

K41 – RAISED ACCESS FLOORS

SCOPE

This section deals with raised access floor systems supported off the structural floor to form a void for the distribution of services. The construction normally consists of panels supported on a grid of pedestals which have a vertical height adjustment mechanism. Access to the void is through removable panels.

Raised access floor subcontracts can include:

- A variety of accessories, e.g. cable outlets, air grilles, trunking, ramps, balustrades and integral floor finishes.
- Application of a dust proofing sealer to the subfloor.

For work associated with the floor but not forming part of the subcontract see:

- M50 Rubber/Plastic/Cork/Lindeum/Carpet Tiling/sheeting.
- M51 Edge fixed carpeting.
- M60 Special surface coatings applied to the subfloor.
- L3 - Stairs or balustrades.
- P10 Fire barriers and fire stops.
- P31 Fire stops around service penetrations. Covers to trenches/ducts within the subfloor.

Raised access floor systems which include timber flooring on a timber support structure should be specified in section R20 or K21 as appropriate.

- Accessories:
- Other requirements:

GENERALLY/PRELIMINARY WORK

210 REFERENCES TO THE AUTHORITY:

For the purpose of this specification all references to the Authority in MOB PF2 PS are deemed to be in the Employer.

220 SAMPLES:

Before placing orders or manufacturing components submit representative sample(s) of all floor components if required by employer.
Ensure that delivered materials match sample(s).

230 CONTROL SAMPLE(S): (*Delete this clause if not required*)

Complete area(s) of the finished work in approved location(s) as follows, and obtain approval of appearance before proceeding with installation:

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240 COORDINATION WITH OTHERS:

Liaise with the Main Contractor and other subcontractors to ensure:

- Correct location of pedestals and services. Where considered necessary indelibly mark positions of pedestals in advance of services installations
- Related work is suitably coordinated and can proceed without damage to the floor. Protect as necessary

Comment: This is only necessary where you have a large amount of services in the void which are being installed prior to the raised floor. Expect to pay extra or omit paragraph.

Comment: Bare panels will not normally require protection. If you have a finished panel it may be wise to specify a protection eg. Correx or Hardboard taped at all joints. Expect to pay extra for this item

- Before commencing work. Ensure that fixtures, around which panels are to be cut or over which supports are to bridge, are completed.

250 ENVIRONMENT CONDITIONS:

- Areas for storage and installation must be clean, dry, ventilated and free from both excessive and rapid variations of temperature and humidity. RH must not exceed 75%. ALL STORAGE MUST BE INSIDE A WEATHERPROOF BUILDING. Outdoor storage under tarpaulins is not acceptable.
- No part of the subfloor or surrounding walls must show readings of more than 75% RH when tested for moisture content using an accurately calibrated hygrometer in accordance with BS 8201. Appendix A Subfloor temperatures must be maintained above 5°C.

250 EXISTING FINISHES TO SUBFLOOR:

Where existing subfloor coverings are to be retained or removed, use mechanical fixings.

270 EXISTING CONCRETE SUBFLOORS:

- If the Flooring Contractor proposes to use adhesive only fixing of pedestal bases, but the MOB PF2 PS site pedestal fixing test shows that this is inadequate, mechanical fixings must be used.
- If the test failure is shown to the satisfaction of the CA to be due to the nature of the concrete subfloor, including the presence of excessive laitance, the extra cost of mechanical fixings will be paid to the Flooring Contractor.
- A provisional item for the extra cost of such mechanical fixing is

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Comment: The test referred to herein is the T42 test (download a copy of the test).

280 DUSTPROOFING:

- Ensure that surfaces to be sealed are clean, dry and free from dust, grease and other contaminants.
- Apply two coats of colour tinted sealer, recommended by the raised access floor manufacturer, to all concrete dusting throughout the life of the installation.

- The first coat to be applied before the pedestals are erected and the second coat, with a different colour tint, towards the end of the floor installation

Comment: Normally the two coats will occur before the raised floor panels are installed. If the floor has to be lifted for the second coat this will increase the cost.

INSTALLATION

310 WORKMANSHIP GENERALLY:

- Store and install floor components in dry, well ventilated conditions not subject to extremes of temperature or humidity.
- Ensure that the subfloor is clean before installation commences and that cleanliness is maintained throughout the installation.
- Install the floor, accessories, finishes, etc. to achieve specified levels of performance.
- The completed installation to be level, clean, stable, firm and free from bounce, squeaks, vibration, and lipping between panels.
- Adequately protect from dirt, stains, damage and overloading until Practical Completion.

320 PEDESTAL STRUCTURE & FIXING TESTS:

- Test pedestals to MCB PF2 PS, test T42.00 to prove the need or otherwise for mechanical fixing to the subfloor and for site quality control. Tests to be carried out in the presence of the CA.
- Where an adhesive fixing fails as a result of subfloor failure, arrange for the Main Contractor to make good the subfloor. Refix using mechanical fixings and retest.

330 SETTING OUT:

Where not shown otherwise, set out floor system to ensure that cut panels are not less than half in width; particularly at doorways, thresholds, etc.

Comment: It is good practice to have the largest cut panel possible. As long as the panel is properly supported it is quite acceptable to have cuts down to 100 mm width.

340 SEALING OF CUT PANELS:

Seal all exposed cut edges of panels using Class 0 Aluminum foil sealer to prevent dust generation.

350 PERIMETERS:

- Ensure that the installed system has sufficient lateral stability to enable it to be independent of abutting elements.
- Provide a 10mm expansion gap at all abutments and fill with a resilient closed cell filler before fixing skirtings, cover strips, etc.

Comment: Normally a 10 mm Neoprene.

360 CAVITY BARRIERS:

- Material: Lamatherm

Fire resistance to BS 476: Part 8 or Part 20, stability/integrity/insulation (minutes): 30 minutes.

- Unless shown otherwise, install barriers to subdivide floor void into areas as required by the local fire authority. Barriers should not be spaced at greater than 20 metres apart.
- Fix securely to subfloor, at joints, and as necessary to ensure permanent stability and continuity with no gaps; to provide an effective barrier to smoke and flame.
- Seal any gaps at junctions of cavity barriers with floor panels, walls, ducts, pipes, cable trays, etc., with mineral wool or other suitable material to prevent penetration of smoke and flame.
- Access panels above cavity barriers to be screwed down or otherwise firmly secured.

370 CHANGES OF LEVEL:

- Drawing reference(s)
- Ramps and steps: Construct to approved details to achieve performance requirements specified for the associated raised access floor.
- Balustrades: Ensure compliance with the structural and safety requirements of BS 6180.

380 AIR PLENUM BARRIERS: (*Delete this clause if not required*)

- Material: Rigid or semi-rigid non-porous sheets with smooth non-dusting surfaces and complying with the hygrothermal (P5.00) and surface spread of flame requirements (P5.02) of MOB PF2 PS.
- Fix securely to subfloor, at joints, and as necessary to ensure permanent stability. All edges and joints to be effectively sealed.

390 ELECTRICAL CONTINUITY & EARTH BONDING (*Delete this clause if not required*)

- All substantial metal parts of the floor to be electrically continuous and fully earth bonded in accordance with the latest edition of the IEE Regulations.
- Liaise with the electrical subcontractor to agree the number and location of earth bonding connection points. Supply connectors as necessary for use by electrical subcontractor.
- After completion of the floor and associated services, arrange for tests to demonstrate that the floor is electrically continuous and fully earth bonded. Points chosen for testing to include randomly selected pedestals, stringers, tops and bottom of panels, etc. (Supply of the services of a qualified electrician to be by employer.)
- Notify the CA to enable him to witness the testing. Submit a test report to the CA.

400 TESTING ELECTRICAL RESISTANCE:

- Arrange for a qualified electrician to test the floor to verify compliance with MOB PF2 PS. Clause P9.01. Notify the CA to enable him to witness the testing. Submit a test report to the CA

Comment: Although called for, this is not normally necessary on site. The manufacturer's test certificates should cover this.

410 PROTECTION: Ensure that no part of the floor installation is:

- Used as a platform for storage of equipment and materials.
- Subjected to static or dynamic loads which exceed those for which it is designed. Adequate precautions, including use of spreader plates, must be taken during installation of equipment and any work on other elements, e.g. ceilings.
- Walked on within 48 hours following the use of adhesives to fix pedestals to the subfloor.

- Left unprotected prior to Practical Completion. Supply and lay a protective covering of:

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420 PANEL LIFTING DEVICES: Provide the main contractor with two sets of lifting devices suitable for each of the floor finishes installed. One set to be for the use of subcontractors requiring access to the void and other for handing over to the CA at Practical Completion.

430 USERS INSTRUCTIONS:

Provide the main Contractor with two copies of the floor manufacturer’s maintenance and user instructions. One copy to be for the use of subcontractors requiring access to the void and the other for handing over to the CA at Practical Completion. The contents of the instructions to include:

- The correct method of lifting and replacing stringers; including limitations on the sequence and number of panels, stringers, etc., which can be removed at one time.
- The permissible loadings that can be applied to the floor, with guidance on the use of spreader plates, etc., during the installation of equipment and subsequent maintenance.
- Methods for the installing of cabling, ducts, etc., so as to prevent damage to the supporting structure.
- Cleaning methods for the panels and any integral finish(es).

440 SPARES: (*Delete this clause if not required*)

- Provide the following and hand over to the Employer at Practical Completion:

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450 POST INSTALLATION VISIT:

Comment: The P.I.V. will almost certainly be quoted as an extra over item on any quotation. You should satisfy yourself whether it will be necessary or not, as it could significantly add to the cost.

After completion of services and other associated work:

- Thoroughly inspect the floor installation for defects. Prepare a schedule of outstanding defects and submit a copy to the CA.
- Thoroughly clean all accessible areas of the subfloor.
- Apply a further cast of sealer to all accessible areas of the subfloor. (*Delete this clause if not required*)

TABLE 1 MOB PF2 PS GRADES & TYPICAL USES:

Grade	Area of Use	Concentrated Static Load	Uniformly Distributed
Medium	General office accommodation with heavy equipment (Medium Grade floors tend to be installed more frequently in office accommodation than Light Grade floors in anticipation of future demands) Data preparation areas, Libraries, Banking Halls, Dealer Rooms, & Trading Floors, Exhibition Areas in Art Galleries & Museums, Computer Rooms.	Not less than 4.5 kN over a 300mm square & Not less than 3.0kN over a 25mm square	Not less than 4.5 kN/m ²
Heavy	Computer Rooms, including main frame computers, Telephone Exchanges, Control Rooms, Industrial applications, e.g. switchgear rooms, pumping stations, light manufacturing	Not less than 4.5 kN over a 25mm square	Not less than 4.5 kN/m ²
Extra Heavy **	Computer rooms with particularly heavy equipment.	Not less than 4.5 kN over a 25mm square	Not less than 4.5 kN/m ²

** This grade is also required to sustain a total load of 11kN applied squarely on four points, each point 25mm square configuration at any point on the system.

