HARDOFLEX SR

Acrylic Co-Polymer Liquid Waterproofing & Insulating Membrane

DESCRIPTION:

HARDOFLEX SR is a single component solar reflective acrylic co-polymer based waterproof membrane and heat insulating coating. Due to its excellent adhesion and thixotropic nature it is an ideal material for vertical and horizontal applications. The heat insulating properties of **HARDOFLEX SR** are based on hollow sphere based technology discovered by NASA scientist.

USES

HARDOFLEX SR can be used for roof slabs, terraces, balconies, sunshades, parapet walls, etc.

HARDOFLEX SR is ideally suited for application on structures having complicated geometry like domes, arches, shells, folded plates, parboloids, and corrugated sheets.

ADVANTAGES

- Weatherproof / waterproof protective coating.
- Insulates against heat.
- Reduces air conditioning bills.
- Provides warmth in the winter.
- Can be used on a variety of substrates such as concrete, asbestos, cement, zinc and GI sheets, timbre, light weight concrete etc.
- High elasticity and tensile strength of the cured membrane enables it to accommodate roof movement.
- Easy to use, single component and bio-friendly material.
- Resistant to ultra violet radiation **(UV).**
- Anti-carbonation and chemical resistant coating.
- Does not catch fire.

TYPICAL PHYSICAL PROPERTIES

Color	White
Tensile strength (ASTM D 865)	425 PSI
Elongation	125 %
Shore hardness	85 Kg/cm^2
Tear strength	35 Kg/cm^2
Adhesion to concrete	17.5 Kg/cm^2
Abrasion resistance	abrasions wear (Wear index140)
Specific gravity	1.48 @ 23°C
Recovery	40%
Solid content	76% minimum
Flash point	NIL

FUNCTION

With increasing concern over global warming and the urban heat island effect, thermal insulation of constructions has gained significance.

Buildings are large consumers of energy in all countries. In harsh climatic conditions, a substantial share of energy goes to the air-conditioning or heating of buildings. One of the best means to reduce this load on energy is the proper design and selection of building envelope and its components. Maintaining acceptable temperatures in buildings (by heating and cooling) uses a large proportion of global energy consumption.

When well insulated, a building is energy-efficient by providing more uniform temperatures throughout the space. Insulation reduces unwanted heat loss or gain and can decrease the energy demands of heating and cooling systems. There is less temperature gradient, thus producing a more comfortable occupant environment when outside temperatures are extremely cold or hot. This factor has led to the demand and supply of heat reflective and insulating paints that save energy costs while keeping the building or residential construction well insulated.

A cenosphere (ceramic sphere) is a hollow microscopic ball made of smooth silica-aluminum and other minor ceramic elements. The microscopic balls are hollow, thin walled, filled with air or other inert gases, and they are absolutely non-toxic in any way. Cenospheres are sometimes also called micro balloons, micro spheres, nano spheres, ceramic spheres and micro beads owing to their size.

The total diameter of the cenosphere is the thickness of a hair or even smaller. These microscopic hollow beads insulate well even in thin layers. They are clean, extremely hard, pure, non-toxic, light grey and the approximate Ph of water.

Ceramic microspheres were originally developed by the NASA thermal research at Ames Research Centre. NASA, through its technology transfer programme made the material available to several companies. NASA describes the material as follows: “Shaped like a hollow ball so small that it looks as if it is a single grain of flour to the naked eye, the microsphere is noncombustible and fairly chemical-resistant, and has a wall thickness about 1/10th of the sphere diameter, a high compressive strength and a softening point of about 1800 degrees Centigrade”. NASA states that when in a fluid (paint) the smooth, rounds, microspheres flow easily over each other creating a boundary several ‘beads’ deep that shrink together to create a dense film as the solvent evaporates. The net result is a layer that is predominantly vacuum and has multiple surface boundaries with high refractive indices.

METHOD OF APPLICATION

SURFACE PREPARATION

The surface has to be cleaned thoroughly so that all dirt, oil, laitance, dust etc. is removed. In the case of metal surfaces, rust and other contaminated and loose particles shall be removed. All cracks shall be treated properly before the application of **HARDOFLEX SR.**
HARDOFLEX SR primer coat shall be applied by diluting 1 Kg with 2 liters of water by means of sprayer, brush or roller.

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APPLICATION

First coat of **HARDOFLEX SR** shall be applied over the primed surface once the surface is dry. It is recommended to apply the second coat after first coat is fully cured. The glass fiber reinforcement, if required, shall be placed after the application of the first coat and 10 – 15% for second coat for workability and coverage.

HARDOFLEX SR must not be applied if it is raining or rain is imminent.

COVERAGE

1.5 Kg / m² for 2 coats (DFT 1mm)

CURING LIFE

Touch dry	-	1 hour
Completely dry	-	4-6 hours

SHELF LIFE

Up to 1 year in closed container if stored properly.

PACKING

18 Kg pails

TECHNICAL ASSISTANCE:

For further details and assistance for specific application requirements and for other product information please contact Mitchell.

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