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# Technical Services Report

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Inspection of  
substrate build up  
for chevron wood  
flooring at Build  
M0104 Greenwich

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C G Smith

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## ***Enquiry***

Nick Markelov from fit-out contractor's South Eastern Carpentry requested a visit to inspect the site conditions and substrate build up pre-installation of chevron wood flooring.

The board's specified are chevron parquet TW-E938 which requires a smooth, flat, clean surface with minimal movement as a pre-requisite for successful installation.

## ***Product***

TW-E938

Engineered Dark Earth UV Oiled European Oak 60 degree Chevron Parquet. Grade AB 15mm thick x 120mm wide x 465mm long with a 4mm Top Layer - Finished with Matt UV Oil - 30 pieces per carton with x15 Left Hand & x15 Right Hand (1.674m<sup>2</sup> per Carton) FSC 100%

## ***Report***

MEETING ON SITE AT 14.00 on the 25<sup>th</sup> May 2016

Those present:

Martyn Ryder (MR)	Solid Wood Flooring (SWF)
Chris Smith (CS)	Solid Wood Flooring (SWF)
Mick Hooper (MH)	SIKA (SKA)
Nick Markelov (NM)	South Eastern Carpentry (SEC)
?	Wates Construction (WTS)

## ***Finding's***

One apartment was inspected on the 13<sup>th</sup> floor, and the meeting were informed that this is to be the first apartment where the TW-E938 will be installed.

The substrate build up is:

- i. Concrete base
- ii. Danskin batten system with levelling pad's
- iii. Danskin system under floor heating with insulation
- iv. Water resistant 18mm chipboard

The apartments do not have any air conditioning. There are no large floor to ceiling window's but in one area in the living room there are large patio window's which could create high heat at certain times of the year. Wall and ceiling decoration had been completed but the meeting was informed that kitchen units would be installed on top of the finished wood floor.

The moisture content of the chipboard was taken using a Protometer Digital Mini POL5702 and it was found that the readings were:

TOP:	9.5%
MIDDLE	9.5%
BOTTOM	9.5%

The temperature in the apartment was 13.6°C (using an AZ 8703 Thermo Hygrometer)  
The Relative Humidity was 57.2% (using an AZ 8703 Thermo Hygrometer)

Should these conditions prevail it would be satisfactory to install wood flooring. The chevron wood flooring will be installed fully bonded to the water resistant chipboard substrate using SW890 adhesive and SWF state that all the wood flooring should be installed to BS8201:2011 which is the British Standard 'Code of Practice for installation of flooring of wood and wood-based panels'.

**Crown lines** were discussed and it was pointed out that it was critical to get this right because the success of the whole floor depends on an accurate laying of each crown line. To assist with this SWF have provided a template to help set out the first chevron, but it is critical that time is spent creating each crown line. After each crown line is laid it must be left for 24 hours to dry before the rest of the floor is made.

**Expansion** was discussed and it was pointed out that 8 linear metres in any one direction is the maximum length that can be laid before 'extra' room for expansion is designed into the floor. The recommendations are that a gap of a minimum of 10mm is left around the perimeter of the floor and where the floor butts up to any differing material, and this gap should be left open and clean. However, skirting boards can be installed over the gap to protect it from attracting any residues and to improve the aesthetic appeal.

NM pointed out that the skirting boards are 18mm wide so he can leave 15mm for expansion joints under the skirting's to give extra room for movement.

There is one area that exceeds the 8 linear metres, but that area butts up to carpet at one end so that in itself will allow for any extra movement.

One area where expansion could be a consideration is where the wood flooring butts up to the patio doors. At the junction between the two, differential movement could occur and this joint cannot be left open. So this should either be filled with a flexible sealant or a specialist expansion joint such as a Shluter Systems Dilex EKSA 160 expansion joint. This type

of joint will not only provide provision for expansion but will also protect the edge of the wood flooring.

#### **OBSERVATIONS**

At the time of the visit the Danskin system had been installed and initial observations from first walking on it was that there appeared to be some small degree of 'bounce' in the floor. This felt as though the batten's were wider apart than the recommended maximum 400mm, but this could not be confirmed. If this continued to cause concern then extra support noggins should be designed into the cradle system to strengthen the base.

This was conveyed to all concerned and it was pointed out that too much 'bounce' could compromise the performance of the finished wood floor particularly at the sharp junction's of the chevron pattern. However, the first floor will be laid on the specified structure and the amount of deflection in the floor will then be assessed.

MH expressed concern's that the Danskin system and the chevron board's might not be protected from any moisture rising from the concrete base. It could not be determined if Danskin have installed moisture barriers in the pads levelling the cradles. If they have then there will be less of a concern but if this has not happened then either this should be considered or a visqueen vapour barrier could be installed to add extra protection.

On behalf of The Solid Wood Flooring Company

*Chris Smith*