



# ARMOURTHANE® VAJRA

Aliphatic polyurea based Elastomeric Waterproofing Coating for exterior use

## INTRODUCTION:

**ARMOURTHANE® VAJRA** elastomeric membrane is a liquid applied 2-component coating based on polyurea chemistry that cures by reaction to give a continuous film, which is rubbery and elastic. It contains leafing pigments, with reinforcing properties. **ARMOURTHANE® VAJRA** is a very high solids coating designed to give a high-build film. It can be brush or spray applied (with airless spray equipment) or even troweled.

**ARMOURTHANE® VAJRA** cures to a permanently flexible seamless membrane. Since it is elastomeric, **ARMOURTHANE® VAJRA** is not adversely affected by extremes of temperature consequently it does not crack at low temperatures or suffer thermal blow at elevated temperatures.

**ARMOURTHANE® VAJRA** is available in following grades:

**ARMOURTHANE® VAJRA SL** : (self-leveling/squeegee)

**ARMOURTHANE® VAJRA S** : (spray)

**ARMOURTHANE® VAJRA T** : (thixotropic/trowel)

**ARMOURTHANE® VAJRA R** : (roller)

**ARMOURTHANE® VAJRA** white is more suited for roof/terrace which is exposed to UV rays with high colour stability.

## USES:

- Cured concrete substrate e.g. roofs (Flat or sloping), balconies, and decks
- All metal roofs
- All prefabricated Concrete Structures
- Terrace, Podium, Water Tanks, Terrace Garden, Flyover, Bridge deck

**ARMOURTHANE® VIRAJ** elastomeric membrane is designed to bond to many types of substrate particularly those commonly used as roofing, such as felt, asphalt, slate, tiles, asbestos, concrete, brick, wood glass and metals with appropriate primers. However, it is essential that substrate and structures are properly prepared and stable. Surfaces previously treated with silicone based materials will be difficult to overcoat.

## General Introduction:

**ARMOURTHANE® VIRAJ** offer the following benefits:



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- High temperature stability.
- Low temperature flexibility down to -15 degree.
- Dirt pick-up resistance.
- Excellent adhesion to polyurethane foam and many other substrates.
- Easy application by spray, brush, or roller-thus lowering application costs.
- Low toxicity and odour.

## Tensile Strength and Elongation

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

These properties also give property-formulated elastomeric coating the needed flexibility and elasticity to withstand impact from foot or vehicle traffic and other abuse without rupturing.

## Stop Leaks

**ARMOURTHANE® VIRAJ** stops most small holes in the substrate by application directly to surface substrate. It is designed for complete waterproofing of substrate.

## TYPICAL CHARACTERISTICS:

PROPERTIES	VALUES
Nature	2 Component Ready to Use Material
Colour	White / Gray/Other Selected Colours
Pot Life at 23°C	30 minutes
Surface drying at 30 °C	1-1.5 hours
Hard dry time at 30°C	4 to 5 hours
Complete curing time at 30°C	7 days
Recoat ability time at 30°C	4 to 5 hours
Finish	Smooth and matt
Coverage	0.44 kg/m <sup>2</sup> (as per roughness or porosity of surface) for 200 micron thickness
Tensile Strength (ASTM D412)	> 15 MPa @ 25 °C
Shore Hardness A	>55
Elongation (ASTM D412)	> 300% @ 25 °C
Recommended Coats	2 to 3 coats depending upon the substrate
Packing	10kg, 20kg



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## Colours

**ARMOURTHANE® VIRAJ** is stocked in white, light gray, medium gray and green.

## Warranty

**ARMOURTHANE® VIRAJ** 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 GUIDELINES:

### Surface Preparation

Surface preparation and use of suitable primer is very important while applying **ARMOURTHANE® VIRAJ**. All surface must be clean and dry and free of any dust, dirt, oil, surface chemicals or other chemicals or other contaminants that may interface with optimum adhesion of primer. All loose gravel, if present, shall be removed by power sweeping and/or vacuuming. Remaining gravel shall be power spud to achieve the smoothest surface possible. Any unsound areas in the roof, i.e. blisters, delamination, deterioration, moisture saturation, severe corrosion, sharp projections, ridges, etc. shall be repaired or replaced.

Low areas that hold excessive ponding water must be brought into conformance by installing additional drains or adding additional slope to the existing drains.

### Application of Primer

Apply Multithane Primer 21 to well-prepared surface at 100 gm/m<sup>2</sup> or 40 µm thickness. Allow primer to dry for 2-4 hours. Surface moisture should be < 5%.

### Mixing

Mix component A and B together to get uniform mix. Use a power mixer capable of uniformly mixing the entire container prior to use. Reducing the mixture is not recommended, as it affects the coatings ability to achieve a heavy film build with excellent vertical hold and hide.

### Application



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Reinforce all moving cracks, seams, splits, control joints, vertical/ horizontal interfaces, roof termination joints, openings, transition areas, around the base of all vents pipes and other protrusions, as well as around HVAC units and other roof mounted equipment with Fibrecon P55 or P140 Mesh, a polyester reinforcement fabric, embedded in to **ARMOURTHANE® VIRAJ**.

All preparation materials shall be allowed to dry thoroughly prior to application of the **ARMOURTHANE® VIRAJ** coating (Including primers).

## METHOD IN BRIEF

1. Remove all loose material by vigorous brushing with wire brush or sand blasting or power grinding.
2. Treat any remaining fungal growth with proprietary fungicide such as **MultiKleen** as recommended.
3. Allow surface to dry thoroughly and any moisture contained in the structure to evaporate. **MULTITHANE Primer 21** and **ARMOURTHANE® VIRAJ** should not be applied to damp substrates. For damp surface, use **Vapourgard®**, an epoxy based primer and check the moisture content. It should be less than 5%.
4. Fill cracks and voids with a mastic sealant such as **Multiflex PU**.
5. Prime with **MULTITHANE Primer 21** (6-10 m<sup>2</sup>/kg) depending on substrate texture and porosity which cures to a slightly tacky film in 2- 4 hours. Overcoat with **ARMOURTHANE® VIRAJ** as soon as possible after this time and certainly within 4 hours. If delay exceeds this, slight sanding on primer or re-priming is advised.
6. Apply **ARMOURTHANE® VIRAJ** at a maximum film thickness of 0.1 mm per coat. Minimum two coats are advised.
7. In the case of two coat application the first coat should be touch dry in 6 hours (in some conditions this might be delayed) and the second coat should be applied after 6 hours to ensure good adhesion.
8. Day work joints: Where application extends over more than a working day, an overlap of 150 mm. should be used.
9. Aromatic hydrocarbon solvent should be used to clean equipment etc.

## STORAGE:

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

## WARRANTY

Multichem warrants **ARMOURTHANE® VAJRA** 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



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the manufacturing process itself. This warranty does not include labor costs and other costs or expenses associated with the removal or installation of **ARMOURTHANE® VAJRA**.

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 **ARMOURTHANE® VAJRA**.

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

