



BLACK SEAL

**High Build Single Component,
Polyurethane Based, Elastomeric
Liquid Applied Waterproofing Membrane**

PRODUCT DESCRIPTION

Unicrete **BLACKSEAL** is ready-to-use, single component liquid applied Polyurethane-modified formulation of synthetic resins, minerals, and fillers, Unicrete **BLACKSEAL** yields a high-elasticity, impermeable, and anti-root waterproof membrane for demanding applications.

APPLICATION AREA

- Waterproofing of concrete and brick foundations, retaining walls, timber, metals, etc.
- Waterproofing of basements and retaining walls & sunken portions in buildings.
- Waterproofing and protection of underground structure, rafts, concrete, columns and beam.
- Waterproofing in bathrooms, terraces, roofs, balconies etc.

FEATURES & BENEFITS

- Cold Applied, single component, ready to use waterproofing
- Easy and direct application, no open flames (torch) required.
- Highly flexible and covers hairline cracks effectively, thus prevents ingress of water.
- Highly elastomeric coating, withstands stress caused by thermal expansion & contraction
- Self-adapts itself over irregular deck counters.
- Crack Bridging greater than 2mm
- Very High elongation properties, more than > 1000 %.
- Seamless & no joint impermeable waterproof membrane.
- Dried membrane provides an effective tough, corrosion resistant and vapor barrier.
- Excellent bonding, wetting & adhesion properties on the substrates.
- Protects concrete structure and brick foundations against chloride and sulphate ions present in soils and water

APPLICATION INSTRUCTIONS

EQUIPMENT REQUIRED

Substrate Preparation Equipment

- Grinding / scarifying or cleaning equipment
- Manual or mechanical wire brushes for cleaning
- Air Blowers
- High pressure washers
- Moisture measuring meters.

Mixing Equipment

- Electric mixers with spiral blades (300 – 400 rpm)

Application Equipment

- Brush with soft bristles
- Rollers: solvent resistant, non-fuzzy.

SUBSTRATE SURFACE PREPARATION
Cleaning

- The surface shall be cleaned to remove all dust, foreign matters, loose materials, glaze, varnish, or any deposits of contamination.
- Surface cleaning process can be carried out by scarifying, grinding, water blasting, sand blasting and acid washing or by any other approved method. Treat any areas affected by Algae, moss, or fungal growth with biocide wash solution.
- Finally, vacuum cleaning of all loose solids and liquids can be done if required.
- Existing coatings/ membranes must be inspected, cleaned, and mechanically ground to achieve a sound, gripping substrate. In case of bad adhesion to the substrate, existing coatings must be removed. To confirm compatibility with **Unicrete BLACK SEAL**, carry out a small trial before full scale usage.
- Ensure soundness of concrete / cementitious substrate and should have minimum tensile strength of 1.5 N/mm². All new concrete surfaces should be cured for at least 28 days.
- All uneven surfaces should be properly mechanically grinding, cleaned, and repaired using suitable material to get a reasonable plain and smooth surface.
- All surfaces must be dry, with a moisture content of less than 5%. Under no circumstances should there be any water or dampness.

Note: For more details or other substrates contact UNICRETE Technical Services.

SURFACE LEVELING cum CRACK REPAIRS

- Primary inspection of the surface shall be carried out to find any type of depression or cracks on the surface.
- All surface cracks or depressions found should be filled and levelled using PMM (polymer modified mortar) or any other suitable sealant or crack filler.
- For preparation of PMM, please follow mix design as below mentioned.

Material	Weight (Kgs)
Cement	1 kg
Silica Sand	1.5 kg
Unicrete Latex 705	0.5 kg

CORNER FILLET (COVING) PREPARATION

Horizontal and vertical angle joints need to be prepared with concave corner fillet or coving (desired size can be altered as per site conditions) using polymer modified concrete or mortar prepared as the C:M ratio of 1:3 or with Unicrete Microconcrete (M-40 Grade) admixed with Unicrete Latex 705 polymer 5% by weight of the cement. Fillet should be cured to gain strength and completely dry before Primer application.

CORE CUTS & PIPE INSERT PREPARATION

Core cuts or plumbing pipe insertions should be carefully done after properly clean around pipes and core edges. Abrade the pipe round with emery paper. Apply UNIPOXY EP 100 epoxy-based bonding agent round the pipe and core edges admixed with silica sand. After preparation, fill the gap using suitable Unicrete Grout Fix non shrinking self-leveling mortar. Repaired core cuts should be cured to gain strength and completely dry before primer application.
(For more details contact UNICRETE Technical Services).

MIXING

- Unicrete Black Seal is supplied as a ready-to-use product. Use an electric mixer (300 – 400 rpm) with spiral paddle for mixing.
- Before application or usage, mix for at least 2 minutes or until all materials have achieved a uniform color. Avoid over mixing to minimize air entrainment.

PRIMING COAT

- After the proper surface preparation and curing of repaired areas clean the surface well and maintain SSD condition on surface, ensure moisture content in surface should be below 5% before further work.
- Finally, vacuum cleaning can be done if required to get dry surface condition, in no case there should be any moisture.
- Dilute Unicrete BLACK SEAL with clean water in ratio of 1:1 (1 part of BLACK SEAL and 1 part of water) w/w addition and stir thoroughly.
- Using Brush or roller, apply the primer coat over the surface maintaining the spreading rate of 7 – 8 m² / kg / Coat.
- Allow, primer coat to dry for 4 ~ 8 hours, at + 30°C & R.H 50%.
- Primer Coat acts as a bonding layer between elastomeric coating and the treated surface.

WATERPROOFING COATING APPLICATION

- Stir well contents in drum prior to application. The application can be done with a Solvent resistant, non-fuzzy roller or brush with soft bristles.
- After the waiting time of primer coat, apply two coats of Unicrete BLACK SEAL liquid applied system.
- Using Brush or roller, apply 1st coat of Unicrete Black Seal coating over the primed surface. For 1st coat BLACK SEAL can be diluted up to 15 % with clean potable water, w/w addition and stir thoroughly.
- After an interval of 4 – 8 hours @ + 30° C and R.H 50%, apply 2nd coat of Unicrete Black Seal at a perpendicular direction of 1st coat. For 2nd coat BLACK SEAL can be diluted up to 10 % with clean potable water, w/w addition and stir thoroughly.
- For better results use non-woven glass fiber mesh fabric embedded into 1st coat of coating while still wet. Fiber mesh fabric is used as a reinforcement to enhance tensile properties especially for large area applications.
- For large terraces or demanding areas, if required apply 3rd coat of Unicrete BLACK SEAL perpendicular to that of the 2nd coat.
- Recommend DFT (dry film thickness) for Unicrete Black Seal coating system, is minimum 1.00 mm with screed above.
- Ensure that the coating is done up to a height of minimum 300 mm on the side & parapet walls.
- Alternate coats are applied perpendicular to each previous coat to ensure complete coverage of surface.
- Allow Unicrete Black Seal to dry before covering with screed. Sprinkle coarse sand on wet surface of final coat for better adhesion of screed.
- All brushes and tools should be cleaned by water immediately after use

Note: In case of increased temperatures, i.e., over 50°C surface temperature, priming of surface is recommended by using Unicrete Prime Coat before priming coat application of Unicrete Black Seal.

CURING

- Allow the system to air cure for 2 – 3 days minimum at normal temperatures for further and subsequent work. Low temperatures and high atmospheric humidity will slow down the curing rate and vice versa.
- Water curing or any curing membrane shall not be applied over Unicrete Black Seal coating, only air curing is recommended.

PROTECTION LAYER & PCC SCREED / PLASTER FOR WATERPROOFING

Horizontal Surfaces - Provide an average of 50 mm thick concrete screed of M20 grade reinforced with welded wire mesh for crack prevention admixed with integral waterproof compound conforming to IS 2645:2003, UNICRETE 202 IWC+ @ 200ml per bag of cement with Min. 25 mm thick at the rain water outlets, laid to a slope of 1 : 100, and making angle fillet of 100mmX100mm (if required) using M20 grade concrete at the corners, compaction followed by curing for 7 days with water or as per drawings provided by architect or Engineer in Charge. Laying of geotextile membrane over the cured UNICRETE BLACK SEAL coating as a separation and protecting layer for the waterproofing work done before the protection layer or PCC screed is recommended.

Vertical Surfaces - Provide an average 15mm thick protective plaster on vertical walls after sand sprinkling over wet coating (key for plaster) of C:M – 1:4 or Unicrete Ready Mix Plaster admixed with integral waterproof compound conforming to IS 2645:2003, Unicrete 202 IWC+ @ 200ml per bag of cement, over the waterproofing membrane for vertical protection followed by water curing of plaster for minimum 7 days.

PRECAUTIONS & LIMITATIONS

- Do not dilute to achieve desired results.
- Do application always at pre-specified rates to achieve recommended DFT for full coverage.
- Do applications when ambient and substrate temperature must be in range between 9°C to 45°C.
- For large area applications and high demanding situations, use glass fabric reinforcement between coats. Dynamic cracks or joints should be reinforced with mesh.
- Do not apply Unicrete Black Seal system over expansion or moving joints directly.
- All surfaces should be structurally sound, clean, and free of all dirt, oil, grease, concrete sealers or curing compounds.
- All corners, gaps, joints, Roof leak repair area & outlets shall be coated with two extra coats with prior proper packing treatment to be done.
- The product is not designed for foot or vehicle traffic or movement of machinery or equipment.

NOTE TO THE APPLICATOR

- Overlay the coating with a protective screed to the desired slope & thickness.
- Ensure extra protection and protective measures, while using BLACK SEAL during rainy season or weather conditions.
- Avoid working in excess or harsh hot climatic conditions for best performance
- Ensure that the roof slope of a minimum of 1 in 100 is provided in the protection screed to allow free movement of rainwater. Always ensure no poor drainage or improper slopes leading to long ponding.
- The durability of coating is determined by the application process, the weather conditions during and after application, the suitability & quality of the workmanship and the total applied coating thickness.
- Applicators are advised that pin holes may occur from rising air, if applied on a porous surface during rising temperatures, proper surface priming is necessary to reduce the porosity of the surface using suitable priming methods.
- Do not allow temporary water ponding to remain between coats on horizontal surfaces or until the final coating has totally cured. Brush or moped surface water away during this time.
- If you have any large area more than 300 Sq.mtr, please consult Unicrete Technical service team.

Note to Specifier:

For more precise information on product usage, consumption calculations, please connect Unicrete Technical Services prior application and full-scale usages.

APPLICATION INFORMATION

Ambient Air Temperature	+10 °C min/ +45 °C max
Relative Humidity	Maximum 65%
Substrate Temperature	+10 °C min/ +40 °C max
Dew Point	Beware of condensation Surface temperature and uncured material during application must be at + 5 °C above dew point.
Substrate Moisture Content	≤ 5 % (to be checked using moisture meter)
Waiting Time / Over Coating Time	Primer Coat – after surface preparation 1 st Coat Membrane – after 4 ~ 8 of Primer Coat 2 nd Coat Membrane – after 4 ~ 8 Hours of 1 st Coat Note: Above time intervals are at + 30 °C temperature and 50 % relative humidity environmental and application conditions. Time intervals will be affected by change in weather conditions during application.
Curing / Subsequent Usage	Air Curing Only 2 – 3 days @ 30° C, 50% R.H

TECHNICAL SPECIFICATION

Please find below the technical specification of UNICRETE BLACK SEAL High Build Single Component, Elastomeric Polyurethane Based, Liquid Applied Waterproofing Membrane

UNICRETE BLACK SEAL System Performance Properties		
Technical Parameters	Technical Details* ^{Note 3}	Standards / Remarks
Appearance	Smooth Thick Black Paste	Internal
Specific Gravity	0.95 ± 0.10	Internal
Solid content by Wt., %	55 ± 2	ASTM D 1644 – 01
Elongation, %	> 1000 %	ASTM D 2370
Water Vapor Transmission, (g/h - m ²)	0.46	ASTM E 96-95
Bond Strength, N/mm ²	> 0.5	ASTM D 412
Tear Resistance, KN/m	28 ± 10	ASTM D 2794 -93
Crack Bridging Capability, mm	> 2.0	ASTM C 836
Permeability	NIL	IS 2645
Microbiological Resistance	No growth of microbes, algae & fungal observed	

Note 3: The technical values and observation mentioned in the table above are obtained in our R&D lab under standard lab conditions. The results shown are typical but reflect test procedures used. Actual field performance will depend on installation methods and site conditions. Specifications are subject to change without prior notification.

CONSUMPTION*^{NOTE 1}
Unicrete BLACK SEAL Waterproofing System

Priming Coat After Dilution	7 – 8 m ² / Kg / Coat
Waterproofing Coat	1.20 – 1.55 m ² / Kg in 2 coats
Reinforcement Fiber Mesh (if required) ^{Note2}	1 m ²
Recommended DFT	1.00 mm (minimum)
Recommended Coat	Minimum 2 Coats + Primer Coat

***Note 1:** - The consumptions mentioned here are for reference only and calculated under lab trials. The consumptions will vary depending on the porosity, unevenness, undulations, surface roughness and thickness required on the substrate area. Unicrete advice our customers to make trials in sample first to check coverage as per their application & usage before going to full scale applications.

Note 2: - Reinforcement of fibre mesh is used at large areas, also reinforcement is provided at areas with movements, irregular substrate or to bridge cracks, joints, and seams on the substrate as well as for details.

PACKAGING & STORAGE INFORMATION

Packaging Available	5 Kg, 20 Kg & 50 Kg HDPE Plastic Drums
Shelf Life	12 months from the date of production
Storage Instructions	- Store in a dry cool place in temperature range of 5 °C to 30 °C and 50% RH in sealed condition. - Do not allow it to freeze. Keep away from direct sunlight. - Keep the material in close when not in use.

HEALTH AND SAFETY INSTRUCTIONS

- Unicrete BLACK SEAL is non-toxic and Non-flammable.
- Any splashes on skin should be washed well with water. If irritation persists, sought medical advice immediately.
- Protective clothing such as gloves, eye protection and respiratory protective equipment should be used during application.
- Inhalation: Inhalation of vapor or mist should be avoided. Symptoms include coughing, wheezing, laryngitis, and shortness of breath, headache, nausea, and vomiting. Immediately shift victim to fresh air, and, if needed, immediately start artificial respiration. Consult Physician if required.
- Eye Contact: Immediately splash eyes with plenty of water. Consult Physician if irritation persists.
- Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.
- Skin Contact: Wash skin with soap & water. Remove contaminated clothes.

KEEP AWAY FROM CHILDREN
NON-FLAMMABLE PRODUCT
Other Products Categories available

Unicrete brings you the widest range of Construction Chemicals


AVAILABILITY AND COST

UNICRETE™ materials are available across INDIA for more information:

Unicrete Building Solutions India Pvt Ltd

KH – 58, Dhatari Industrial Area,

54th Mile Stone, GT Karnal Road

Sonapat, Haryana - 131039

Email: - info@unicrete.in

Toll Free: - 1800- 572- 0908

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