ULTRATUFF
WATERPROOF MEMBRANE

MAINTENANCE STATEMENT
ULTRATUFF WATERPROOFING SYSTEM TO PEDESTRIAN & EXPOSED AREAS

1.0 PREAMBLE

ULTRATUFF Waterproof Membrane subject to foot traffic and exposed situations, in this type of exposed application there are three types of likely damage that must be taken into account.

1.1 Long-Term Exposure:

The surface of the membrane will slowly degrade as a result of exposure to ultraviolet light, pollution and general weather conditions.

This type of damage will be typified by a dulling of the surface but no noticeable erosion.

This surface effect can be forecast and can be accommodated by periodic resurfacing during the life of the structure so as to maintain a protective finish over the body of the membrane which performs the waterproofing function.

1.2 Gradual Surface Wear:

This will occur primarily at high stress areas and will be typified by a physical erosion of the surface, including possible removal of non-slip aggregate encapsulated within the membrane system, if this type of finish is employed.

The wear may be reasonably predicted, and may be accommodated by designed/programmed maintenance. However, until use patterns are established, the frequency of such maintenance in any particular area cannot be accurately assessed.

1.3 Vandalism/Instant Mechanical Damage:

This type of damage would be rare for domestic areas, but more typical on open public areas where large gatherings are permitted.

This type of damage is totally unpredictable as to location or frequency and is the type of damage most likely to create problems in the waterproof ness of the membrane. In particular, areas accessible to skate boarders can be damaged, unless access is denied.

Repair of such damage is straight forward, but cannot be programmed.

It should be further noted that of the three types of damage, the last is the most critical from a waterproofing point of view, but is generally easiest to repair because it will be localised and will not interrupt use of the area as would the programmed resurfacing required to compensate for the effects described in 1 and 2 above.

Finally, when assessing maintenance requirements, it must also be borne in mind that the requirement for a non-slip surface relates.

2.0 PREDICTED MAINTENANCE REQUIREMENTS

As indicated above, maintenance requirements to maintain the waterproof integrity of the membrane can be reasonably predicted for general exposure and also for normal wear. Requirements for vandalism/ extraneous damage cannot be predicted although there is available sufficient evidence to give a rough approximation of what can be expected in these specific applications.

Peter McAndrew Business Manager Nuplex Construction Products NZ Ph -64-9-5800860 Fax -64-9-5253709

2.1 Weathering:

Based on our experience, we would anticipate a requirement for re-sealing with **ULTRATUFF UV Topcoat** at approximately 5 to 8-year intervals. Such resealing is a simple operation involving medium pressure waterblast, cleaning and detergent washing and or moss-killing if required followed by the application of one full coat of **ULTRATUFF UV.**

The requirement for such work can generally be determined one to two years ahead by observation of the existing surface seal. The requirement will vary depending upon usage intensity and actual exposure conditions. This work can be regarded as Preventive Maintenance as renewal of the sealer coat ensures integrity of the base membrane.

2.2 Traffic Wear – Non-Slip Surfaces:

With careful location of non-slip areas, wear – in known hard wear areas – can be reduced. On non-slip areas, our experience indicates a requirement for patch renewal at between 4 to 5-year intervals on high use areas.

The New Zealand Building Code sets minimum performance standards for traffic surfaces under wet and dry conditions. Where there is likely to be general public access, a non-slip wearcoat must be used on stairways, sloped areas, and those public areas which are likely to be accessed by the general public under wet conditions.

This will be localised and confined primarily to stairway areas close to entrances/exits and at regular "walkways" across the roof/deck.

Such renewal can again be programmed up to one year in advance based on wear patterns. It is a process that may take up to three days to complete and thus would require scheduling, particularly at doorways. The re-gritting process will require some degree of mechanical surface preparation after waterblast cleaning, and then a two/three coat application including grit, depending upon degree of wear.

Although this work can be programmed in advance, it is Restorative Maintenance rather than Preventive Maintenance. However, it can be deemed to be Preventive in the sense that if it is carried out at the correct time interval, the base membrane will again remain integral.

2.3 Vandalism/Extraneous Damage:

As indicated previously, this type of damage is that which most impairs the waterproof integrity of the membrane. It will be random and requires immediate action to ensure that membrane integrity is maintained.

Areas involved will be highly localised and should involve minimal disruption during the repair process. Again our records lead us to believe that less than 0.5% of the total surface area is likely to be involved in any twelve-month period. Ensuring that users of the area respect their right to use the area can reduce the incidence of such damage. The area must be monitored if it is open to public use.

3.0 MAINTENANCE RESPONSIBILITIES

Obviously, from what has been stated above, there is a responsibility for maintenance on both the Client/Facility Manager, as well as the Applicator/Manufacturer. Our requirement for maintenance is as follows:

Peter McAndrew Business Manager Nuplex Construction Products NZ Ph -64-9-5800860 Fax -64-9-5253709

3.1 Client/Facility Manager Responsibilities:

.1 Maintenance staff shall inspect the exposed membrane areas on a regular basis to determine if any mechanical damage has been caused. Inspection may be weekly, monthly or annually, depending upon degree of public access and likely abuse.

Note:
Whilst this may seem an onerous task, in fact the staff will quickly learn what should be looked for and where problems are most likely to occur. Such an inspection should in fact take no more than 15-20 minutes. Should damage be found, the Facility Manager shall contact the Sub-Contractor who is responsible For the membrane application to attend, and repair such damage to return the membrane to a waterproof condition.

.2 The Facility maintenance staff shall ensure that all gutters and gutter outlet are kept clear of debris. The cycle for this shall be determined by Facility Management as it may depend upon usage conditions.

.3 Facility maintenance staff shall ensure, during the periodic check, that all sharp and foreign objects are removed from the membrane.

3.2 Applicator Responsibility:

.1 The Applicator should be contacted to inspect public deck areas at least annually and shall submit a brief written report to Facility Management indicating his impressions of the condition in which the deck is being maintained, and noting any damage which has not been previously brought to his attention.

.2 The Applicator shall have available staff, and materials on call, for repair of vandalism/extraneous damage as required by the Facility Management.

.3 The Applicator shall on a biennial basis prior to an annual inspection, carry out a Medium pressure waterblast and detergent clean of the entire membrane surface. Such cleaning shall be a budgetary item, its purpose being to ensure that the membrane is maintained in as unpolluted a condition as possible, and any deficiencies which may otherwise be masked by dirt/pollution shall be exposed.

3.3 Responsibility of the Manufacturer:

The Manufacturer shall inspect the membrane installation biennially accompanied by the Applicator to satisfy himself that all work is being carried out in accordance with his recommendations. This inspection shall result in a written report which not only notifies any problems or extraneous damage previously missed, but will also indicate Preventive Maintenance. It is anticipated that all inspection work will be carried out at minimal cost, but that all Remedial Maintenance and Preventive Maintenance shall be charge items against a budget to be set by the Client based on predictions contained in this proposal as to the probable extent of maintenance requirements.

MOSS / MOULD CONTROL

The growth of algae and lichen is particularly bad in the north Island due to the climate and becomes a foot hazard when the deck or roof is wet.

As algae ages it becomes foliose lichen, which can happily take root in the membrane surface and eventually cause damage sufficient to cause leaking.

Periodic application of a good quality Moss-Kill solution is recommended.

Waterblasting is not recommended as this can in unskilled hands cause membrane damage.

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