



DATASHEET



High Performance Pure Acrylic Elastomeric Coating

INTRODUCTION:

RainSHIELD® Uttam is water based high solid elastomeric coating utilizing the latest advances in acrylic technology. Highest quality 100% acrylic resins are combined with reinforcing laminar pigments, an effective biocide packages and non-migrating fire retardant, resulting in superior durability, weatherproofing, ultraviolet resistance, algae/mildew resistance and fire retardancy. **RainSHIELD® Uttam** is highly reflective, thermal insulating, permanently flexible, breathing membrane, allowing moisture vapour from the substrate or building interior to escape while remaining impervious to mass water penetration form the exterior.

Unique Features:

- Superior flexibility, hardness and solvent Resistance.
- Bridges substrate crack with long term crack resistance.
- Superior freeze/thaw resistance.
- Non-toxic, and environmental friendly product.
- Unique anti-fungus and anti-algae properties
- Superior exterior durability and UV light resistance.
- High temperature stability.
- Low temperature flexibility down to -15°C .
- Dirt pick-up resistance.
- Excellent adhesion to polyurethane foam and many other substrates.
- High reflectivity which reduces wall surface temperatures, thereby prolonging wall life and reducing interior temperatures.
- Easy application by spray, brush, or roller-thus lowering application costs.
- Simple water cleanup for manufacturers and contractors.

USES:

RainShield® Uttam is mainly used to waterproof and damp-proof concrete, cement rendering, brickwork and blockwork. To protect concrete against the effects of freeze-thaw cycles, de-icing salts, carbon dioxide and other acid gases, dilute acids and alkalis. The product is most suited for waterproofing of any concrete structure which needs long term leakage and corrosion protection.

ADVANTAGES:





DATASHEET



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SIMPLE PACKAGE: Material is pre-packaged in a convenient and easy to handle size, requiring no site mixing.

EASY TO USE: Brush or spray applied, normally in two coats.

ADHESIVE: Excellent adhesion to steel and sound prepared concrete substrates.

SAFE: Non-toxic when cured.

IMPERMEABLE: Very high resistance to water permeability and diffusion to carbon dioxide gas.

COST EFFECT: Durable hence economical.

TYPICAL CHARACTERISTICS:

Nature	Single Component Water Thinnable Material
Colour	White / Other Colours
Application time at 30°C	3 to 4 hours
Surface dry time at 30°C	20 to 30 minutes
Hard dry time at 30°C	8 to 10 hours
Complete curing time at 30°C	3 days
Recoat ability time at 30°C	4 to 5 hours
Ultraviolet Resistance (ASTM D822)	No deterioration effects after 5000 hours
Finish	Smooth and matt
Dry film thickness	100-120 µm (2 coats)
Coverage	0.29 – 0.34 kg/m ² (100-120 dft) or 65-75 ft ² /kg/coat (as per roughness or porosity of surface)
Tensile Strength (ASTM D412)	3.10 MPa @ 25 °C
Elongation (ASTM D412)	> 100% @ 25 °C
Density	1.19-1.29 kg/lit
Crack Bridging Ability	More than 2.6mm Cracks
Recommended Coats	2 to 3 coats depending upon the substrate
Water dilution	No dilution is allowed. For primer, 1:1 dilution with water is required.
Packing	1kg, 5kg, 20kg

High-Temperature Advantages

RainShield® Uttam formulation of unique inorganic products allows increased insulation over the more conventional coatings now available.

Tensile Strength and Elongation





DATASHEET



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Thermal movement of a wall surfaces requires high tensile strength and elongation as well. The tolerance for movement of these coatings is essential due to the dynamic nature of a building substrate which expands and contracts due to climatic conditions and the shifting and settling of the foundation.

These properties also give property-formulated elastomeric wall coatings the needed flexibility and elasticity to withstand impact from rain, wind or other abuse without rupturing.

Low Temperature Flexibility

Coating for dimensionally unstable wall substrates must have long-term low temperature flexibility. This is necessary to accommodate thermal expansion and contraction of the substrate, so that coatings will not fail over an extended period of time or with extreme weather conditions. It should be remembered that the effects of extreme weather conditions are not restricted to cold climates. Evaporation of water after a sudden thunderstorm on a hot day in any geographic location can rapidly drop the roof temperature as much as 60 degrees, causing severe thermal stress on the wall surface.

Wall coating based on **RainShield® Uttam** technology can withstand a 180 degree flexibility bend at -15°C without cracking. Since there is no plasticizer to migrate from the system, this flexibility is retained over time. Long term resistance to cracking extends the life of the Wall. IT IS IMPORTANT TO NOTE THAT ELASTOMERIC WALL COATINGS should exhibit good mechanical properties at room and low temperatures and after exterior exposure.

Stop Leaks

RainShield® Uttam stops most small holes in the substrate by application directly to surface substrate. This leads to 100% waterproofing of wall.

Dirt Pickup Resistance

Polymers designed for **RainShield® Uttam** elastomeric wall coating combine the inherent flexibility of pliable, low TG polymers with long term resistance to dirt pickup. Without dirt pickup resistance, the wall coatings would quickly darken with age. Because dark materials tend to absorb heat, dirt pickup can significantly increase wall





surface temperatures, which, in turn, increases interior temperature and energy costs. **RainShield[®] Uttam**, however, resists dirt pickup and retains their white, reflective appearance.

Colours

RainShield[®] Uttam is stocked in white, three based with more than 100 colours to choose from. An unlimited selection of custom colours is also available for specific application.

Warranty

RainShield[®] Uttam warranty available in five (5), ten (10) and fifteen (15) year periods. The warrantor guarantees the installations against leaks caused by normal weather. Refer to individual warranty document for additional information.

APPLICATION DATA:

Preparation

The areas to be treated must be free from all unsound material, i.e. dust, oil, grease, corrosion by-products and organic growth. Smooth surfaces should be roughened, all loose material and surface laitance removed and steel cleaned to bright metal preferably using wet grit or water blasting techniques or equivalent approved methods. The concrete/plaster surface should be at least 28 days old or fully cured.

Priming, crack repair & leveling

The prepared substrate concrete should be thoroughly soaked (preferably 24 hours before) with clean water until uniformly saturated without any standing water. Highly porous substrates may require sealing with Multicrete CM. Level the surface with **Surfix Level-Coat** wall finishing coat.

Surface with cracks should be opened to approximately 2-4mm width and double the depth. Apply **Multiflex AC** or **CrackFix** crack repairing products. Refer separate datasheets for individual products. Use **RainShield[®] UltraPrime**, surface primer before application of **RainShield[®] Uttam**.

Placing



DATASHEET



High Performance Pure Acrylic Elastomeric Coating

RainSHIELD® Uttam can be applied using spray techniques or, brush application, although care must be taken to ensure that air is not entrapped onto the surface. Apply the first coat, approximately 50 microns thick, onto the prepared substrate. To ensure total protection, a second coat should be applied in the same way, after waiting approximately 1 hour depending on temperature (when the first coat is stable but not fully set). Paint roller can also be used for application.

Cleaning

All tools should be cleaned with water immediately after use.

STORAGE:

Store in dry, frost-free conditions at moderate temperature not **greater** than 25 °C.

IMPORTANT POINTS:

1. Apply only to clean, sound substrates. Concrete should be saturated but surface-dry and free of water backpressure.
2. Care should be taken when curing in hot, sunny or windy conditions.
3. Discard a **RainShield® Uttam** package which has been subjected to freezing temperatures.

SAFETY DATA:

- Irritating to eyes, respiratory systems and skin.
- Risk of serious damage to eyes.
- Keep out of reach of children. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice.
- After contact with skin, wash immediately with plenty of clean water.
- Wear suitable protective clothing, gloves and eye/face protection.

Please consult our technical department for further information.

WARRANTY

Multichem warrants **RainSHIELD® Uttam** to be free from manufacturing defects as defined in this warranty. Manufacturing defects are considered to be those defects that occur due to the quality of the ingredients or from the manufacturing process itself. This warranty does not include labor costs and other costs or expenses associated with the removal or installation of **RainSHIELD® Uttam**



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DATASHEET



High Performance Pure Acrylic Elastomeric Coating

Because the Multichem does not perform the actual installation, it cannot be held responsible for the results of the application. Multichem specifically disclaims problems that occur due to weather conditions, structural movement, structural design flaws and application techniques.

This warranty is in lieu of all other warranties expressed or implied including the warranty of merchantability and fitness of purpose and of all other obligations or liabilities on Multichem part. Multichem neither assumes nor authorizes any person to assume for Multichem any liability in connection with the sale and installation of **RainSHIELD® Uttam**.

Because of constant improvement of manufacturing techniques and formulations, Company reserves rights to change this datasheet and its contents without prior notice.



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