

## K41 RAISED ACCESS FLOORS

To be read with Preliminaries/General conditions.

### TYPES OF RAISED ACCESS FLOOR

#### 130 RAISED ACCESS FLOOR to: General Office Areas and corridors, Drawing references:

- Manufacturer: Kingspan Access Floors Limited, Burma Drive, Marfleet, Hull, HU9 5SG. Tel +44 (0)1482 781701. www.kingspanaccessfloors.co.uk
- Product reference: RMG600 Medium Grade
- Level of access: Full access.
- Shape, size and mass of fixed floor panels: Submit proposals.
- Floor panel size: 600 x 600 x 31mm.
- Structural grade: PSA MOB PF2 PS/SPU Medium Grade
- Installed mass of system (maximum): 36 kg/m<sup>2</sup>.
- Height:
  - Finished raised access floor height above subfloor:.....mm
  - Under-floor clear void height: (LESS 31mm)..... subject to slab survey and buildup of finishes and necessary bridging where required.
  - Limits on maximum and minimum heights: limitations are under 65mm and over 1000mm.
- Floor finishes: As specified in Clause M50, M40 & K21.
- **Other requirements:**
  - Oversize panels to be used at perimeters as necessary in order to maintain minimum cut panel size.
  - Copy of independent test certificates in compliance with full PSA MOB PF2 PS/SPU Medium Grade specification to be submitted for approval at tender stage.
  - Manufacturer to provide full 25 year system warranty on installed components.
  - All non-reusable panel off cuts to be returned to the supplier for full recycling. Evidence of this process and facility must be provided to the client's representative in order to gain BREEAM credits.
  - Raised access floor panels to receive ceramic tiles, or sheet materials should be screw fixed (Simploc) to the Alpha pedestal heads. 6mm – 18mm plywood screw fixed at 300mm centers will be supplied and installed by others to accept the specified finish and adhesive.

### GENERAL

#### 209 STANDARDS

- Raised access flooring system: To MOB PF2 PS/SPU.
- Clauses which do not apply:
- Access floor manufacturer shall hold the quality management system: BS EN ISO 9001: 2015
- Access floor manufacturer's facilities shall be: BS EN ISO14001:2004 certified.
- Access floor manufacturer and approved sub-contractor to comply to - Health and safety standard: BS OHSAS 18001: 2007
- Access floor manufacturer and approved sub-contractor to hold FSC Chain of Custody for the manufacture and installation of raised access floor panels.

- Access floor manufacturer to have an Environmental Product Declaration in accordance with ISO 14025. & EN15804
- All standards are to be submitted at tender stage.

## 210 INTERPRETATION

- Authority: References to Authority in MOB PF2 PS/SPU are deemed to be to Employer.

## 211 GENERAL PERFORMANCE

- Completed installation: Clean and stable. Free from bounce and vibration. No lipping between floor panels.

## 212 STRUCTURAL PERFORMANCE

- Uniform distributed loads: 8.0 kN/m<sup>2</sup>.
- Concentrated loads: 4.5 kN/(300 x 300) mm<sup>2</sup>.
- Point loads: 3.0 kN/(25 x 25) mm<sup>2</sup>.
- Deflection (maximum): 2.4 mm

## 213 HYGROTHERMAL PERFORMANCE

- Onerous environmental conditions applying: As required by MOB PF2 PS/SPU.
- Consequent limits to use: Submit.
- Deemed-to-satisfy test results: Submit, with testing authority's opinion.

## 215 FIRE PERFORMANCE

- Reaction to fire:
  - As required by MOB PF2 PS/SPU.
  - Standard BS 476 -7
  - Class 1\*
- Resistance to fire:
  - As required by MOB PF2 PS/SPU.
  - Standard BS 476 – 6
  - Period: fire propagation index less than 12 and sub index less than 6.

\* As performance is greater than class 1, a class 0 rating has been recognised.

## 216 SOUND TRANSMISSION

- Laboratory system test:
  - Standard: To BS EN ISO 10848-2:2006
  - Airborne sound insulation 39 - 41dB
  - Impact sound insulation 71 - 74dB
  - Test report: Submit.

## 217 DURABILITY

- Fungi, molds and insects:
  - Tests: To BS 1982-1, -2 and -3.
  - Preventive measures: Submit proposals.

## 218 UNDER-FLOOR AIR PLENUM AIR LEAKAGE

- Raised Floor Air leakage rate (maximum): 1.0L/s/sqm
- Design pressure (maximum): 50Pa.
- BSRIA test report No. BG65/2016 to be issued as evidence that the raised access floor system, when installed in conjunction with off grid carpet tiles will not exceed the required raised floor air leakage rate stated.

**COMPONENTS**

## 220 SAMPLES

- General: Submit representative samples of the following: As per client's requirements.

## 224 FLOOR PANELS: RMG600 Medium Grade 600 x 600mm

- Tolerances:
  - Length of side: 0.5 mm.
  - Squareness: 0.5 mm.
  - Straightness of side horizontally: 0.5 mm.
  - Thickness: 0.5 mm.
  - Twist: 1.00 mm.
  - Vertical warping: 0.75 mm.
- Life expectancy, minimum: 25 years.
- Casing material: steel
- Casing finish: 0.5mm Hot Dipped Galvanised Steel
- Core material: high performance chipboard
- Floor panel fixing: Gravity lay
- Floor panel location method: Positive.
- Labeling:
  - Nonstandard panels: Identify for relocation purposes.
  - Service identification labels: Provide self-adhesive labels to identify under-floor services and their direction. Fix to the visible surface of the floor panel, and under carpet finish if any, BY OTHERS

## 225 PEDESTALS:

Kingspan Access Floors Alpha V up to 600mm void, thereafter Alpha III must be used.

- Life expectancy (minimum): 50 years. Submit manufacturers expected life expectancy.
- Pedestal fixing:
  - Adhesive fixing for all floors. Mechanical fixing may be required subject to the result of the T42 test.
  - Selection of test specimens: Submit proposals. T42
  - T42 Test results: Submit. Based on a rate of 0.5% of the number of pedestals to each area and/or floor level and when subjected to these tests, neither the pedestal structure or the pedestal fixing shall fail.
  - Adhesive: Kingspan KPA1 Ultra, one component, solvent free polyurethane system.
- Adjustability:
  - Limits on adjustability: + or – 20mm.
  - Locking: Required.
- Additional pedestals: At door thresholds, columns and other cut panel edges as applicable.
- Pedestal materials: All zinc plated steel.

## 226 STRINGERS

- Type: Kingspan snap on U section stringers on floor voids over 600mm
- Life expectancy (minimum): 50 years.
- Materials: Galvanised steel

## 228 ACCESSORIES

- Service outlet boxes:
  - Type: \_\_\_\_\_
  - Rate: \_\_\_\_\_
  - Size (length x width): \_\_\_\_\_ mm.
  - Number of power outlets per box: \_\_\_\_\_
  - Number of data outlets per box: \_\_\_\_\_
  - Number of phone outlets per box: \_\_\_\_\_
  - Number of ports per box: \_\_\_\_\_
  - Installation: Drop-in.
  - Lids: \_\_\_\_\_
  - Frames: \_\_\_\_\_
  - Structural capacity: \_\_\_\_\_ kN/m<sup>2</sup>.
- Air handling accessories: \_\_\_\_\_
  - Adjustability of grilles: \_\_\_\_\_
- Level change accessories: \_\_\_\_\_
- Other accessories: \_\_\_\_\_

**INSTALLATION**

## 230 CONTROL SAMPLES

- General: Complete areas of finished work in the following locations: \_\_\_\_\_

235 **SUBFLOOR** \_\_\_\_\_

- **Type:** \_\_\_\_\_
- **Preparation:** \_\_\_\_\_
- Cleanliness: Clean before installation and keep clean during installation.

## 240 PREPARATION

- Setting out: Before installation of services, indelibly mark pedestal positions.
- Fixtures: Before installation, complete the fixtures which floor panels are to be cut around or which supports are to bridge.
- **Bridging structures - supplementary supports see Kingspan standard details KAF/SD/ 605 and KAF/SD/303**

## 250 ENVIRONMENTAL CONDITIONS

- General:
  - Dry, well ventilated, not subject to extremes of temperature or humidity, and free from rapid variations of temperature or humidity.
  - RH of air (maximum): 75%.
  - RH of surrounding walls (maximum): 75%.
- Subfloors:
  - RH (maximum): 75%. Test to BS 8201 using an accurately calibrated hygrometer.
  - Temperature (minimum): 5°C.

## 280 DUSTPROOFING

- Sealer: Colour tinted. Kingspan 2640 & 2641 water based sealer. Compatible with materials used to pack and/or fix pedestals.
- Sealing:
  - Extent: Concrete and masonry surfaces within raised access floor void.
  - Preparation: Surfaces to be sealed must be clean, dry and free from dust, grease and other contaminants.
  - Number of coats: Two.
  - First coat: Apply before pedestals are erected.
  - Second coat: Different tint to first coat. Apply after completion of services and other associated work.

## 330 CUT FLOOR PANELS

- Size (minimum): 300mm half width x half length.
- Burrs and rough edges: Make smooth.
- Edge sealer: Class 0 spread of flame rated aluminium foil self adhesive tape.
- Edge sealing: Seal exposed cut edges of floor panels which have moisture sensitive or combustible cores.

## 345 RAISED ACCESS FLOOR LEVELS

- Permissible deviations in level:
  - Over 3 m:  $\pm 1.5$  mm.
  - Overall:  $\pm 3$  mm.

## 350 PERIMETERS

- Expansion gaps:
  - Size: 20 x 9mm
  - Location: At abutments.
- Expansion gap filling:
  - Filler type: Resilient closed cell.
  - Filling: Before fixing skirtings and cover strips.

## 360 CAVITY BARRIERS

- Construction:
  - Material: AIM fire barrier, rock wool slab with class O foil.
  - Fire resistance to BS 476-20: 30 minutes
- Integrity/insulation: \_\_\_\_\_ minutes.
- Performance: Permanently stable, continuous, and an effective barrier to smoke and flame.
- Distribution:
  - Centres (maximum): ..... m.
  - Subdivided areas (maximum): .....m<sup>2</sup>.
- Fixing: Fix securely to subfloor, at joints and as necessary.
- Floor panels: Firmly secure floor panels above cavity barriers.
- Gaps between cavity barriers and other elements: Seal with mineral wool or other suitable material.

## 370 LEVEL CHANGES

- Drawing references: \_\_\_\_\_
- Ramps and steps:
  - Performance: Match performance of associated raised access floor.
  - Proposals: Submit details.
- Balustrade structural and safety requirements: To BS 6180.

## 390 ELECTRICAL CONTINUITY AND EARTH BONDING

- Substantial metal parts of raised access floor: Electrically continuous and fully earth bonded.
  - Standard: To BS 7671 17<sup>th</sup> edition.
  - Bonding methods: Submit proposals.
  - Earthing methods: Submit proposals.
- Rooms used for electronic data processing equipment: \_\_\_\_\_
- Earth bonding connection points: Determine number and location. Provide connectors.
- Total resistance of earth fault loop (maximum): Resistance required to operate earth fault protection devices to BS 7671 17<sup>th</sup> edition.
- Electrical continuity and earth bonding tests:
  - General: Test complete raised access floor.
  - Points for testing: Randomly selected pedestals, stringers, tops and bottoms of floor panels.

## 400 INTEGRAL FINISHES ELECTRICAL RESISTANCE TESTS

- General: Test complete raised access floor.
- Testing agent: Qualified electrician.
- Location: \_\_\_\_\_

**COMPLETION**

## 420 TOOLS

- Floor panel lifting devices: At Practical Completion, supply one set of suitable devices for each type of raised access floor finish installed. Train designated personnel in their use.
- Pedestal locking: At Practical Completion, supply one set of tools for releasing pedestal locking.

## 430 USER INSTRUCTIONS

- Manual contents: Include the following:
  - Correct method for lifting and replacing floor panels and stringers.
  - Servicing: Limitations on sequence, number and positions of floor panels and stringers which can be removed safely at one time.
  - Permissible loads: With guidance on use of spreader plates when shifting heavy equipment and subsequent maintenance.
  - Methods for installing cabling and ducts, to prevent damage to supporting structure.
  - Cleaning methods: For floor panels and integral finishes.
  - Floor panel covering renewal: Method for replacement of integral floor panel coverings.
  - Pedestal adjustment and locking.

- Maintenance: Recommended methods and frequency. Minimum maintenance-free life of raised access floor system. Minimum maintenance-free life of replaceable parts where this differs from that of the whole system. Minimum period during which replaceable components will be available.
- Installation instructions, including COSHH Assessment.

440 SPARES

- General: At Practical Completion, supply the following:
  - RMG600 floor panels.....(Number)
  - Alpha V pedestals.....(Number)

450 CLEANING

- Subfloors: After completion, thoroughly clean accessible areas of subfloors and leave free of dust and debris.
- Raised access floor: Before delivery of items carried by floor, clean thoroughly.