



**JOYCE**  
GROUP LTD

# VERIFICATION OF CHEVALINE DEXX WATERPROOFING SYSTEM

FOR  
EQUUS  
INDUSTRIES LTD

.....  
PROJECT MANAGERS  
ARCHITECTS  
ENGINEERS  
BUILDING CONSULTANTS  
REGISTERED IQPS



**MAY 2005**

**JN: 6419**

.....  
LEVEL 1, 90 GHUZNEE ST  
P.O. BOX 1715, WELLINGTON  
NEW ZEALAND  
TEL. 64 4 385 7574  
FAX. 64 4 385 7610

**VERIFICATION OF  
CHEVALINE DEXX WATERPROOFING SYSTEM  
FOR EQUUS INDUSTRIES LTD**

---

**CONTENTS**

- 1.0 INTRODUCTION**
- 2.0 SCOPE**
- 3.0 BUILDINGS TO NZBC ACCEPTABLE SOLUTION E2/AS1  
FEBRUARY 2005**
- 4.0 STRUCTURE**
- 5.0 DURABILITY**
- 6.0 MAINTENANCE**
- 7.0 OUTBREAK OF FIRE**
- 8.0 SPREAD OF FIRE**
- 9.0 EXTERNAL MOISTURE**
- 10.0 INTERNAL MOISTURE**
- 11.0 APPLICATION SKILL LEVEL**
- 12.0 SYSTEMS INSTALLATION**
- 13.0 SUBSTRATE PREPARATION ON NEW PLYWOOD SURFACES**
- 14.0 MEMBRANE INSTALLATION**
- 15.0 HEALTH AND SAFETY**
- 16.0 BUILDING REGULATIONS**
- 17.0 QUALITY**
- 18.0 TESTS**
- 19.0 APPENDICES**

## 1.0 **INTRODUCTION:**

The Joyce Group Ltd as been commissioned by Mr Gary Still of Equus Industries Ltd to assess the capability of the **Chevaline Dextx** waterproofing system to be approved as an "Alternative Solution" in respect of the NZ Building Code External Moisture E2/ASI February 2005.

## 1.1 **THE ASSESMENT**

The assessment has been prepared to determine compliance with the following clauses of the NZ Building Code.

B2 Durability  
E2 External Moisture  
E3 Internal Moisture  
F2 Hazardous Agents on Site

## 2.0 **SCOPE**

2.1 **Chevaline Dextx** has been assessed for use in sealing old and new flat and near-flat roofs, walk out decks and patios

- Within the scope limitations of NZBC Acceptable Solutions E2/ASI
- The product has been assessed for use as a waterproof membrane on nominally flat, curved and sloping roofs and decks when fully bonded to substrates of either reinforced or ply wood sheets.
- The product has been assessed for use as a waterproof membrane in internal wet areas such as: showers and bathrooms, both as an exposed membrane and as an under tile membrane.

## 2.2 **DESCRIPTION**

The liquid Dextx material is a heavy-bodied water –borne acrylic paste. It is formulated for high adhesion, and water resistance, and toughness combined with flexibility in the cured film.

The wear coat contains graded silica for slip and wear resistance.

An FD grade product is available for application in adverse conditions.

The standard system consists of a primer and three applications of **DEXX Bodycoat**, with one layer of embedded glass fibre mat.

Various topcoats are available, depending on end use. These include **Colour Glaze Dexx Topcoat** and **Traxx 2000 Wearcoat**.

### 2.3 PHYSICAL PROPERTIES

**Liquid material:** (Dexx bodycoat).

**Volume Solids:** 47.%

**Specific Gravity:** 1.3.

**Flash Point:** None – waterborne system.

**Shelf Life:** Three years in original sealed pails when stored in cool dry conditions.

**Applied film:** (standard system).

**Flexibility:** Passes 3mm mandrel

**Durability:** Excellent long term service may be expected from the membrane. During formulation care is taken to produce a membrane with excellent adhesion, high chalk resistance, low dirt pick-up and good colour retentions.

**Fungus Resistance:** Contains a highly effective anti-fungal preparation which does not contain toxic metals or phenols.

**Normal Film Resistance:** 0.8 – 1.2mm, depending on number of fibre glass cloth layers.

**Glass Cloth:** 300gsm glass fibre E-mat.

**Primer:** Depending on the situation chosen for, **Chevaline Epistix**, **Dexx Primer** or **Chevaprime PBT**.

2.4 Dexx liquid materials are manufactured at the Equus Plant in Blenheim.

### 2.5 HANDLING and STORAGE

Handling and storage of all materials whether on or off site shall be in accordance with the recommendations of Equus Industries Ltd or under the strict control of Equus Industries Ltd trained and approved applicators.

## 3.0 **BUILDINGS TO NZBC ACCEPTABLE SOLUTION E2/AS1 FEBRUARY 2005.**

### 3.1 **Concrete Substrate**

### 3.1.1 CLEANING

All surfaces to be waterproof shall be waterblasted to remove all construction detritus and laitence, providing a lightly profiled surface ready for coating application. Surfaces which have been power-floated should, if possible, be acid etched to “open” the surface and then be thoroughly rinsed.

### 3.1.2 PATENT EXPANSION JOINTS

Allowance shall be made for installation of any patent mechanical expansion joints prior to application of the **CHEVALINE DEXX**. Where appropriate a chase shall be left for sealing of the **CHEVALINE DEXX** using **TRAXX FLOORJOINT** or **TREMFLEX PU1** as a standard perimeter detail.

### 3.1.3 CONCRETE IMPERFECTIONS

Surface imperfections shall be patched, using either an approved epoxy mortar for minor holes, or a **CHEVACRYL ADMIX** gauged patch mortar for larger irregularities, in accordance with the Manufacturer’s recommendations.

### 3.1.4 MORTAR FILLETS

50 x 50 minimum mortar fillets shall be installed at transitions between decks and adjacent pre-cast elements so as to provide a bridge for installation of the membrane.

### 3.1.5 EXPANSION/MOVEMENT JOINTS

Such designed joints exceeding 6mm in width are not to be overlaid with **CHEVALINE DEXX**, but shall be sealed using an approved elastomeric sealant, such as **TREMCO THC-901** or **TREMFLEX PU1** which shall remain exposed.

### 3.1.6 SHRINKAGE/SETTLEMENT CRACKING and CONSTRUCTION

#### 1. Regular Moving Cracks:

Any regular cracks greater than 1mm in width which appear likely to move regularly shall be saw-cut or chased to 5mm width and 8-15mm depth, primed and sealed with **TRAXX FLOORJOINT** or **TREMFLEX PU1**.

All such sealant joints shall be overlaid after surface priming, with a 150mm strip of 300gsm chopped strand fibreglass mat bedded

in **CHEVALINE DEXX**. The **DEXX MEMBRANE** shall be carried over such cracks.

2. Irregular Cracks:  
Irregular cracks, for which saw-cutting or chasing is impractical, shall be pre-treated after surface priming with **CHEVALINE DEXX** applied as a 100-150mm wide band, with 300 gsm chopped strand fibreglass mat embedded as reinforcement.

This shall be allowed to dry overnight before membrane application is begun. Note: This step is most important on decks built up on precast elements, e.g. Stahlton or Dycore systems.

### 3.1.7 UPSTANDS

All monolithic horizontal/vertical transitions which are not already covered shall be rounded to 8mm minimum radius using **TREMFLEXX PU1** applied as a fillet at least 24 hours before membrane application. Where the transition is not monolithic, a plaster or treated (H3.1) dry timber fillet of 50 x 50 x 45 degrees in section shall be installed prior to DEXX application.

## 3.2 **Plywood Substrate**

### 3.2.1 PLYWOOD QUALITY

The minimum recommended standard for plywood is B-D Grade construction ply, with A-D Grade being preferred. The thickness of plywood used will depend to a large extent on construction details, but must be not less than 17.5mm thick (H3.1 treated) with appropriate framing details to comply with NZS3604 as a minimum.

The better the face-grade of the plywood, the less the preparation needed prior to laying **DEXX**. H3.1 treated plywood shall be installed.

### 3.2.2 SHEET LAYOUT

All sheet joints must be laid over deck/roof framing members. On large areas, lay plywood in a brick-bond pattern to minimise the number of 4-way joints. Sheets are generally laid across bearers.

### 3.2.3 SHEET SPACING

Sheets of plywood should be tight butt-jointed.

### 3.2.4 SHEET FIXING

Plywood must be fixed in accordance with manufacturer's instructions taking into account wind-loading, frame spacing and ply thickness.

Screw-fixing is required using countersunk corrosion-resistant screws. Stainless steel screws shall be used in accordance with E2/AS1.

### 3.2.5 BACK PRIMING/PRIMING

All plywood should be back and edge-primed with **CHEVAPRIME PBT, DEXX PRIMER** or **EPISTIXX**. In installation over “wet” areas, back priming is mandatory.

When sheets have been fixed and stopped, all surfaces shall be primed with one full coat of **CHEVALINE PBT, DEXX PRIMER** or **EPISTIXX** applied at 9-12 sqm/litre and allowed to dry overnight.

Note that pre-priming is permitted, if this is a practical site consideration, but any cut or exposed surfaces of plywood must be patch-primed to ensure the surface is sealed.

### 3.2.6 UPSTANDS

Where upstands to walls occur, an ex 25 x 25 or 50 x 50 treated (H3.1) timber strip/fillet shall be installed, fixed to the deck and primed.

All upstands should be sealed by the application of a strip of 300 gsm E-mat glass-fibre bedded into **CHEVALINE DEXX**.

As a guide to wetting out, this is achieved when the entire glass mat has changed from white to the colour of the **DEXX** being used. It is important to ensure that the glass is firmly bedded back to the surface at the transition, with no tendency to “balloon” leaving a void behind. If necessary, use a ‘dry’ brush to push the glass in securely.

### 3.2.7 SHEET FILLING

All surface defects and fasteners shall be flushed over with **EPAR S025 EPOXY FILLER** or in some circumstances **THERMEXX DETAIL PLASTER** or **EQUUS SUPERFLUSH**. Any gaps between sheets shall be similarly treated.

### 3.2.8 PLYWOOD JOINT

All tight-butted, stopped plywood joints should be overlaid with a 150mm strip of 300gsm E-mat glass-fibre bedded into **CHEVALINE DEXX**.

### 3.2.9 PENETRATIONS

All penetrations for plumbing, flues etc., which are not fixed permanently to the deck/roof being sealed, must be sleeved and overflashed, with the sleeve being treated as an upstand when applying the **DEXX**.

Detailing of sleeves and overflashing should be the responsibility of the designer/builder. Make sure that this is done to your approval before laying **DEXX**.

### 3.2.10 WEATHERPROOFNESS

When joints and upstands have been sealed as described above, working on to primed plywood, the deck/roof surface can be regarded as temporarily weatherproof, and will resist rain showers without the need for further protection.

It is important to have temporary protection available on site until this stage is reached.

### 3.2.11 ROOF/DECK DRAINAGE

Roofs and decks must be constructed so that falls and drainage comply with paragraph 8.5.6 of NZBC Acceptable Solution E2/AS1 February 2005.

Roofs, decks and internal gutters must be constructed with minimum falls. Roofs 1:40, Decks 1:80 and Gutters 1:25.

### 3.2.12 JUNCTIONS AND PENETRATION

Junctions of the roof to walls must comply with paragraph 8.5.6 of NZBC Acceptable Solutions E2/AS1 February 2005, and penetrations must comply with paragraph 8.5.9.

## 4.0 **STRUCTURE**

### **General**

The pre-requisite for the application to all substrates is that the substrate is capable of carrying the loads, is graded to the correct fall and does not deform.

Structural movement of the substrate must be adequately allowed for, and movement joints provided. The configuration and location of the joints in the substrate should be carefully considered.

Conventional construction and movement (including seismic) joint details may be used. The BRANZ Good Practice Guide for Membrane Roofing gives guidance in this area. In general for plywood roofs,



spacing of dwangs/nogs shall be 600 x 600mm or 400 x 800mm. For decks spacing shall be 400 x 400mm.

The membrane needs to be considered as part of the total roof design, and as such will need to be stopped at formed waterproof construction and movement joints where these are installed.

In common with any roof membrane system, the ability of the product to resist structural movement will decrease with age. As a result, premature failure may occur at structural movement joints if these are not designed and installed correctly.

## **5.0 DURABILITY**

5.1 **CHEVALINE DEXX**, membranes are expected to have a serviceable life of at least 15 years, provided they are installed and maintained in accordance with this Assessment and the Technical Literature. Exposed DEXX Membranes must include a top coat as part of the total system.

## 5.2 CHEMICAL/FUNGAL RESISTANCE

Industrial air pollutions and windborne salt deposits should not significantly affect the durability of the membranes. However, the long-term properties of the material may be affected by contact with petroleum-based products such as oils, greases and solvents.

The bodycoat includes a highly effective anti-fungal preparation.

## **6.0 MAINTENANCE**

The membrane roof system must be regularly (at least annually) checked for damage to ensure drainage points are clear and working and to remove rubbish or debris.

Mechanical damage to the membrane must be repaired as recommended by Equus Industries Ltd.

When DEXX is used as an exposed membrane it is required that between the eight and eleventh year of service the areas be cleaned and re-top coated with an appropriate Equus Industries Ltd top coat to maintain the weathering integrity of the membrane.

## **7.0 OUTBREAK of FIRE**

Separation or protection must be provided to the membranes and plywood substrate from heat sources such as flues and chimneys.

NZBC Acceptable Solution C/AS1 Part 9 and Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources.

## **8.0 SPREAD of FIRE**

The membranes may be used on roofs of buildings intended for all Purpose Groups, including SC and SD, subject to the requirements of NZBC Acceptable Solution C/AS1 part 7. Paragraph 7.11.1.

The membranes may be used for cladding fire-rated roof construction, providing the roof construction complies with the requirements of NZBC Acceptable Solution C/AS1 part 7.

## **9.0 EXTERNAL MOISTURE**

**DEXX** Membranes, when installed in accordance with this Assessment and the Technical Literature, will provide a roof or deck that will shed precipitated water and melted snow, and prevent the penetration of water that could cause undue dampness or damage to building elements.

The membrane systems must be installed and maintained in a weatherproof state.

At penetrations, the membrane must be raised to a level above that of any possible ponding that may be caused by blockage of roof drainage facilities.

### **9.1 PROVISION FOR SNOW**

Specific weathertightness design for preventing the ingress of snow melt water is required in accordance with the requirements of NZBC Acceptable Solution E2/AS1 February 2005. Paragraph 1.3.

## **10.0 INTERNAL MOISTURE**

The impermeability of the membranes requires that consideration must be given to the effective control of moisture in the roof structure, and closed-in construction spaces under the membrane must have adequate ventilation to prevent the accumulation of moisture.

Venting and vapour barrier requirements will depend on the level of moisture that is present in the construction at the time of installation, the nature of the ceiling/roof construction, and the type of occupancy.

Roof construction that is dry and over areas of low moisture levels, such as found in offices shops and domestic buildings will generally require very little venting, and a painted ceiling will suffice as a vapour barrier.

However, over areas of high moisture levels, such as found in laundries, commercial kitchens, internal swimming pools and spa rooms, the roof space will require venting, coupled with the proper use of vapour barriers.

The BRANZ Good Practice Guide for Membrane Roofing provides details that should followed in regard to vapour barrier installation and the venting of roof spaces.

The membrane must not be installed over wet construction. New concrete substrates must be allowed to cure and dry before applying the membrane. The membrane must not be applied to screed over substrates impermeable to water vapour until the screeds are completely dry.

#### **11.0 APPLICATION SKILL LEVEL**

Installation of the membrane must be completely by applicators trained and approved by Equus industries Ltd.

For identification purposes each approved applicator is awarded a numbered certificate issued by Equus Industries Ltd. Refer appendix 1 for copy of the certificate.

Reviews of approved applicators will occur once per year.

Applicator approval certificates will be available for presentation as part of a building consent application.

#### **12.0 SYSTEMS INSTALLATION**

Substrate Preparation on concrete plaster and mastic asphalt surfaces.

##### **12.1 GENERAL-RESPONSIBILITY**

Unless expressly agreed otherwise, all substrate preparation work shall be the responsibility of the Main Contractor.

##### **12.2 MOSSKILLING TREATMENT**

All surfaces shall be treated with **EQUSS MOSSKILL** solution or other approved moss-kill to kill all moss/mould spores and growths. Stipulated kill-times shall be observed.

**Note:** Badly affected surfaces may require treatment before and after waterblast cleaning to ensure a residual moss-kill treatment before coating application.

### 12.3 CLEANING

All surfaces to be waterproofed shall be waterblasted to remove all construction detritus and laitence, providing a lightly profiled surface ready for coating application. Surfaces which have been power-floated, to a standard beyond U3 NZS 3114:1987 Specification for Concrete Surface Finishes, should, if possible, be acid etched or mechanically treated to “open” the surface and then thoroughly rinsed.

Pebbled surfaces may require additional scarifying to remove all pebbles/binder back to a relatively smooth surface.

### 12.4 PATCHING

Surface imperfections shall be patched, using either **THERMEXX MORTAR** for minor imperfections in concrete or a **CHEVALINE ADMIX** gauged patch mortar for larger irregularities in concrete or mastic asphalt.

Proprietary surface patch mixtures shall not be used.

**Note:** Irregular mastic-asphalt surfaces may require an asphalt-emulsion/cement/sand plaster application to level to falls prior to membrane application.

### 12.5 EXPANSION/MOVEMENT JOINTS

Such designed joints exceeding 6mm in width are not to be overlaid with **CHEVALINE DEXX**, but shall be sealed using an approved elastomeric sealant, such as **TREMCO THC-901** or **TREMFLEX PU1** which shall remain exposed.

### 12.6 SHRINKAGE/SETTLEMENT CRACKING and CONSTRUCTION JOINTS

#### **1. Concrete and Solid Plaster**

Any regular cracks greater than 1mm in which appear likely to move regularly may be saw-cut or chased to 5mm width and 8-15mm depth, primed and sealed with **TRAXX FLOORJOINT** or **TREMFLEX PU1**.

All such sealant joints may be overlaid after surface priming, with a 150mm strip of 300 gsm chopped strand fibreglass mat bedded in **CHEVALINE DEXX**.

The **DEXX MEMBRANE** shall be carried over such cracks.

## 2. All Surfaces

Irregular cracks for which saw-cutting or chasing is impractical, shall be pre-treated after surface priming with **CHEVALINE DEXX** applied as a 100-150mm wide band, with 300 gsm glass-fibre mat embedded as a reinforcement. This shall be allowed to dry overnight before membrane application is begun.

### 12.7 UPSTANDS

All monolithic horizontal/vertical transitions which are not already covered shall be rounded to 5mm minimum radius using **TREMFLEX - 1** applied as a fillet at least 24 hours before membrane application.

Where the transition is not monolithic, a plaster or dry timber (H3.1 treated) fillet of 50 x 50 x 45 degrees in section shall be installed prior **DEXX** application.

### 13.0 **SUBSTRATE PREPARATION ON NEW PLYWOOD SURFACES**

#### 13.1 BACK-PRIMMING

All plywood should be back and edge-primed with **CHEVAPRIME PBT, DEXX PRIMER** or **EPISTIXX**.

#### 13.2 SHEET LAYOUT

Organise sheet layout to maximise the use of whole sheets and to keep joints as straight forward as possible. All sheets joints must be laid over deck/roof framing members. On large areas lay plywood in a brick-bond pattern to minimise the number of 4-way joints.

#### 13.3 SHEET SPACING

Sheets of plywood should be tight butt-jointed. This means that in practice the gap between individual sheets may vary from zero to 1.5mm depending on accuracy of edge-cutting.

#### 13.4 SHEET FIXING

Plywood must be fixed in accordance with manufacturer's instructions taking into account wind-loading, frame spacing and ply thickness. Screw-fixing is required using countersunk corrosion-resistant screws.

At the very least, on small deck areas less than 5m<sup>2</sup>, all corners must be screw-fixed with screw-nails for the balance.

All fasteners heads shall be recessed below the level of the sheets and the sheets laid in a bead of construction adhesive on all framing members.

Sheets should be fixed across supports.

### 13.5 SHEET FILLING

All surface defects and fasteners shall be flushed over with **EPAR S502 EPOXY FILLER, SUPERFLUSH, or THERMEXX DETAIL PLASTER**. Any gaps between sheets shall be similar treated.

### 13.6 PRIMING

When sheets have been fixed and stopped, all surfaces shall be primed with one full coat of **CHEVAPRIME PBT, DEXX PRIMER** or **EPISTIXX** applied at 9 – 12 sqm/litre and allowed to dry overnight.

Note that pre-priming is permitted, if this is a practical site consideration, but any cut or exposed surfaces of plywood must be patch-primed to ensure the surface is sealed.

### 13.7 UPSTANDS

Where upstands to walls occur, an ex 25 x 25mm or 50 x 50mm (H3.1 treated)timber strip/fillet shall be installed, fixed to the deck and primed.

### 13.8 PLYWOOD QUALITY

The minimum recommended standard of plywood is B-D Grade construction ply, with A-D Grade being preferred. The thickness of plywood used will depend to a large extent on construction details, but normally, for trafficable areas 17.5mm plywood is considered to be acceptable, with appropriate framing details.

The better the face-grade of the plywood the less the preparation needed prior to laying **DEXX**. Use of H 3.1 treated plywood is required unless Marine Plywood is used.

### 13.9 JOINT TREATMENT AND DETAILING

#### **Plywood Joint:**

All tight-butted, stopped plywood joints should be overlaid with a 150mm strip of 300gsm E-mat thoroughly bedded in and wetted out with **DEXX**. The strip should be centred over the joint.

This pre-treatment must be allowed to dry thoroughly before overlaying with the full **DEXX** Membrane. Both edges of the glass should be teased out.

### 13.10 UPSTANDS:

All upstands should be sealed by the application of a strip of 300 gsm E-mat glass-fibre mat bedded into **CHEVALINE DEXX** so that the glass is thoroughly wetted out.

As a guide the glass-strip should be cut so that at least 50-65mm of glass extends beyond the interface between the adjoined surfaces e.g. on fillets use 150mm strips of glass on posts, upstands etc, use 110-125mm strips (minimum).

As a guide to wetting out, this is achieved when the entire glass mat has changed from white to the colour of the **DEXX** being used. It is important to ensure that the glass is firmly bedded back to the surface at the transition, with no tendency to “balloon” leaving a void behind. If necessary, use a ‘dry’ brush to push the glass in securely.

### 13.11 PENETRATIONS

All penetrations for plumbing, flues which are not fixed permanently to the deck/roof being sealed, must be sleeved and overflashed, with the sleeve being treated as an upstand when applying the **DEXX**.

Detailing of sleeves and overflashing should be the responsibility of the designer/builder. Make sure that this is done to your satisfaction before laying **DEXX**.

## 14.0 **MEMBRANE INSTALLATION**

### **DEXX APPLICATION**

#### 14.1 POST - PRIMER:

This is required only if the pre-primed plywood has very open-grained surface.

Mix **DEXX**/water in ratio 2 volumes **DEXX** to 1 volume water and brush or roll evenly on to all surfaces as a primer coat at a spreading rate of approximately, 7 sq/litre of mix.

(This will take 1 litre of **DEXX** for every 10 sqm). Allow to dry.

#### 14.2 GLASS FIBRE MAT

Measure and precut glass fibre mat into lengths that will fit neatly from upstand top line to drip edge (or equivalent end points). Where possible, always lay mat in strips down the fall of a roof/deck. Reroll the glass fibre mat after cutting.

On long runs pre-cutting is not always necessary. The glass fibre mat layout is to be planned to allow ease of laying and for a neat finish.

Use a chalk line to establish a guide for rolling out (see below).

#### 14.3 BASECOAT (Bedding Coat):

Brush or roll on (rolling is preferred) a liberal coat of **DEXX** into which the glass-fibre mat is to be laid. Spreading rate should be approximately 300-600mm down the run, and 1m wide,

Use this area to anchor the top end of the mat which should be accurately positioned. Bed the mat thoroughly and treat the upstand similarly. Then unroll the mat into the liquid material laying **DEXX** about 1 metre in advance.

#### 14.4 EMBEDDING:

When mat is anchored (embedded) use a “dry” roller (short nap) over top surface to ensure mat is evenly pressed into the basecoat and wetted out. Use a “dry” brush to push edges firmly into upstand corners and over down-turn to drip edge. **This step is most important** as it ensures a good job. Lay the first roll with the “teased” edge outwards.

When laying succeeding rolls of mat, proceed in a similar fashion, using the “dry” brush to “tease” the mat edges onto each other. The “teased” edge of the roll is always laid onto the “cut” roll edge already laid and teased. As a guide overlay by 40-75mm.

It is inevitable that with roll irregularities and surface variations, some variations in overlapping will occur. Minimise the effect by teasing the overlapping edge well out on to the underlying sheet. It is important not to have gaps between adjacent runs of glass fibre mat. Make sure the fibreglass mat is wetted out.

#### 14.5 FILLING COAT:

Leave basecoat and mat to dry at least 3-4 hours (up to 24 hours) so that you can safely work over it, and then apply by roller (medium/long nap) and brush (to fascias and upstands) a **DEXX** Bodycoat at approximately 2 sqm/litre.

This coat should fill the weave of the mat completely although the mat pattern will still be apparent. Allow this coat to dry.

**Note:** On large jobs it is quite practical, and preferred, to leave the surface overnight before applying this bodycoat. In this case, check the surface to ensure that there are no white patches of glass showing.



If there are, or if the surface looks too 'open' in areas, roll a thin coat of **DEXX** over these areas to ensure the glass fibre mat is wetted out and sealed against dew or overnight rainfall.

#### 14.6 TIDY-UP:

When the bodycoat is dry trim threads of glass fibre which may be sticking up from the surface or hanging down from drip edges. This is an important detail, as protruding glass fibres can lead to localised water penetration of the membrane.

#### 14.7 BODYCOAT:

Finally, apply by roller (and brush) as previously, a topcoat of **DEXX** again at approximately 2-2.25 sqm/litre. This coat completely encapsulates the surface and provides an even finish. Ensure that all areas where trimming has been done, particularly on drip edges or upstands are well sealed.

Allow to dry at least 24 hours before walking on the surface, and 72 hours before leaving objects in one place on the deck.

#### 14.8 TOPCOAT:

If surface is exposed to weathering it is required that a topcoat be applied which will minimise dirt penetration and staining.

##### 1. **ON DOMESTIC ROOF AREAS:**

Seal with one full coat (10-12 sqm/litre as supplied) **CHEVALINE COLOURGLAZE**.

##### 2. **ON DOMESTIC DECKS:**

Seal with one full coat (10-12m sqm/litre per litre as supplied) **DEXX TOPCOAT**.

##### 3. **ON COMMERCIAL DEXX CARPARKS AND GUTTERS:**

Seal with two thin coats of **TRAXX COLOURSEAL** applied by spray, foam roller or soft broom (13-15 sqm/litre/coat) with at least 4 hours between coats.

##### 4. **ON AREAS SUBJECT TO CONSIDERABLE POLLUTION, OR HEAVY TRAFFIC.** (Including Industrial Gutters and Sumps)

Allow **DEXX** to thoroughly dry at least 4-5 days and seal with one full coat of **TRAXX 2000 WEARCOAT**. (Apply at 11-12 sqm/litre).

#### 15.0 **HEALTH and SAFETY**

**CHEVALINE DEXX** is a waterborne material and contains no mammalian-toxic substances. It is non-flammable and requires no special storage conditions other than protection from frost or prolonged heat.

It is recommended barrier cream be applied to hands and safety spectacles be used when handling/applying the material.

## 16.0 BUILDING REGULATIONS

- 16.1 In my opinion of the **Equus Chevaline Dexe Waterproofing System** if designed, used, installed and maintained in accordance with the statements and conditions of the manufacturer's technical data and conditions of this report will meet or contribute to meeting the following provisions of the NZ Building Code.

**Clause B2 Durability**

Performance B2.3.1 (b) 15 years

**Chevaline Dexe Waterproofing and systems** meet this requirement.

Refer paragraphs 5.1 and 5.2 of this report.

**Clause E2 External Moisture**

Performance E2 3.1 and E2 3.2

**Chevaline Dexe Waterproofing Systems** meet this requirement. Refer paragraphs 12.1 to 12.5 of this report.

**Clause E3 Internal Moisture**

Performance E3.3.2

**Chevaline Dexe Waterproofing Systems** meet this requirement. Refer paragraphs 10 of this report.

**Clause F2 Hazardous Agents on the Site**

Performance F1.3.1 and F1.3.2

**Chevaline Dexe Waterproofing Systems** meet this requirement. Refer clause 15 of this report.

## 17.0 QUALITY

- 17.1 The manufacture of the materials forming the system has not been examined in this assessment.
- 17.2 The quality of materials supplied by Equus Industries Ltd is the responsibility of Equus Industries Ltd.
- 17.3 Quality on site is the responsibility of independent installers approved and trained by Equus Industries Ltd.
- 17.4 Designers are responsible for the building design, and building contractors are responsible for the quality of construction of substrate systems in accordance with the instructions of Equus Industries Ltd.

17.5 Building owners are responsible for the maintenance of the membrane systems in accordance with the instructions of Equus Industries Ltd.

## 18.0 TESTS

Testing of **CHEVALINE DEXX** has been undertaken by

- Singapore Institute of Standards and Industrial Research to establish if the material meets the criteria of the Singapore Government for use in Singapore.
- Opus International: for Slip Resistance Qualities.
- Opus International: Evaluation of Performance of **DEXX** membrane on Carpark Decks.
- **EQUUS LABORATORIES**
  - Crack Bridging Ability.
  - Tensile Strength.
  - Resistance to the Effects of Rapid Deformation (impart)
  - Weathering Resistance.
  - Fungus Resistance.



Ron Thurlow  
**JOYCE GROUP LIMITED**

## **19.0 APPENDICES**

1. Product Performance Warranties
2. Quality Assurance Checklists
3. Chevaline Dexe Performance Data
4. Chevaline Dexe Standard Specifications
5. Review of completed projects with Chevaline Dexe Waterproofing Systems.



## **APPENDIX 1**

## WORKMANSHIP AND APPLICATION WARRANTY

Certified Number: \_\_\_\_\_

Consent Number: \_\_\_\_\_

Issuing Authority : \_\_\_\_\_

To \_\_\_\_\_ (the Client)

We (Applicator Company Name) \_\_\_\_\_ an Approved Equus Applicator

having completed our contract on

\_\_\_\_\_ (Project Name/Location)

with the \_\_\_\_\_ (Name of Equus System)

Hereby undertake that we will rectify at our own cost, any failure in performance by the above mentioned system or systems resulting from defective workmanship and application or incorrect system nomination by the Applicator, which occurs within the period of ..... years from the date of completion of our contract.

Namely

.....

The systems nominated in this Warranty have been applied as fully representative of the Manufacturer's current specification for each system to permit performance as claimed for that system.

Our liability under this Warranty is subject to the following terms and conditions:-

1. The Warranty shall not be binding on the Applicator until payment in full is received by the Applicator in respect of the above described contract.
2. This Warranty shall be void and of no effect, and the Applicator shall have no liability in respect thereof, if the Applicator is not given notice in writing of any alleged failure or fault or deterioration relating to the processes within seven days of the discovery by the Client if such alleged failure, fault or deterioration.
3. In the event of liability being established pursuant to this Warranty the Applicator shall repair and reinstate the systems as may be required to make good the areas requiring repair PROVIDED that the Applicator shall be entitled to demand and be reimbursed by the Client for all expenses incurred in the investigation of any alleged failure, fault or deterioration, if, on investigation and in accordance with the foregoing terms and conditions, it is found that this Warranty shall not apply, and it shall not be the responsibility under the terms of this Warranty for the Applicator to rectify such alleged failure, fault or deterioration.
4. The Applicator does not warrant that any repair work carried out pursuant to the terms of this Warranty when completed shall exactly match the existing applied systems in respect to colour and/or texture.
5. All other warranties, guarantees or conditions of whatsoever nature, relating to the application of the systems and whether expressed, implied or given to be expressed, implied or given by any agent or employee of the Applicator, or implied or prescribed, or to be implied or to be prescribed by law are hereby excluded.

6. There shall be no liability for the Applicator in respect of this warranty for any damage to the applied processes caused by act of God, exceptional weather conditions, fire, war, riots, civil commotion, vandalism, nuclear explosion and/or fallout, damage caused by objects dropping or falling from aeroplanes or other airborne devices, bursting or other forms of destruction or failure of gas or fluid carrying pipes or other vessels, electrical faults including fusion and short circuits, negligence or wilful damage by the main contractor, owner and/or occupier of the building and/or visitors to the building on which the processes are placed, and any criminal act or illegal act or any consequential damage.
7. There shall be no liability for the Applicator for any deterioration of the applied system resulting from physical damage by point loads or mechanical causes, spillage of any substance onto the surface however caused whether during construction work or thereafter which were not allowed for in the original design and specification contract documents or arising from any natural disturbance of the structure.
8. This Warranty is null and void if any work is carried out on the applied system without prior written consent of the Applicator or if a change in use of the building from that of which it was designed at the time of completion of the Applicator's contract affects the performance of the application.
9. The benefit of this Warranty is not assignable without prior written consent of the Applicator.

Signed .....  
For .....  
(APPLICATOR COMPANY)

A copy of the Warranty from Equus Industries Limited WW .....

Dated ....., for materials supplied for this contract, is appended herewith.



## **APPENDIX 2**

## Quality Assurance Checklists





# Chevaline Dexx

Application of Chevaline Dexx to new plywood surfaces.

Specification No: P3011

Building Consent No: \_\_\_\_\_

Project & Address: \_\_\_\_\_

Equus Applicator: \_\_\_\_\_

Building Contractor: \_\_\_\_\_

Territorial Authority: \_\_\_\_\_

### 1. Statement of Intent

- (a) This checklist is to be completed by both the Equus Applicator and the Building Contractor, as a step by step record of compliance with both the Equus Specification provided for the contract, and the requirements of the Building Consent applicable to the contract.
- (b) A copy of this checklist must be forwarded to the nearest Regional Office of Equus Industries Ltd with any request for a Warranty and/or Manufacturers Producer Statement. A Warranty will not be issued by Equus Industries Ltd. without a copy of this Checklist being filed.
- (c) A copy of this checklist should form part of the Contract Documentation filed with the Territorial Authority on job completion, for issuance of Code Compliance Certification.

### 2. Areas Treated

The areas to which Membrane is applied are detailed below, with reference to plans (where appropriate).

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Sign Off

We confirm that all applicable processes listed in Section 4 have been correctly completed and that sign-off on each stage has been made by a person with the authority to do so.

For: \_\_\_\_\_ (Signature)  
 \_\_\_\_\_ (Name)

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

For: \_\_\_\_\_ (Signature)  
 \_\_\_\_\_ (Name)

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_



#### 4. Checklist And Method Statement

\* Denotes those processes which must be signed off by the Building Contractor as well.

No.	Process	Completed On	Building Contractor	Equus Contractor
1.*	Plywood of correct thickness and treatment grade on site - back and edge primed.			
2.*	Timber framing correctly sized spaced and laid in accordance with NZS 3604.			
3.*	Plywood correctly laid - tight butted and screw fixed in adhesive bead with correct fixing spacings for site condition.			
4.*	Corrosion resistant fasteners used (stainless steel mandatory within 1km of coastline).			
5.*	Treated timber fillets installed at all upstand transitions. All plywood/timber edges chamfered. Outlets in place.			
6.*	Plywood surface accepted as satisfactory for Dexx installation by Equus Applicator.			
7.	All exposed surfaces correctly primed with _____ (Nominate primer used)			
8.	All Dexx detail strips in place at transitions, in doorways, plywood joints and at wall upstands.			
9.	First full Dexx coat in place with one layer of 300gsm E-mat embedded and wetted out and E-mat correctly laid.			
10.	First filling coat of Dexx laid and E-mat totally sealed off.			
11.	Final coat of Dexx applied at correct spreading rate to fill and cover surface.			
12.	Dexx surface checked for adequate cover and absence of pinholes, blemishes and 'proud' fibreglass.			
13.*	Dexx surfaces recoated where necessary to achieve required finish and base membrane complete.			
14.	Dexx Wearcoat correctly applied where a non-slip finish has been specified Fine/ Medium/Coarse (delete non-applicable).			
15.	Final topcoat(s) correctly applied using _____ (nominate topcoat used)			
16.*	Completed installation inspected and signed off.			



# Chevaline Dexx

Application of Chevaline Dexx to exterior concrete surface.

Specification No: P3012 rev

Building Consent No: \_\_\_\_\_

Project & Address:

\_\_\_\_\_  
\_\_\_\_\_

Equus Applicator:

\_\_\_\_\_

Building Contractor:

\_\_\_\_\_

Territorial Authority:

\_\_\_\_\_

### 1. Statement of Intent

- (a) This checklist is to be completed by both the Equus Applicator and the Building Contractor, as a step by step record of compliance with both the Equus Specification provided for the contract, and the requirements of the Building Consent applicable to the contract.
- (b) A copy of this checklist must be forwarded to the nearest Regional Office of Equus Industries Ltd with any request for a Warranty and/or Manufacturers Producer Statement. A Warranty will not be issued by Equus Industries Ltd. without a copy of this Checklist being filed.
- (c) A copy of this checklist should form part of the Contract Documentation filed with the Territorial Authority on job completion, for issuance of Code Compliance Certification.

### 2. Areas Treated

The areas to which Membrane is applied are detailed below, with reference to plans (where appropriate).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### 3. Sign Off

We confirm that all applicable processes listed in Section 4 have been correctly completed and that sign-off on each stage has been made by a person with the authority to do so.

For: \_\_\_\_\_ (Signature)  
 \_\_\_\_\_ (Name)

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

For: \_\_\_\_\_ (Signature)  
 \_\_\_\_\_ (Name)

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_



#### 4. Checklist And Method Statement

\* Denotes those processes which must be signed off by the Building Contractor as well.

No.	Process	Completed On	Building Contractor	Equus Contractor
1.*	Concrete surface correctly laid to falls and cured 28 days.			
2.*	Concrete surface finish U3 (NZS3114) achieved and free of laitence/detritus.			
3.*	Plaster coves and/or treated timber fillets installed and concrete edges chamfered.			
4.*	Concrete surface accepted as satisfactory for <b>Dexx</b> installation by Equus Applicator.			
5.*	All exposed surfaces correctly primed with _____ (Nominate primer used)			
6.*	All <b>Dexx</b> detail strips in place at transitions, in doorways, and at wall upstands. Outlets in place.			
7.	First full <b>Dexx</b> coat in place with one layer of 300gsm E-mat embedded and wetted out and E-mat correctly laid with teased laps.			
8.	First filling coat of <b>Dexx</b> laid and E-mat totally sealed off.			
9.	Final coat of <b>Dexx</b> applied at correct spreading rate to fill and cover surface.			
10.	<b>Dexx</b> surface checked for adequate cover and absence of pinholes, blemishes and 'proud' fibreglass.			
11.*	<b>Dexx</b> surfaces re-coated where necessary to achieve required finish and base membrane complete.			
12.	<b>Dexx Wearcoat</b> correctly applied where a non-slip finish has been specified Fine/ Medium/Coarse (delete non-applicable grades).			
13.	Final top coat(s) correctly applied using _____ (Nominate top coat used)			
14.*	For surfaces to receive tile overlay—full 24 hour pond test carried out successfully.			
15.*	Completed installation inspected and signed off.			

Equus Industries Ltd  
 PO Box 601  
 Blenheim  
 Phone: 03 578 0214 Fax 03 578 0919  
 Email: admin@equus.co.nz  
 Web: www.equus.co.nz

# Chevaline Dexx

Application of Chevaline Dexx to interior wet areas.

Specification No: P3014

Building Consent No: \_\_\_\_\_

Project & Address:

\_\_\_\_\_

\_\_\_\_\_

Equus Applicator:

\_\_\_\_\_

Building Contractor:

\_\_\_\_\_

Territorial Authority:

\_\_\_\_\_

## 1. Statement of Intent

- (a) This checklist is to be completed by both the Equus Applicator and the Building Contractor, as a step by step record of compliance with both the Equus Specification provided for the contract, and the requirements of the Building Consent applicable to the contract.
- (b) A copy of this checklist must be forwarded to the nearest Regional Office of Equus Industries Ltd with any request for a Warranty and/or Manufacturers Producer Statement. A Warranty will not be issued by Equus Industries Ltd. without a copy of this Checklist being filed.
- (c) A copy of this checklist should form part of the Contract Documentation filed with the Territorial Authority on job completion, for issuance of Code Compliance Certification.

## 2. Areas Treated

The areas to which Membrane is applied are detailed below, with reference to plans (where appropriate).

\_\_\_\_\_

\_\_\_\_\_

Brand/Type of tile adhesive used/to be used:

\_\_\_\_\_

## 3. Sign Off

We confirm that all applicable processes listed in Section 4 have been correctly completed and that sign-off on each stage has been made by a person with the authority to do so.

For: \_\_\_\_\_ (Signature)  
 (Building Contractor) \_\_\_\_\_ (Name)

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ \_\_\_\_\_

For: \_\_\_\_\_ (Signature)  
 (Equus Applicator) \_\_\_\_\_ (Name)

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ \_\_\_\_\_



#### 4. Checklist And Method Statement

\* Denotes those processes which must be signed off by the Building Contractor as well.

No.	Process	Completed On	Building Contractor	Equus Contractor
1.*	Plywood of correct thickness and treatment grade on site - back and edge primed.			
2.*	Timber framing correctly sized spaced and laid in accordance with NZS 3604			
3.*	Plywood, or cellulose cement sheet lining correctly laid - butted in adhesive bead (refer to How To WA223)			
4.*	Corrosion resistant fasteners used (stainless steel mandatory within 1km of coastline).			
5.*	Treated timber or Tremflex PU-1 fillets installed at all upstand transitions. Outlets in place.			
6.*	Sheet substrate accepted as satisfactory for Dexx installation by Equus Approved Applicator.			
7.	All exposed surfaces correctly primed with _____ (Nominate primer used)			
8.	All Dexx detail strips in place at transitions, in doorways, plywood joints and at wall upstands.			
9.	First full Dexx coat in place with one layer of 300gsm E-mat embedded and wetted out and E-mat correctly laid with teased laps.			
10.	First filling coat of Dexx laid and E-mat totally sealed off.			
11.	Final coat of Dexx applied at correct spreading rate to fill and cover surface.			
12.	Dexx surface checked for adequate cover and absence of pinholes, blemishes and 'proud' fibreglass.			
13.*	Dexx surfaces recoated where necessary to achieve required finish and base membrane complete.			
14.	Final top coat(s) correctly applied using _____ (Nominate top coat used)			
15.	For surfaces to receive tile overlay - full 24 hour pond test carried out successfully.			
16.*	Completed installation inspected and signed off.			



## **APPENDIX 3**

# Chevaline Dexx

## WA224 - Fixing requirements for bathroom internal wet areas to suit Dexx Membranes.

In all cases please refer to relevant manufacturer's detailed specifications if the builder/applicator is unsure of methods to be employed. The following is a guide only.

1. We recommend compressed cement fibre sheet as an underlay over particle board and T&G substrates or CD H3-treated plywood as an alternative option (minimum 18mm thick). Other suitable water resistant board designed for use in wet areas may also be used as an underlay.
2. Shower floors: if you want a level access shower on a concrete floor, drop floor by 30mm. On a timber floor, drop floor 50mm. Alternatively, use a concrete hob (usually available from the water proofer) which means a small step about 65x65mm. The fall for the shower should be formed before waterproofing. The tiler is the best person to form shower floors. Normally done with sand-cement and admix. You should leave to cure 5-7 days depending on admix used. The alternative is to use a 24-hour full cure screed such as Rapid Set 45. Timber hobs are no longer acceptable as they sweat, swell and rot.
3. Wastes need to be set in the middle of the shower and packed up to allow for the thickness of the screed, approx. 10mm (confirm with your tiler). The screed can then finish level with the flange of the waste. Englefield-type wastes cause ponding/seepage problems as they won't let the water flow away from under tiles. Also, they cannot be waterproofed properly in some applications. Recommend Allproof, Metalcraft and McAlpine wastes only.
4. Baths (that are not checked into walls because they have a ledge) should be out until the box is waterproofed. It is not possible to waterproof the ledge at the back wall once the bath is fitted. If the bath is to be checked into the wall, you need to check out the studs as well. Make sure the tile does not hit curves in the bath before it gets to the point it sits on bath. (Bath will need to be fitted and sealed as per manufacturer's specifications before waterproofing in this situation).
5. Plastic shower trays should be fitted after waterproofing, as waterproofing may not hold on the shower tray. Solid nog around perimeter 150mm.
6. All waterproofing should finish with an upturn or downturn of no less than 75mm. The recommended is 150mm.
7. Note that T&G plywood still requires support under tongue. Ensure sheets are close butted with no gaps. Sand sheet joints to remove any difference in levels. Fill any gaps with construction grade epoxy filler such as Equus Epar Epoxy.
8. Schedule waterproofing before the stopper. If the stopper comes in first, base coat only to wall joints to be waterproofed, but not corner joints of the shower. This is a two-day application over a 3-day period. There is a minimum of 48 hours after the final coat is applied before areas can be tiled.
9. Recommended joist spacing for 18mm plywood is 400mm, with nogs up to 600mm. Maximum joist spacing is recommended for 18mm plywood with 600mm joist, and nogs up to 400mm. Note that if using T&G plywood, joint

still needs to be fixed and supported by joist. Glue and screw fixing is recommended at 150mm centres to the perimeter of sheets and 200mm centres down the middle or closer as per supplier's instructions. Rib shank galvanised nails are acceptable when glue is also used. Ensure all screws/nails are countersunk just below the surface.

10. Underfloor heating when used must be installed on top of waterproofing, not underneath, once waterproofing is fully cured.

### Commonly asked questions:

#### Can you waterproof up to skirting?

No. Skirting and architraves must be left off until waterproofing is completed.

#### Will the membrane hide imperfections?

No. As it is a gel coating, it does not self-level and has a dry film thickness of between 1-1.5mm.

#### Can it be built up thicker to fix leveling problems?

No. For same reasons as above and also, the system would need drying between the multiply layers required.

#### If the substrate is wet, can you torch it dry?

No, not if it is wet through as the torch will only dry the surface. The moisture can slow the curing time and will get trapped in, only to reappear as bubbles later.

#### When my shower is running, there is water getting under the screen onto the floor...

This is a common problem if the wrong waste is used or screen is fitted after tiling and no flashings or sealant work was done prior to tiling to contain any water running under tiles. Very hard to fix.

#### My plumber says he has a better waste?

Check with applicator first. What might be good for him to fit may not be good to waterproof or drain water trapped under tiles properly.

#### Can I tile it tomorrow?

Only if tomorrow is 48 hours after the final coat without rain at 18-23°C and 60-70% Relative Humidity. Cooler and/or more humid conditions may prolong dry times.

#### Can you waterproof when bathroom fittings are already fitted?

No, not properly, unless we can waterproof up onto the fittings at least 70mm (not a good look).

#### Do you need to waterproof the whole floor?

Yes. It is very important to apply waterproofing to the entire floor area to ensure complete protection of the wet area. There are some exceptions, eg. ground floor concrete floors. However, water can track into/under walls and along saw cuts. So we recommend these areas also be waterproofed, particularly if a tiled walk-in shower is required.

#### Do you need to flood test bathroom or shower tray?

Yes. If practical, this should be done by builder/owner before tiling.

For more detailed explanations refer to your local plywood supplier's installation procedures. Extracts of the above have been taken from the BRANZ publications, "Good membrane roofing practice" and "Good tiling practice"; Carter Holt Harvey's "Ecoply Manual", "GIB Aqualine wet area systems", and Equus "Chevaline Dexx to internal areas".

**Equus Industries Ltd**  
**PO Box 601**  
**Blenheim**  
**Phone: 03 578 0214 Fax 03 578 0919**  
**Email: [admin@equus.co.nz](mailto:admin@equus.co.nz)**  
**Web: [www.equus.co.nz](http://www.equus.co.nz)**

The information in this know how sheet is based on our experience and testing. It represents the latest information available at the time of printing, but no guarantee of its accuracy is made or implied, nor responsibility taken for use to which this information may be put. We reserve the right to alter or up-date information parameters and formulations at any time without notice.

# Chevaline DEXX

## Application of Chevaline DEXX to new plywood surfaces.

### Surface Preparation And Sheet Fixing:

#### Back-priming:

All plywood should be back and edge-primed with **Dexx Primer** to dry surfaces, or **Epistix** to damp plywood surfaces, before fixing.

#### Sheet layout:

Organise sheet layout to maximise the use of whole sheets and to keep joints as straight forward as possible. All sheet joints must be laid over deck/roof framing members. On large areas, lay plywood in a brick-bond pattern to minimise the number of 4-way joints.

#### Sheet spacing:

Sheets of plywood should be tight butt-jointed. This means that in practice the gap between individual sheets will vary from zero to 1.5mm depending on accuracy of edge-cutting.

#### Sheet fixing:

Plywood must be fixed in accordance with manufacturers' instructions taking into account wind-loading, frame spacing and ply thickness. Screw-fixing is preferred using countersunk corrosion-resistant screws. At the very least, on small deck areas, all corners must be screw-fixing with screw-nails for the balance.

All fastener heads shall be recessed below the level of the sheet face. In addition it is preferred that sheets be laid in a bead of construction adhesive on all framing members.

#### Sheet filling:

All surface defects and fasteners shall be flushed over with **Epar 801 Epoxy Filler**. Any gaps between sheets shall be similarly treated.

#### Priming:

When sheets have been fixed and stopped, all surfaces shall be primed with one full coat of **Dexx Primer** to dry surfaces or **Epistix Primer** to damp surfaces, applied at 8-10 sqm/litre and allowed to dry overnight. Note that pre-priming is permitted, if this is a practical site consideration, but any cut or exposed surfaces of plywood must be patch-primed to ensure the surface is sealed.

#### Upstands:

Where upstands to walls occur, an ex 25 x 25 or 50 x 50 timber can't strip/fillet shall be installed, fixed to the deck and primed.

#### Plywood quality:

The minimum recommended standard for plywood is B-D Grade construction ply, with A-D Grade being preferred. The thickness of plywood used will depend to a large extent on construction details, but normally, for trafficable areas 17.5mm plywood is considered to be acceptable, with appropriate framing details. The better the face-grade of the plywood, the less the preparation needed prior to laying Dexx. **Use of treated plywood is preferred, but may depend on local building regulations.**

### Joint Treatment And Detailing:

#### Plywood joint:

All tight-butted, stopped plywood joints should be overlaid with a 150mm strip 300gsm E-mat thoroughly bedded in and wetted out with Dexx. The strip should be centered over the joint. The pretreatment must be allowed to dry thoroughly before overlaying with the full **Dexx Membrane**. Both edges of the glass should be teased out.

#### Upstands:

All upstands should be sealed by the application of a strip of 300gsm E-mat glass-fibre mat bedded into **Chevaline DEXX** so that the glass is thoroughly wetted out. As a guide the glass strip should be cut so that at least 50-65mm of glass extends beyond the interface between the adjoining surfaces e.g. on cant strips use 150mm strips of glass, on posts etc., use 100-125 strips.

#### Penetrations:

All penetrations for plumbing, flues etc., which are not fixed permanently to the deck/roof being sealed, must be sleeved and overflashed, with the sleeve being treated as an upstand when applying the **Dexx**.

Detailing of sleeves and over-flashing should be the responsibility of the designer/builder. Make sure that this is done to your satisfaction before laying **Dexx**.

#### Weatherproofness:

When joints and upstands have been sealed as described above, working on to primed plywood, the deck/roof surface can be regarded as temporarily weather proof, and will resist rain showers without the need for further protection. It is important to have temporary protection on site until this stage is reached.

### Dexx Application:

#### Primer:

This is required only if the pre-primed plywood has a very open-grained surface.

Mix **Dexx**/water into ratio 2 volumes **Dexx** to 1 volume water and brush evening on to all surfaces as a primer coat at a spreading rate of approx. 7 sqm/litre of mix. (This will take 1 litre of **Dexx** for every 10 sqm). Allow to dry.

#### Glass fibre mat:

Measure and pre-cut glass fibre mat into lengths that will fit neatly from upstand top line to drip edge (or equivalent end points). Where possible always lay glass fibre mat in strips down the fall of a roof/deck. Reroll the glass fibre mat after cutting. On long runs pre-cutting is not always necessary. Take a little time to work out your glass-fibre mat layout - it will pay off in terms of easier laying and a neater finished job. Use a chalk line to establish a guide for rolling out. (See over).

### Basecoat (Bedding coat):

Brush or roll on (rolling is preferred) a liberal coat of **Dexx Bodycoat** into which the glass-fibre mat is to be laid. Spreading rate should be approximately 2sqm/litre. Start at the top end with an area approximately 300-600mm down the run, and 1m wide. Use this area to anchor the top end of the mat which should be accurately positioned. It helps to work to a chalk line on the deck. Bed the mat thoroughly and treat the upstand similarly. Then unroll the mat into the liquid material laying **Dexx Bodycoat** about 1 metre in advance.

Do not work so far in advance of the glass that the **Dexx Bodycoat** is surface-dry before the glass is embedded. If this occurs, re-apply a thin layer of Dexx and embed the glass immediately.

### Embedding:

When mat is anchored (embedded) use a "dry" roller (short nap) over top surface to ensure mat is evenly pressed into the basecoat and wetted out. Use a "dry" brush to push edges firmly into upstand corners and over down-turn to drip edge. **This step is most important** as it ensures a good job.

When laying succeeding rolls of mat, proceed in a similar fashion, using the "dry" brush to tease the mat edges into each other, rather than deliberately overlapping them.

It is inevitable that with roll irregularities and surface variations, some overlapping will occur. Minimise the effect by teasing the overlapping edge well out on to the underlying sheet. It is important not to have gaps between adjacent runs of glass fibre mat.

### Bodycoat (1):

Leave basecoat and mat to dry at least 3-4 hours (up to 24 hours) so that you can safely work over it, and then apply by roller (medium/long nap) and brush (to fascias and upstands) a **Dexx Bodycoat** at approx. 2 sqm/litre. This coat should fill the weave of the mat completely although the mat pattern will be apparent. Allow this coat to dry.

Note: On large jobs it is quite practical, and preferred, to leave the surface overnight before applying this bodycoat. In this case, check the surface to ensure that there are no white patches of glass showing. If there are, or if the surface looks too 'open' in areas, roll a thin coat of **Dexx** over these areas to ensure the glass fibre mat is wetted out and sealed against dew or overnight rainfall.

### Tidy up:

When bodycoat is dry trim any threads of glass fibre which may be sticking up from the surface or hanging down from drip edges etc. This is an important detail, as protruding glass fibres can lead to localised water penetration of the membrane.

### Bodycoat (2):

Finally, apply by roller (and brush) as previously, a topcoat of **Dexx** again at approximately 2-2.25 sqm/litre. This coat completely encapsulates the surface and provides an even finish. Ensure that all areas where trimming has been done, particularly on drip edges or upstands are well sealed. Allow to dry at least 24 hours before walking on the surface, and 72 hours before leaving objects in one place on the deck.

### Overglazing:

If the surface is to be kept clean, we recommend the use of an overglaze which will minimise dirt penetration and staining.

#### On domestic decks and roof areas:

Seal with one full coat 10-12 sqm/litre as supplied of **Chevaline Dexx Topcoat**.

#### On commercial decks, carparks and gutters:

Seal with two thin coats of **Traxx Colourseal** applied by spray foam roller or soft broom at 13-15 sqm/litre/coat, with at least 4 hours between coats.

#### On areas subject to considerable pollution:

(including gutters and sumps etc.)  
Allow Dexx to through dry at least 4-5 days and seal with one full coat of **Chevaline Colourcure** applied at 11-12 sqm/litre.

### Equipment list:

Brushes 50/75/100mm  
Roller trays  
Medium/long nap rollers (for **Dexx** application)  
Short nap (or foam) rollers (for 'dry' roller)  
Soft split nylon yard broom (for **Colourseal**)  
Stanley knife or retractable cutter (for cutting/trimming glass)  
Large scissors (for cutting glass fibre mat)  
Straight edge  
Chalk line  
10m and 2m tapes  
75mm scraper  
+sanding equipment, dust masks

### Material list:

#### From Equus:

**Chevaline Dexx Bodycoat**  
**Chevaline Dexx Primer or Chevaline Epistixx Primer**  
**Epar 801 Epoxy Filler**  
Epoxy or polyester filler  
Xylol for cleaning  
300 gsm e-mat glass fibre mat

#### Topcoat:

**Chevaline Dexx Topcoat** (Residential/Light Commercial) or  
**Traxx Colourseal** (Medium/Heavy Commercial) or  
**Chevaline Colourcure** (Ponding/High Pollution Areas)

**Equus Industries Ltd**  
PO Box 601  
Blenheim  
Phone: 03 578 0214 Fax 03 578 0919  
Email: [admin@equus.co.nz](mailto:admin@equus.co.nz)  
Web: [www.equus.co.nz](http://www.equus.co.nz)

# Chevaline Dexx

Flexible Reinforced Roof and Deck Membrane

## Key Benefits Summary:

- 20 years of Proven performance in New Zealand conditions
- Excellent durability
- Ease of use
- Applicable to a variety of surfaces in both horizontal and vertical situations
- Wide colour range available
- Ease of detailing even on complicated shapes
- Easy long-term maintenance
- Applied by Approved Equus Applicators

## Limitations:

- Special design and maintenance criteria apply for vehicular traffic installations.
- May require weather protection for correct cure when applied in cold/damp ambient daytime temperatures
- Creasing may occur at plywood joints in correctly detailed installations.

## Colours:

**Dexx** is supplied as standard in 00-A-05 (grey) and white. Custom colours are available to match any colour chart. We do not recommend dark colours on plywood roofs/decks. Seek advice from Equus if in doubt.

## Physical Properties:

Liquid Material:	(Dexx Bodycoat)
Volume Solids:	47%
Specific Gravity:	1.30
Flash Point:	None
Shelf Life:	3 years in original sealed container, when stored in cool, dry conditions.
Applied Film:	Standard System
Flexibility:	Passes 3mm mandrel
Durability:	Excellent long term service
Chemical Resistance:	Excellent resistance to all normal environmental pollutants.
Fungus Resistance:	<b>Chevaline Dexx</b> contains a highly effective anti-fungal preparation.
Normal Film Thickness:	1.2-1.5mm depending on number of glass cloth layer used.

## Performance:

When correctly detailed and installed. **Dexx** membranes comply with the following clauses of the Building Code.

<b>B2</b> Durability	<b>E1</b> Internal Moisture
<b>E2</b> Exterior Moisture	<b>F3</b> Hazardous Materials

## Purpose of use:

A liquid applied, glassfibre mat reinforced membrane for use in sealing old and new flat and near-flat roofs, walk-out decks and patios. Particularly useful where areas are subject to foot traffic and light vehicular traffic. Topcoats are available for various service conditions. Can also be used on specified substrates as a waterproof membrane under tiles. **Dexx** is always used in conformance with Equus standard specifications.

## Product:

The liquid **Dexx** material is a heavy-bodied water-borne acrylic paste ready to use from the container. It is formulated for high adhesion, and water resistance, also toughness combined with flexibility in the cured film. The wear-coat contains graded silica for slip and wear resistance. **Dexx** is available in FD grade for application in adverse conditions.

## Compatibility:

**Dexx** is always used in conjunction with 300gsm glassfibre E-mat as reinforcement except for parapet detailing where 225gsm E-mat may be used. **Dexx** is compatible with the following primers - depending on substrate and environment **Dexx Primer**, **Chevaprime PBT**, **Chevaprime-U** and **Epistixx**.

**Dexx** is compatible with the following topcoats, depending on environment and end-use. **Dexx Topcoat**, **Dexx Wearcoat**, **Colourglaze**, **Traxx Colourseal**, **Traxx 2000 Wearcoat**. Refer to Standard Specifications for guidance on primer and topcoat usage.

## Standard Pack:

20 litre open headed pails with plastic head-liners.

## Maintenance:

When **Dexx** is used as an exposed membrane, topcoat renewal will be required at 5-10 yearly intervals, depending on topcoats type and service conditions. Clean by medium pressure water washing, with detergent injection on trafficable areas, and recoat. If mechanical damage to the membrane has occurred, this can be easily repaired prior to re-topcoating.

## Warranty:

Up to 15 years depending on location and service conditions.

**Equus Industries Ltd**  
PO Box 601  
Blenheim  
Phone: 03 578 0214 Fax: 03 578 0919  
E-mail: [admin@equus.co.nz](mailto:admin@equus.co.nz)  
Web: [www.equus.co.nz](http://www.equus.co.nz)

**Surface Preparation:****Concrete Roofs and Decks:**

Mosskill if necessary, patch all holes and pretreat cracks (but not movement joints), by cleaning out, filling with **Thermexx Plaster** and overlaying with 300gsm fiberglass E-mat 150mm strip embedded in **Dexx**. Ensure surface is well cleaned, and dry before proceeding with application.

**Mastic Asphalt:**

Ensure surface is level, and all holes and cracks are filled with a bituminous patch mix or **Chevacryl Admix Plaster**, particularly those where blisters have been cut out.

**Exterior Plywood:**

Ensure sheets are tight-butted, well fastened (stainless steel screws) glued to bearers and adequately supported. If in doubt about adequate below-surface ventilation, include venting either at upstands (with over-flashing) or with built-in vents.

**Priming:**

Concrete, Mastic Asphalt, Previously coated surfaces: **Dexx Primer** or **Epistixx**.

**Priming:**

Plywood: **Chevaprime-U**, **Dexx Primer** or **Epistixx**. Prime sheet backs and edges.

Spreading rates will generally be dictated by surface profile and porosity, but all **Chevaline** primers should be applied at between 6-10sqm/litre of dry mix.

**Application Method:**

All **Dexx** bodycoats should be roller-applied with a medium/long nap-roller. Final topcoat, glazecoats or wearcoats may be rolled or sprayed, preferably using airless equipment. Application sequence is as follows (on primed surface)

1. Bodycoat
2. Glass Fibre Mat (laid into wet bodycoat)
3. Bodycoat
4. \*Bodycoat
5. \*Glass Fibre Mat
6. \*Bodycoat
7. Bodycoat
8. Wearcoat/Glazecoat

(\*optional items depending on service conditions)

Minimum spreading rate for the three-coat bodycoat system is 1.5 litres/sqm. Care must be taken to ensure that the reinforcing mat is well embedded in the wet material and that the bodycoat application of the mat is well worked in to eliminate air-trap.

**Application Properties:****Spreading Rate:**

3 coat system: 2.0-2.5sqm/litre/coat  
(40-45sqm/pail/coat)

4 and 5 coat system: 2.25-2.4sqmlitre/coat  
(45-48sqm/pail/coat)

**Dexx** Wearcoat: 3.0-4.0sqm/litre  
(60-80sqm/pail/coat)

**Dexx** Topcoat /  
**Colourglaze:** 10sqm/litre (200sqm/pail).  
Spreading rates indicated must **not** be exceeded if satisfactory performance is to be achieved.

**Dry Time:** Do not apply **Dexx** in air temperatures less than 8°C or when surface temperature is less than 4°C. Use **Dexx** FD in adverse conditions.

Touch Dry: 1-2 hours)  
Through Dry: 8-16 hours) at normal conditions  
Full Hardness: -10 hours)

**Recoat Time:** Self-recoat and 4-8 hours or as soon as operator can walk over the surface. In adverse weather conditions.

**Dexx** Wearcoat: Allow 24 hours between coats.  
**Colourglaze/**  
**Dexx** Topcoat: 12-24 hours.  
**Traxx 2000** Wearcoat: Allow 48 hours minimum. At least 72 hours in winter.

**Thinning/Clean Up:** Use clean water for both. Clean equipment immediately after use. Fully dried material is difficult to remove.

**NOTE:** Normal conditions are 18-23°C and 60-70% R.H. Cooler and/or more humid conditions may prolong dry times.

**Health and Safety:**

**Chevaline Dexx** is a waterborne material and contains no mammalian-toxic substances. It is non-flammable and requires no special storage conditions other than protection from frost or prolonged heat. However, we do recommend the use of barrier cream on hands, and safety spectacles when handling/applying this material.

EQUUS SAFETY CLASS 1.  
Shipping Restrictions: None.  
**Dexx** Edition 3  
Equus Industries Ltd 2002

## **APPENDIX 4**



## Standard specification for the application of Chevaline Dexx to plywood car parking decks

Reference: P3013  
February 2002

### 1.0 PREAMBLE:

This specification is for the application of the **Chevaline Dexx** Waterproof Membrane System to plywood car parking areas where it is desirable or essential to prevent water penetration to the structure or through the structure to underlying facilities. The membrane is a two-layer reinforced system to accommodate stresses in all directions, and is generally further protected against oil, petrol and grease contamination by the application of a wear coat of **Traxx Colourseal**.

References should be made to clauses of this Specification, which are equally binding on all trades. In particular, note the requirements for work to be done by or for the Main Contractor prior to laying of membrane materials.

### 2.0 SURFACE PREPARATION:

#### 2.1 General Responsibility:

Unless expressly agreed otherwise at time of contract pricing, all work in this section shall be the responsibility of the Main Contractor, whether carried out by his own staff, other sub-trades or the Specialist Finishes Sub-Contractor. In the latter case, such preparatory work shall be priced separately from work defined in Sections 3.0 - 5.0 inclusive.

#### 2.2 Plywood Grade & Thickness:

##### .1 *Structural Underlay - general usage:*

Plywood thickness shall be determined by the engineer based on loading and support spacing but generally will be a minimum 22mm Cp-D treated structural plywood, unless otherwise expressly stipulated by the specifier.

##### .2 *Overlay to existing sarking only:*

Plywood shall be minimum 18mm Cp-D treated structural plywood, unless otherwise expressly stipulated by the specifier.

#### 2.3 Sheet Layout:

All sheets shall be laid out so as to maximise the use of whole sheets. All sheet joints shall be laid over framing members.

#### 2.4 Back Priming:

Sheets used over spaces which are not ventilated shall be back-primed with **Chevaprime PBT** or equivalent prior to installation.

#### 2.5 Sheet Spacing:

Sheets shall be laid tight butt-jointed, with edges pre-primed with **Chevaprime PBT**.



## 2.6 Sheet Fixing:

Plywood must be fixed in accordance with Manufacturers instructions taking into account wind-loading, frame spacing and ply thickness. Screw-fixing is preferred using countersunk corrosion-resistant screws. All sheets shall be laid in a bead of construction adhesive along all framing members.

All fastener heads shall be recessed below the level of the sheet face.

All surface defects and fasteners shall be flushed out with an approved filler such as **Traxx Filler** or **Troweltexx Fine**.

## 3.0 SURFACE PRETREATMENT:

### 3.1 Surface Defects:

All splits and surface defects shall be flushed with **Troweltexx Fine** or TRAXX FILLER which shall be allowed to dry before membrane application is begun. This shall include any gaps because of irregularities in sheet edges at tight-butt joints.

### 3.2 Treatment of Plywood Joints:

Apply a 150mm wide strip of 300gsm, chopped strand fibreglass mat centred over all joints, and firmly bedded in **Chevaline Dextr**. This shall be done after priming (see 4.1) and before membrane application.

### 3.3 Upstands, Junctions and Joints:

All vertical/horizontal transitions and joints shall have a minimum 150mm wide strip of 225 gsm or 300 gsm glass fibre mat embedded in **Chevaline Dextr** and centred on the transition/joint as additional stress reinforcement. This shall be done after priming and before application of the **Dextr** membrane layer.

## 4.0 CHEVALINE DEXX MEMBRANE:

### 4.1 Priming:

All surfaces to be coated shall be primed with **Chevaline Epistix** primer, applied by roller or brush. This shall include upstands to a minimum height of 100mm adjacent to all horizontal surfaces being coated. The choice of priming system will be made by the Specialist Finishes Sub-Contractor, in conjunction with the Manufacturer, taking into account particular site considerations, but generally **Chevaline Epistix** shall be used, in accordance with Manufacturers instructions.

### 4.2 Membrane Application:

The membrane comprises **Dextr** and 300 gsm, glass fibre mat applied in the following sequence.

Bodycoat  
Glassfibre mat (laid into wet bodycoat)  
Bodycoat  
Glassfibre mat (laid at right angles to the first layer)  
Bodycoat  
Bodycoat



Application shall at all times be in accordance with Manufacturers instructions particularly with regard to spreading rates and dry times, to ensure a sound tight membrane is achieved.

Total spreading rate shall be not more than 10 sqm/20 litre pail of **Dexx**, under normal laying conditions.

#### 4.3 **Wearcoat:**

To provide stain and hydrocarbon resistance a wearcoat of **Traxx Colourseal** shall be applied 48-72 hours after final Bodycoat application. Application of **Colourseal** shall be at a spreading rate of 8-10 sqm/litre, applied in two (2) roller coats, or a single double-pass spray coat, to ensure a complete seal is achieved.

### 5.0 **GENERAL NOTES:**

#### 5.1 **Upstands/Coves/Sumps:**

The **Dexx** Membrane shall be taken 100mm up all associated upstands, and turned into any rainwater sumps which may be incorporated in the floor slab. Where permanent ponding is likely in sumps and gutters, a finish coat of **Chevaline Colourcure** applied at 8-10 sqm/litre may be substituted for the **Colourseal** Wearcoat.

#### 5.2 **Water Entry Points:**

Ensure that all likely construction details which may allow water entry to the slab beneath the membrane are adequately sealed. This may necessitate extension of the **Dexx** membrane or a compatible waterproof coating system to drip edges, particularly on stub walls and bare slab edges, where the **Dexx** membrane should be turned down the entire thickness of the slab to a drip edge. Allowance for this shall be made during initial design detailing.

#### 5.3 **Membrane Edge Protection:**

At points where traffic enters or leaves **Dexx** treated areas, it is recommended that low-profile hardwood or galvanised steel judder bars be bolted to the slab so that the membrane edge is protected against scuffing.

Where **Dexx** is finished to a preformed patent metal expansion joint, or is finished part-way across a deck, it is recommended that the membrane be turned down to a chase at the rear edge of the metal or cut into the deck and sealed using **Traxx Floorjoint** as an adhesive/sealant.

#### 5.4 **Traffic Markings:**

Traffic markings may be carried out using a brush, roller or spray coat of **Chevaline Colourcure NS, Colourseal** white (or yellow), or conventional road-marking paint, after application of the **Colourseal** Wearcoat.

#### 5.5 **Access Ramps:**

.1 Unless specifically required, access ramps are not generally treated using this system. Where a non-skid treatment is needed a **Traxx NS/Floorjoint** system should be detailed for application in accordance with Equus Standard Specification P105. Modification to allow application of a coarse non-skid grit between the 2nd and 3rd coats of the **Traxx NS** system is permissible, and recommended for external ramps.



.2 Where it is essential that the full **Dexx** membrane is used on ramps because of a critical need to waterproof underlying areas, then the **Dexx** membrane shall be applied, and overlaid with **Traxx NS** in accordance with Specification P3013 Appendix 1.

#### 5.6 Placing in Service:

The treated areas may be placed in service 48 hours after **Colourseal** application.

#### 6.0 MAINTENANCE:

1. The **Chevaline Dexx/Colourseal** Membrane may be cleaned at any time by low pressure spraying/brooming and hosing off using a weak (0.1%) neutral detergent solution. Floor sweeping machines and/or abrasive cleaning agents shall not be used.
2. It is recommended that the surface be inspected at 2-3 yearly intervals, and if necessary a further application of **Traxx Colourseal** be carried out to preserve the appearance and performance of the applied membrane.
3. Should mechanical damage occur because of undue wear, vandalism or associated building maintenance, the **Dexx** can be easily replaced by patching and/or resurfacing as required, after simple preparation.

#### 7.0 WARRANTY:

The **Chevaline Dexx** Membrane system described in this specification may be warranted as waterproof for up to two years provided that:

- (a) All work is carried out by an Approved Equus Contractor.
- (b) All work is done in accordance with this specification or any written additions or amendments thereto issued by the Manufacturer.

Such a warranty is issued by the Approved Equus Contractor who does the work, and is backed by the Manufacturer as to the fitness for the purpose of the materials supplied by them for the contract.

It should be noted that as the surface is a wearing surface, certain provisions regarding mechanical damage and maintenance re-coating may be incorporated within the warranty, depending entirely upon the declared intended use to which the surface is to be put.

#### 8.0 SHORT-FORM SPECIFICATION:

The (nominated area) shall be waterproofed using the **Chevaline Dexx** Membrane System applied by an Approved Equus Contractor in accordance with the Manufacturers technical instructions. The **Dexx** shall be a "double layer" system, finished with a **Traxx Colourseal** Wearcoat, and shall be correctly detailed at all joints, upstands and edges, in accordance with

Equus Specification P3013. Finish colour shall be (nominate colour).

-0000000-

## Standard specification Chevaline Dexe on concrete, plaster and mastic asphalt surfaces

Page 1 of 4  
Ref:P3012  
November 2003

### 1.0 PREAMBLE:

This specification is for the application of the **Chevaline Dexe** Waterproof Membrane System to concrete, solid plaster and mastic asphalt surfaces in situations subject to foot traffic and minimal surface abuse. This generally applies to domestic and light commercial deck/patio areas, and most solid construction roof areas not used for car parking or intensive commercial activity (in this instance refer to Specification P3013).

### 2.0 SURFACE PREPARATION:

#### 2.1 General- Responsibility:

Unless expressly agreed otherwise at time of contract pricing, all work in this section shall be the responsibility of the Main Contractor, whether carried out by his own staff, other sub-trades or the Specialist Finishes Sub-Contractor. In the latter case, such preparatory work shall be priced separately from work defined in Sections 3.0 - 5.0 inclusive.

#### 2.2 Mosskilling Treatment:

All surfaces shall be treated with Equus **Mosskill** solution to kill all moss/mould spores and growths. Stipulated kill-times shall be observed.

*Note:* Badly affected surfaces may require treatment before and after waterblast cleaning to ensure a residual moss-kill treatment before coating application.

#### 2.3 Cleaning:

All surfaces to be waterproof shall be waterblast cleaned to remove all construction detritus and laitance, providing a lightly profiled surface ready for coating application. Surfaces which have been power-floated should, if possible, be acid etched to "open" the surface and then thoroughly rinsed. Pebbled surfaces may require additional scarifying to remove all pebbles/binder back to a relatively smooth surface.

#### 2.4 Patching:

Surface imperfections shall be patched, using either a **Thermexx** mortar for minor imperfections in concrete or a **Chevacryl Admix**-gauged patch mortar for larger irregularities in concrete or mastic asphalt. Other proprietary surface patch mixtures shall **not** be used.

*Note:* Irregular mastic-asphalt surfaces may require an asphalt-emulsion/cement/sand plaster application to level to falls prior to membrane application. If doubt exists as to correct treatment, Equus should be contacted for a detailed preparation procedure.



### 3.0 SURFACE PRETREATMENT:

#### 3.1 Expansion/Movement Joints:

Such designed joints exceeding 6mm in width are not to be overlaid with **Chevaline Dexe**, but shall be sealed using **Tremflex 25** which shall remain exposed.

#### 3.2 Shrinkage/Settlement Cracking and Construction Joints:

##### .1 Concrete /Solid Plaster:

Any regular cracks greater than 1mm width which appear likely to move regularly shall be saw-cut or chased to 5mm width and 8-15mm depth, primed and sealed with **Tremflex 25**. All such sealant joints shall be overlaid after surface priming, with a 150mm strip of 300 gsm. chopped strand fibreglass matt bedded in **Chevaline Dexe**. The **Dexe Membrane** shall be carried over such cracks.

##### .2 All Surfaces:

Irregular cracks for which saw-cutting or chasing is impractical, shall be pretreated after surface priming with **Chevaline Dexe** applied as a 100-150mm wide band, with 300 gsm glass-fibre mat or tape embedded as a reinforcement. This shall be allowed to dry overnight before membrane application is begun.

#### 3.2 Upstands:

All monolithic horizontal/vertical transitions which are not already coved shall be rounded to 5mm minimum radius using **Tremflex 25** applied as a fillet at least 24 hours before membrane application. Where the transition is not monolithic, a plaster or timber fillet of 50x50 section shall be installed prior to **Dexe** application.

### 4.0 CHEVALINE DEXX APPLICATION:

#### 4.1 Priming – All Surfaces:

All surfaces to be coated shall be primed with a **Chevaline Epistix** correctly mixed and diluted for roller or brush. Application of this shall include upstands to a minimum height of 100mm adjacent to all horizontal surfaces being coated. Spreading rate will depend on surface profile and porosity, generally in the range of 8-10sqm/litre of mix.

**Note:** If there is likely to be a delay in membrane application apply a Thin keycoat of **Dexe 80/20** within 24 hours of primer application, to ensure good bonding of the membrane system. Allow overnight dry before proceeding with membrane application.

#### 4.2 Membrane Application:

The membrane comprises **Dexe** and 300 gsm glass fibre mat applied in the following sequence:

Bodycoat  
Glassfibre mat (laid into wet Bodycoat)  
Bodycoat  
Bodycoat



Application shall always be in accordance with Manufacturers instructions particularly with regard to spreading rates and dry times, to ensure a sound tight membrane is achieved.

#### 4.3 Extra Thickness - Traffic Areas:

In areas of high traffic use allowance shall be made for an additional thickness of glass fibre mat and an additional bodycoat within the membrane system, to ensure resistance to such traffic and increased likelihood of impact damage. Such areas shall be clearly delineated on plans.

#### 4.4 Glazecoat:

##### .1 All High Traffic Use Surfaces:

These surfaces shall be sealed with a minimum of one (1) coat of **Traxx Colourseal** applied by soft broom, roller or spray at a spreading rate of approx 11-12 sqm/litre as supplied.

##### .2 All other Surfaces:

These surfaces shall be sealed with one (1) full coat of **Chevaline Dexx Topcoat** applied by roller, brush or spray at a spreading rate of 10-11 sqm/litre as supplied.

#### 5.0 GENERAL NOTES:

##### 5.1 Upstands/Coves/Sumps:

The **Dexx** Membrane shall be taken 100mm up all associated upstands, and turned into any rainwater sumps which may be incorporated in the floor slab or deck. Where permanent ponding is likely in sumps and gutters, a finish coat of **Traxx 2000 Wearcoat** applied at 8-10 sqm/litre should be substituted for the normal glazecoat.

##### 5.2 Water Entry Points:

Ensure that all likely construction details which may allow water entry to the slab beneath the membrane are adequately sealed. This may necessitate extension of the **DEXX** Membrane or a compatible waterproof coating system to drip edges, particularly on stub walls and bare slab edges, where the **Dexx** membrane should be turned down the entire thickness of the slab/roof to a drip edge.

##### 5.3 Colour and Gloss:

The colour of the membrane and glazecoat shall be the same in any area, and shall be nominated by the Architect.

The gloss shall be stipulated by the Architect as either Gloss, Satin, or Eggshell, depending on service conditions and appearance required.

##### 5.4 Optional Wearcoat:

Where a non-slip surface is necessary, **Dexx Wearcoat** shall be used as an additional coat prior to application of **Colourseal** or **Dexx Topcoat**. This is recommended on stairs and landings in particular.



### 5.5 Placing in Service:

The treated areas may be placed in service 48 hours after Glazecoat application.

## 6.0 MAINTENANCE AND WARRANTY:

### 6.1 Maintenance:

- .1 The **Chevaline Dexe** Membrane may be cleaned at any time by low pressure spraying/brooming and hosing off using a weak (0.1%) neutral detergent solution. Floor sweeping machines and/or abrasive cleaning agents shall **not** be used.
- .2 It is recommended that the surface be inspected at 4-5 yearly intervals, and, if necessary a further application of Glazecoat be carried out to preserve the appearance and performance of the applied membrane.
- .3 Should mechanical damage occur because of undue wear, vandalism or associated building maintenance, the **Dexe** can be easily repaired by patching and/or resurfacing as required, after simple preparation.

### 6.2 Warranty:

The **Chevaline Dexe** Membrane system described in this specification may be warranted as waterproof for up to Fifteen (15) years provided that:

- (a) All work is carried out by an Approved Equus Contractor.
- (b) All work is done in accordance with this specification or any written additions or amendments thereto issued by the Manufacturer.
- (c) For warranty periods in excess of ten (10) years, the warranty includes the appropriate Maintenance Statement.

Such a warranty is issued by the Approved Equus Contractor who does the work, and is backed by the Manufacturer as to the fitness for the purpose of the materials supplied by them for the contract.

It should be noted that as the surface is a wearing surface, certain provisions regarding mechanical damage and maintenance re-coating may be incorporated within the warranty, depending entirely upon the declared intended use to which the surface is to be put.

-oooOooo-



## Standard Specification Chevaline Dexx on plywood roofs and light-traffic decks.

### 1. PREAMBLE

This specification is for the application of the **Chevaline Dexx** Waterproof Membrane System to plywood surfaces for new construction, **Chevaline Dexx** can be used for both roofing and trafficable deck areas. These areas generally occur in domestic and light commercial construction.

### 2. SURFACE PREPARATION:

#### 2.1 General Responsibility:

Unless expressly agreed otherwise at time of contract pricing, all work in this section shall be the responsibility of the Main Contractor, whether carried out by his own staff, other sub-trades or the Specialist Finishes Sub-Contractor. In the latter case, such preparatory work shall be priced separately from work defined in Sections 3.0-5.0 inclusive.

#### 2.2 Plywood Grade and Thickness:

##### Structural Underlay - general usage:

Plywood shall be minimum 18mm Cp-D treated structural plywood, unless otherwise expressly stipulated by the specifier.

#### 2.3 Sheet Layout:

All sheets shall be laid out so as to maximise the use of whole sheets. All sheet joints shall be laid over framing members.

#### 2.4 Back Priming:

Sheets used over spaces, which are not ventilated, may be back-primed with **Chevaline Dexx Primer** prior to installation.

#### 2.5 Sheet Spacing:

Sheets shall be laid tight butt-jointed, with edges pre-primed with **Chevaline Dexx Primer**.

#### 2.6 Sheet Fixing:

Plywood must be fixed in accordance with Manufacturers instructions taking into account wind-loading, frame spacing and ply thickness. Screw-fixing is preferred using countersunk corrosion-resistant screws. At the very least, on small deck areas, all corners must be screw-fixed, with screw nails for the balance.

- All sheets shall be laid in a bead of construction adhesive along all framing members.
- All fastener heads shall be recessed below the level of the sheet face.
- All surface defects and fasteners shall be flushed out with approved filler such as **Epar Epoxy 801**.



### 3. SURFACE PRETREATMENT:

#### 3.1 Surface Defects:

All splits and surface defects shall be flushed with **Epar Epoxy 801**, which shall be allowed to dry before membrane application is begun. This shall include any gaps because of irregularities in sheet edges at tight-butt joints.

#### 3.2 Treatment of Plywood Joints:

Apply a 150mm wide strip of 300gsm. chopped strand fibreglass mat centered over all joints, and firmly bedded in **Chevaline Dexx**. This shall be done after priming (see 4.1) and before membrane application.

#### 3.3 Upstands, Junctions and Joints:

All vertical/horizontal transitions and joints shall have a minimum 150mm wide strip of 225 gsm or 300 gsm glass fibre mat embedded in **Chevaline Dexx** and centered on the transition/joint as additional stress reinforcement. This shall be done after priming and before application of the **Dexx** membrane layer.

### 3. MEMBRANE APPLICATION:

#### 4.1 Priming:

All plywood surfaces to be coated shall be primed with **Chevaline Dexx Primer** onto dry surfaces or **Epistix**. Where **Epistix** is used, care shall be taken with mixing and dilution, and an overnight dry shall be allowed.

#### 4.2 Membrane Application:

The membrane comprises **Dexx** and 300 gsm glass fibre mat applied in the following sequence:

- Bodycoat
- Glassfibre mat (laid into wet Bodycoat)
- Bodycoat
- Bodycoat

Application shall at all times be in accordance with Manufacturers instructions particularly with regard to spreading rates and dry times, to ensure a sound tight membrane is achieved.

#### 4.3 Glazecoat:

##### All Surfaces:

These surfaces shall be sealed with one (1) full coat of **Chevaline Dexx Topcoat** applied by roller, brush or spray at a spreading rate of 10-11 sqm/litre as supplied.

### 4. GENERAL NOTES:

#### 5.1 Upstands/Coves/Sumps/Downturns:

The **Dexx** Membrane shall be taken 100mm up all associated upstands, and turned into any rainwater sumps which may be incorporated in the deck. Where permanent ponding is likely in sumps and gutters, a finish coat of **Chevaline Colourcure** applied at 8-10 sqm/litre should be substituted for the chosen wear coat.

#### 5.2 Water Entry Points:



Ensure that all likely construction details which may allow water entry to the area beneath the membrane are adequately sealed. This may necessitate extension of the **Dexx** Membrane or a compatible waterproof coating system to drip edges, particularly on associated stub walls and overhangs, where the **Dexx** membrane should be turned down the entire thickness of the roof/deck to a drip edge.

**5.3 Colour and Gloss:**

The colour of the membrane and glazecoat shall be the same in any area, and shall be nominated by the Architect. The gloss shall be stipulated by the Architect either Gloss, Satin, depending on service conditions and appearance required.

**5.4 Placing in Service:**

The treated areas may be placed in service 48 hours after glazecoat application.

**5. MAINTENANCE & WARRANTY:**

**6.1 Maintenance:**

The **Chevaline Dexx** Membrane may be cleaned at any time by low pressure spraying/brooming and hosing off using a weak (0.1%) neutral detergent solution. Floor sweeping machines and/or abrasive cleaning agents shall not be used.

It is recommended that the surface be inspected at 4-5 yearly intervals, and, if necessary a further application of **Chevaline Dexx Topcoat** as appropriate be carried out to preserve the appearance and performance of the applied membrane.

Should mechanical damage occur because of undue wear, vandalism or associated building maintenance, the **Dexx** can be easily replaced by patching and/or resurfacing as required, after simple preparation.

**6.2 Warranty:**

The membrane system described in this specification may be warranted as waterproof for a period of up to 10 years, provided that:

- All work is carried out by an Approved Equus Contractor.
- All work is carried out in accordance with this specification or any amendments or additions therefore made by the Manufacturer.

The warranty is provided to the client by the Equus Contractor carrying out the work and is backed by the Manufacturer as to the fitness for the purpose of the materials supplied for the contract.

It should be noted that as the surface may be a wearing surface, certain provisions regarding mechanical damage and maintenance recoating may be incorporated within the warranty, depending entirely upon the declared intended use to which the surface is to be put.

-oooOooo-

## Standard Specification for the application of Chevaline Dexx on plywood and wet areas to receive tiles

Page 1 of 4  
Standard Specification: P3014  
Dated: November 2003

### 1.0 PREAMBLE:

This specification is for the application of the **Chevaline Dexx** Waterproof Membrane System to plywood surfaces, either in new construction, or where the plywood is used as an overlay on existing sarking, to trafficable deck areas and 'wet' areas which are to receive tiles as a wearing surface

These areas generally occur in domestic and light commercial construction. Note that this specification may also apply when compressed fibre-cement sheets are used as an underlay in similar situations.

### 2.0 SURFACE PREPARATION:

#### 2.1 General Responsibility:

Unless expressly agreed otherwise at time of contract pricing, all work in this section shall be the responsibility of the Main Contractor, whether carried out by his own staff, other sub-trades or the Specialist Finishes Sub-Contractor. In the latter case, such preparatory work shall be priced separately from work defined in Sections 3.0-5.0 inclusive.

#### 2.2 Plywood Grade & Thickness:

##### .1 *Structural Underlay - general usage:*

Plywood shall be minimum 18mm C-D treated structural plywood, unless otherwise expressly stipulated by the specifier. Note that tiling does impose an extra dead load on the surface, and in cases of doubt as to the total load, consideration should be given by the specifier to the use of 21mm C-D treated structural plywood to increase stiffness in the substrate.

##### .2 *Overlay to existing sarking only:*

Plywood shall be minimum 12mm C-D treated structural plywood, unless otherwise expressly stipulated by the specifier.

##### 3. *Plywood Treatment:*

Treatment should be H3 or H1 + Boron. LOSP treated plywood is not recommended.

#### 2.3 Sheet Layout:

All sheets shall be laid out so as to maximise the use of whole sheets. All sheet joints shall be laid over framing members. Framing should be in accordance with NZS3604 recommendation as a minimum. Generally framing shall be at 600 centres maximum in both directions.



**2.4 Back Priming:**

Sheets used over spaces which are not ventilated shall be back-primed with **Chevaprime PBT** or equivalent prior to installation.

**2.5 Sheet Spacing:**

Sheets shall be laid tight butt-jointed, with edges pre-primed with **Chevaprime PBT** or **Chevaline Epistixx**.

**2.6 Sheet Fixing:**

Plywood must be fixed in accordance with Manufacturers instructions taking into account wind-loading, frame spacing and ply thickness. Screw-fixing is mandatory using countersunk stainless steel screws. Minimum screw length shall be 50mm for 18mm plywood. All sheets shall be laid in a bead of construction adhesive along all framing members.

All fastener heads shall be recessed below the level of the sheet face.

All surface defects and fasteners shall be flushed out with an approved filler such as **Traxx Filler** or Epar Epoxy Mortar.

**3.0 SURFACE PRETREATMENT:**

**3.1 Surface Defects:**

All splits and surface defects shall be flushed with **Traxx Filler** or Epar Epoxy Mortar which shall be allowed to dry before membrane application is begun. This shall include any gaps occurring because of irregularities in sheet edges at tight-butt joints.

**3.2 Treatment of Plywood Joints:**

Apply a 150mm wide strip of 300gsm. chopped strand fibreglass mat centred over all joints, and firmly bedded in **Chevaline Dexx**. This shall be done after priming (see 4.1) and before membrane application.

**3.3 Upstands, Junctions and Joints:**

All vertical/horizontal transitions and joints shall have a minimum 150mm wide strip of 225 gsm or 300 gsm glass fibre mat embedded in **Chevaline Dexx** and centred on the transition/joint as additional stress reinforcement. This shall be done after priming and before application of the **Dexx** membrane layer. Timber fillets (ex 25 x 25 H3 treated timber) shall be fixed to the deck at all transitions prior to installation of the reinforcing strips. Where timber fillets cannot be used a minimum 10 x 10 fillet of **Tremflex 25** sealant shall be formed in place after priming and prior to reinforcing strip application.

**4.0 MEMBRANE APPLICATION:**

**4.1 Priming:**

All plywood surfaces to be coated shall be primed with **Chevaprime PBT** or **Epistixx**. Where **Epistixx** is used, care shall be taken with mixing and dilution, and an overnight dry shall be allowed.



#### 4.2 Membrane Application:

The membrane comprises **Dexx** and 300 gsm glass fibre mat applied in the following sequence:

Bodycoat  
Glassfibre mat (laid into wet Bodycoat)  
Bodycoat  
Bodycoat

Application shall at all times be in accordance with Manufacturers instructions particularly with regard to spreading rates and dry times, to ensure a sound tight membrane is achieved.

If the treated area is to be left exposed for more than 6 months in an exterior situation prior to tiling, allow for the use of one (1) coat of **Traxx Colourseal** or **Chevaline Colourglaze** applied at 12sqm/litre as a protective glazecoat. This will protect the body of the membrane for up to 5 years.

#### 5.0 GENERAL NOTES:

##### 5.1 Upstands/Coves/Sumps/Downturns:

The **Dexx** Membrane shall be taken 100mm up all associated upstands, and turned into any rainwater sumps which may be incorporated in the floor slab or deck.

##### 5.2 Water Entry Points:

Ensure that all likely construction details which may allow water entry to the area beneath the membrane are adequately sealed. This may necessitate extension of the **Dexx** Membrane or a compatible waterproof coating system to drip edges, particularly on associated stub walls and overhangs, where the **Dexx** membrane should be turned down the entire thickness of the roof/deck to a drip edge. Ensure that any unavoidable penetrations through the membrane for fixings, are correctly gasket sealed using **Tremflex 25** sealant when the fixing is installed.

##### 5.3 Testing and Handover:

As membrane installation and tiling are generally separate sub-contracts, it is imperative that after the **Dexx** application has been completed and used, a minimum 24-hour pond-test is carried out. When the Applicator and Main Contractor are satisfied that the membrane is correctly detailed, sound and watertight, the installation shall be signed off on the Contract QA Sheet by both parties, prior to hand-over of the area to the Tiler.

##### 5.4 Placing in Service/Tiling:

The treated areas may be placed in service 48 hours after the hand over pond test sign-off.

Note that tiling must be carried out using an approved thin-bed tile adhesive, generally of the acrylic-modified/cementitious type. The Tiler must exercise all due care during installation to ensure the integrity of the membrane is not compromised



## **6.0 MAINTENANCE & WARRANTY:**

It is recommended that the installation be inspected at 4-5 yearly intervals, to ensure that the tiled surface is in good condition and that nothing has been done by way of alteration, installation or mechanical damage which may jeopardise the integrity of the total installation.

### **6.2 Warranty:**

The membrane system described in this specification may be warranted as waterproof for a period of up to 10 years, provided that:

1. All work is carried out by an Approved Equus Contractor.
2. All work is carried out in accordance with this specification or any amendments or additions thereto made by the Manufacturer, and the installation has been signed off prior to tiling.

The warranty is provided to the client by the Equus Contractor carrying out the work and is backed by the Manufacturer as to the fitness for purpose of the materials supplied for the contract.

-oooOooo-

## **APPENDIX 5**



## PERFORMANCE OF CHEVALINE DEXX WATERPROOFING SYSTEMS

---



### 1.0 INTRODUCTION

As a component of the verification of the Chevaline DEXX Waterproofing system site visits were made to investigate systems which have been installed for a period of years.

### 2.0 SITES

2.1 Wellington City Council  
Library Building  
Victoria Street  
Wellington

2.1.1 The Chevaline DEXX System installed on the roof in 1991/1992.

2.1.2 The system has been applied over concrete and plywood substrates, with upturned finishes to parapets and building structure and down turns into gutters and rain water heads.

Roof vents have been installed.

2.1.3 The system over the concrete substrate is performing extremely well.

2.1.4 Some puckering at plywood substrate joints is evident. With two small exceptions no damage to the membrane is evident. The control joints appear to be performing to expectation. No substrate sheet fastening popping is evident.

Repairs have been made on the plywood substrate at the control joint to the angle of the building and at an external wall corner towards the south east corner. The repair work has been neatly carried out.

2.1.5 The roof was reglazed during 2003.

2.1.6 The system is performing effectively.

2.2 13-27 Manners Street  
Wellington

2.2.1 The Chevaline DEXX Waterproofing System is installed 17 years ago on a multi level roof system.

2.2.2 The system has been applied over a plywood substrate with upturned finish at parapets, building structure and mechanical equipment plinths and down turns into gutters. The system has also been applied to the roof and walls of the plant room over a plywood substrate.

- 2.2.3 Some puckering at substrate sheet joints and some fastener popping is evident. No damage to the membrane was evident.
- 2.2.4 Some mechanical damage probably as a consequence of servicing mechanical services plant is evident. Repairs have been made and these repairs have been made to a good finish. Some areas of the roof have been over coated.
- 2.2.5 The maintenance history is not known. Clearly some recoating has been carried out. The exposed surfaces should be recoated to maintain integrity.
- 2.2.6 The system is performing effectively.



Ron Thurlow  
**JOYCE GROUP LIMITED**