

*This specification is one of a series based on installation systems we have tailored to meet our needs and rigid performance requirements and have used over the past five years.*

*This information is designed to assist Architects in specifications where timber flooring is required.*

*As a solid timber and timber veneer flooring supply and installation company we can be contacted re the **supply of any specified product**. And, we would appreciate the opportunity of **quoting for your timber flooring work** NZ wide.*

## **LEVELLING OF A CONCRETE SUBFLOOR IN PREPARATION FOR SOLID TIMBER FLOORING**

**NOTE:** Levelling compounds are potentially the weak point of any timber flooring installation over concrete because of the high stresses the timber movement will place on the subfloor. It is highly recommended that a professional leveller is used to undertake such levelling work as they understand and will be expected to take responsibility for the high cost of remedial work should a floor failure occur. We are happy to assist with full manufacturers instructions and specifications if required.

### **1. PRODUCTS**

#### **1.1 DIAMOND GRINDER & VACUUM**

An approved concrete grinding machine with a diamond grinding blade and attached vacuum unit.

#### **1.2 CONCRETE SEALER**

**Selleys** "VBS" 2 pot epoxy vapor barrier system.

#### **1.3 PRIMER**

**Ardex 51** to be used over standard absorbent concrete floor, **OR**,  
**Ardex 82** Ultra Prime to be used over smooth, non-absorbent sub-floors (eg polished concrete or moisture barriered concrete) to improve the adhesive of Ardex K15.

#### **1.4 LEVELLING COMPOUND**

**Ardex K15** levelling compound, plus clean water to mix plus mixing and spreading equipment.

#### **1.5 HIGH TENSILE STRENGTH ADDITIVE**

**Ardex 25** plus water to mix to increase the tensile strength of K15 for applications in high stress areas, eg. when timber flooring will be glued above.

#### **1.6 FEATHER EDGING, SMOOTHING & TOUCHUPS**

**Ardex T-5** Smoother

## 2. INSTALLATION

### 2.1 PRIOR TO STARTING ANY WORK

Start installation only when the building is enclosed, all “wet” trades have finished, any heating or air-conditioning systems are operating. Check the quality of the concrete substrate and ensure it is structurally sound and suitable for the installation of timber flooring.

### 2.2 SUBFLOOR

Ensure the subfloor is clean & dry and identify areas to be levelled to the BRANZ specification of maximum 3mm over a 3 meter straight edge in any direction.

### 2.3 SUBFLOOR PREPARATION

Diamond grind the entire floor area to remove surface layer, high spots and construction debris to ensure the best possible key to the slab. Grinding is important to bring the slab back to an open porous matrix of the concrete.

### 2.4 MOISTURE BARRIER

Vacuum clean the diamond ground slab and apply **Selleys** VBS vapor barrier to the manufacturers specification, restrict traffic & allow 6 – 8 hours to dry.

The Moisture barrier is applied **prior** to the levelling compound in order to protect the levelling compound from excess moisture in the concrete slab. The levelling compound can be weakened by the presence of trapped moisture causing it to more easily break apart under stress.

### 2.5 PRIMING

Use the specified primer to suit the porosity of the concrete slab (**Ardex 51** over porous substrates and **Ardex 82** over non-porous substrates, eg. over VBS moisture barriered slabs) and apply following the manufacturers recommendations.

Very absorbent concrete may require two applications of primer to avoid bubbles and pinholes in the levelling compound. Ardex 51 primer is used between layers of K15.

The primer is applied before leveling, to ensure a strong bond between the VBS & the levelling compound. Read and follow full manufacturers specifications.

### 2.6 LEVELLING COMPOUND

Use the specified levelling compound (**Ardex K15**) and any appropriate strengthening additives following full manufacturers specifications. Apply following coats allowing appropriate drying times and following manufacturers specifications for priming between layers.

As appropriate use Smoother for smoothing, feather edging & touchups.

### 2.7 T&G OR OTHER TIMBER INSTALLATION

K15 is compatible with all flooring adhesives which are suitable for use over concrete subfloors so no further priming is required once the desired levels have been achieved. After the appropriate levelling compound curing time, Trowel **Selleys** Direct Stick adhesive on to the slab using the recommended trowel and manufacturers specifications. Lay the ply or T&G directly into the adhesive. Cramp and fix with masonry nails as needed.

If the levelling compound breaks up on nailing the timber down it is possible evidence of a system failure. Contact a flooring professional.

**DISCLAIMER:**        **designed as a specification sheet and covers only the basic steps for undertaking levelling work.**  
                                 **Full manufacturers specifications and recommendations should be read in conjunction with each of the products used.**

**This document is**