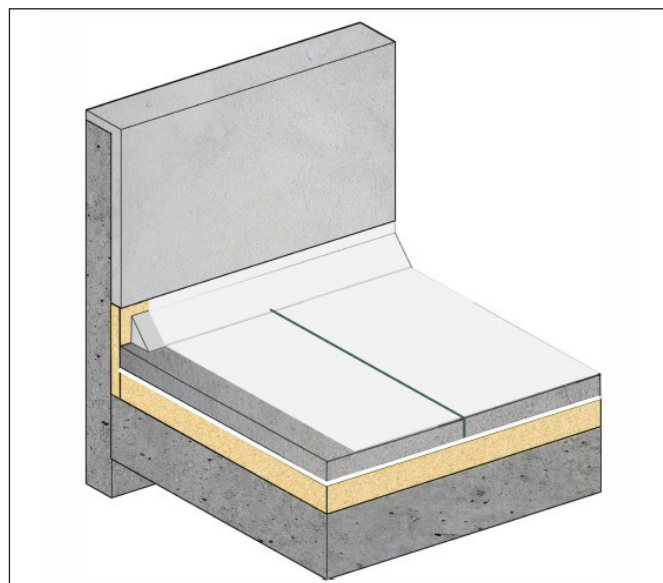
A two-part acrylic-modified elastomeric cementitious protective coating against water vapor, ingress of chloride ions, attacks of acidic gases, and alkalis. Polyflex Combo exhibits good adhesion to the Polyfoam surface and high durability against long-term weathering effects and UV exposure. It cures to form a tough, yet flexible coating with excellent waterproofing properties.

#### Geo Textile

A non-woven polyester fabric intended to serve as both a separation layer between products and as reinforcement to enhance puncture resistance.

#### Polyboard

A compressible bitumen-impregnated fiber board made from natural wood fibers, offering excellent recovery, for use in joints when fixing ridges in panels.



#### Screed Concrete

A protective fiber-reinforced screed concrete layer, laid at a slope of 1:150, with a minimum thickness of 45mm.

#### Polyrod

A closed-cell, flexible, non-absorbent, and chemically inert polyethylene rod designed for use as a compressible joint backing material for Polyseal PS PG

#### Polyseal PS PG

A two-component pourable, self-leveling polysulphide resin-based joint sealant. It is used in horizontal joints between screed panels to provide a permanent and uniform watertight seal, displaying excellent resistance to fatigue and mild chemicals.

#### Rushbond PVA

A polyvinyl suspension used as a surface sealer, bonding agent, admixture for cement and mortar.

#### Polycryl PF

A single-component acrylic waterproofing and protective coating with outstanding resistance to water and moisture. It is specially designed for roof coating applications with a high solar reflectance (SRI > 95%). Once cured, Polycryl PF forms a tough, flexible, and durable coating layer that exhibits exceptional resistance to UV rays and other weathering agents

## CLEANING & DISPOSAL

All disposal practices must be in compliance with all local laws and regulations. Please refer Material Data Sheet for cleaning of equipment & tools.

## SHELF LIFE

Store the product in a cool, dry place away from heat and sunlight. In tropical climates, store it in air-conditioned rooms. Refer to the Material Data Sheet of each individual material for shelf life and storage recommendations. Excessive exposure to sunlight, humidity, and UV rays will deteriorate the products quality and reduce its shelf life. .

## HEALTH & SAFETY

As with all construction chemical products, caution should always be exercised. Protective clothing such as gloves and goggles should be worn. Treat any splashes to the skin or eyes with fresh water immediately. Should any of the products be accidentally swallowed, seek medical assistance immediately.

## TECHNICAL SPECIFICATION

### POLYFOAM SS45 (SPRAY APPLIED POLYURETHANE FOAM: WATERPROOF INSULATION)

PROPERTIES	VALUES
Grade	Spray
Final density, [kg/m <sup>3</sup> ]	40 to 50
Compressive strength, [kpa]	≥300
Tensile strength, [kpa]	≥320
Thermal conductivity @ 25°C, [W/(mk)]	0.023
Closed cell content, apparent vol, [%]	>95
Water vapor transmission, [perm-inch]	2
Water absorption, per cm <sup>2</sup> [gm/cc]	0.07
Shelf life, [months]	6

### POLYFLEX COMBO (ACRYLIC MODIFIED ELASTOMETRIC CEMENTITIOUS WATERPROOFING AND PROTECTIVE COATING)

PROPERTIES	VALUES
Grade	Brush Applied
Color	Beige
Mixed density, [g/cc]	1.4±0.05
Tensile strength, [N/mm <sup>2</sup> ]	3.5
Elongation, [%]	>250
Adhesion to PU Foam, [N/mm <sup>2</sup> ]	>1
Abrasion resistance, [gms]	<50
Hydrostatic pressure @5 bar	

[50m]	No leakage
Crack bridging ability, [mm]	>1
VOC, [g/L]	<50
Shelf life, [months]	12

### GEO TEXTILE (NON-WOVEN POLYESTER SEPARATION LAYER)

PROPERTIES	VALUES
Grade	Filter Membrane
Color	White
Mass	120
Thickness, [mm]	1.2
Elongation, [%]	50

### POLYBOARD (BITUMEN IMPREGNATED COMPRESSIBLE FIBRE FILLER BOARD)

PROPERTIES	VALUES
Grade	Joint filler board
Density, [kg/m <sup>3</sup> ]	>220
Maximum extrusion at 50% compression, [mm]	<1
Recovery at 50% Compression, [%]	>70
Compression at 50%, [psi]	>100
Bitumen content, [%]	10

### SCREED CONCRETE (PROTECTIVE FIBRE REINFORCED SCREED CONCRETE)

PROPERTIES	VALUES
Grade	Pouring
Density, [kg/L]	2.5
Cement Type	OPC
Cement Content, [Kg/m <sup>3</sup> ]	to 320 300
Strength, [N/mm <sup>2</sup> ]	25
Minimum Thickness, [mm]	45
Average Thickness, [mm]	80
Slope 1	recommended 150
Aggregate size, [mm]	10

### POLYROD (CLOSED CELL POLYETHYLENE BACKING ROD)

PROPERTIES	VALUES
Grade	Backing Rod
Form	Compressible closed cell circular foam cords

Density, [g/cc]	0.03±0.005
Durability	Excellent
Dimensional stability	Excellent

**Polyseal PS PG (2 PART POURING GRADE POLYSULPHIDE JOINT SEALANT)**

PROPERTIES	VALUES
Grade	Pouring
Density, [g/cc]	1.35±0.05
Application life, [minutes]	>120
Consistency	Free flowing
Shrinkage	Negligible
Shore A Hardness	15-30
Elongation, [%]	>300
UV resistance @300, [hours]	No deterioration
Movement Accommodation Factor, [%]	±25
Shelf life, [months]	12

**Rushbond PVA**

PROPERTIES	VALUES
Appearance	White viscous non-toxic liquid
Solid content	40 ±2%
Specific gravity	1.28 ±0.05

**POLYCRYL PF (SINGLE COMPONENT, ACRYLIC WATERPROOFING AND PROTECTIVE COATING - UV RESISTANCE)**

PROPERTIES	VALUES
Grade	Brush
Density, [g/cc]	1.35 ±0.05
Solid content, [%]	60 ±2
Tensile strength, [N/mm <sup>2</sup> ]	≥2.9
Elongation, [%]	≥100
Solar Reflective Index SRI, [%]	>95
UV resistance @ 1000 Hrs	No deterioration
VOC, [g/L]	>10
Shelf life, [months]	12

Apart from the information given here it is also important to observe the relevant guidelines and regulations of various organisations and trade associations as well as the respective standards. The aforementioned characteristics are based on practical experience and applied testing. Warranted properties and possible uses which go beyond those warranted in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23°C and 50 % relative air humidity at laboratory conditions unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed.

The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of wilful misconduct or gross negligence on our part. This technical data sheet supersedes all previous editions relevant to this product.

