SOLIDFEEL ACCESS FLOORING

TECHNICAL AND INSTALLATION GUIDE FOR

SOLIDFEEL ACCESS FLOOR SYSTEMS
(Ref Jan 2012)

SOLIDFEEL'S CURRENT RANGE OF ACCESS FLOORS HAVE BEEN ESPECIALLY DESIGNED TO CATER FOR THE DEMANDS AND FLEXIBILITY REQUIRED BY TODAY'S HIGHLY TECHNOLOGICAL BUSINESS ENVIRONMENT AND IS MANUFACTURED TO SABS, MOB AND CISCA STANDARDS.

THE SOLIDFEEL (SF) SYSTEM INCLUDES:

- SOLIDFEEL SF20, SF25, SF45 AND SF70
- SEVERN 50 AND 70
- PERFORATED AIRFLOW

THE SOLIDFEEL SFS (SFS) SYSTEM INCLUDES:

- SOLIDFEEL SFS20, SFS25, SFS45 AND SFS70

"SOLIDFEEL" refers to both above systems

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SOLIDFEEL ACCESS FLOORING

1 TECHNICAL DESCRIPTION

1.1 SELECTED SUB-CONTRACTOR

This sub-contract shall be executed by a selected approved sub-contractor, who specialises in the installation of Solidfeel Access Flooring. The sub-contractor will be responsible for the supply and erection of the complete access floor as designed and manufactured by Solidfeel Access Flooring (Pty) Ltd, including supply, execution and installation of all items as detailed in the "Bill of Quantities" and described in Section 1.4 hereunder. It is essential that the Main Contractor/Client verify that the appointed sub-contactor is an approved installer of the Solidfeel Range of access flooring.

The duties and responsibilities of the sub-contractor's engineering and management staff will include:

- Selection and engineering of sub-components forming part of the access floor and interface with the air conditioning, electrical, furniture docking, illumination systems and other services.
- Preparation and submission of documentation as required for approval in accordance with the procedures laid down under the section in the "Bill of Quantities" dealing with quality control and approval procedures as laid down by the Architect/ Engineer/ Consultant.
- Co-ordination, programming and planning of work to fit in with the overall main contractor's programme.
- Attendance at routine site progress and programming monitoring meetings organised by the Main Contractor.
- Expediting of the sub-contract works and directing the installation staff to ensure efficient, timely, and safe execution of the work to the specified standard.
- Co-operating with main contractor and other trades to ensure such execution.
- Carrying out all duties and responsibilities as described in the "Bill of Quantities".
- Control and reporting of damages to the installation.

No portion of this sub-contract may be assigned or sub-let without prior consent of the Architect/ Engineer/ Consultant.

1.2 SYSTEM DESCRIPTION

This specification covers the supply and installation of the SOLIDFEEL raised access floor to a prescribed height above the sub - floor and to a designated Solidfeel (or Severn) specification as detailed in the load performance table and as called for in the “Bill of Quantities”.

The Solidfeel (or Severn) access floor installation consists of 600mm x 600mm modular and interchangeable steel panels, supported by a steel understructure, in accordance with the specification and Bill of Quantities.

The raised floor installation should consist of 600x600mm modular interchangeable, isotropic steel panels with a minimum of 180 welds (SF) or 144 welds (SFS) per panel. The panels should be supported by a steel understructure, in accordance with the specification.

All components of the access floor system are of steel or aluminium construction except for panel’s cementitious core, surfacing materials and gaskets between the panel and the supports.

The complete floor system shall be sturdy, rigid and free of overall rocking, rattles, squeaks and noises. The finished floor shall be level within 1.5mm in any 3.0m direction and within 2.5mm over the total floor. This is the ideal tolerance but due to the variances in the beam thickness between different classes of laser equipment and site conditions a variance of up to 7mm will be acceptable over distances exceeding 10m.

The system shall be electrically conductive for dissipation of static electricity whilst having enough electrical resistance to provide protection against electrical shock in order to comply with SABS 0123:2001-“The control of undesirable static electricity”.

The construction of the raised access floor system and the materials and components used therein shall comply with all local codes and laws regarding fire, safety and health.

The manufacturer of the system should be a member of the Green Building Council of South Africa (GBCSA)

The manufacturing of the access floor components shall be under a stringent quality management system. All structural access floor components shall be supplied by one manufacturer to ensure compatibility and maintain the standards.

Method of testing concentrated, ultimate and rolling loads of access floor panels shall be in accordance with **SABS 1549:1993**. Tests shall be performed by an independent an accredited official in a laboratory with the relevant testing equipment and the calibration certificates thereof.

1.3 COMPONENT SPECIFICATION

1.3.1 Access Floor Panels

The Solidfeel access floor panels consist of structurally rigid linear cell assemblies, fabricated entirely from non - combustible components and shall consist of a flat steel top sheet, resistance welded to a steel bottom section.

The SF range panel is cleaned, phosphated and coated with conductive paint (electro coating).
The SFS range is epoxy coated.

The interior of the panel may be filled (SF & SFS) with a non-combustible cementitious compound, to support no less than 95% of the top skin or surface of the panel.

For a Panel - Loc system, the access floor panels are provided with four corrosion resistant fasteners. The fasteners bolt through the panels and clamp the panel to the pedestal heads. The panels can be removed by releasing these four fasteners.

TOLERANCE AND LIMITS TABLE	
Description	**Tolerance/Limit**
Panel size	600X600mm ±0-0.5mm
Panel squareness	±0.50mm
Panel flatness	±0.50mm

1.3.2 Under Structure

The understructure shall be a positive loc system (with the head equipped with a locating pin in order to ensure a positive lock to the panel) to a finished floor height –FFH- as specified. For a FFH of 750mm and higher, heavy duty bases must be specified. For a FFH 800mm and above all stringers should be mechanically fixed into heads. For FFH 1,0 meter and above it is advisable to fix additional cross bracing the pedestals.

The understructure of the SF system consists of an electro coated and factory assembled pedestal base and head. This assembly is capable of supporting an axial load of 22.7kN.
The understructure of the SFS system consists of an epoxy coated (or electro galvanised coating) and factory assembled pedestal base and head. This assembly is capable of supporting an axial load of 22.7kN.

A corrosion resistant nut shall be provided which shall allow for the adjustment of the pedestal assembly over a range of 30mm without rotation of the pedestal head. The nut shall be prevented from rotating using a locking nut.

For a stringer system, the pedestal head shall be designed to receive a snap loc stringers, which when assembled, shall provide a completely rigid assembly even when eight abutting access floor panels are removed.

Stringers consist of galvanised steel channel section with a provision for a snap - on attachment to the pedestal head. A stringer gasket (conductive or non-conductive) should be fitted to the top of the stringer surface. This gasket can be added after installation or be adhered to the stringer.

Additional pedestals to be provided to cut –out panels to maintain integrity depending on their size. At perimeter cuts around column and walls penetrating the void perimeter pedestals are to be installed with stringers screw fixed into the perimeter heads. (see point 8 below).

The base of the all pedestals to be fixed to the sub-floor by means of a 2 part epoxy adhesive and additional mechanical fixing on two opposite sides of the plate with approved steel concrete anchor for finished floor heights of 750mm and above.

All understructure should be multi-functional. This means that the system must be able to transform from a freestanding system to a snaplock system (without changing the pedestal and heads) by simply adding a stringer to the multi-functional head.

The understructure should be able accommodate all the various load type panels, i.e. Solidfeel 20, 25, 45 and 70, without replacing any of the understructure components.

Construction of the understructure:

Material: Cold Rolled steel

Base plate dimensions

Standard Pedestal:	1.80 x 100 x 100mm
Heavy Duty Pedestal:	3.00 x 125 x 125mm

Tube dimensions

Outside diameter:	27.0mm
Wall thickness:	2.0mm
Length:	Depends on floor height

1.3.3 Long Span Under Structure

To ensure that highly populated underfloor services (spans of more than 600mm but less than 1200mm [with of pedestal bases excluded]) can be accommodated, a Long Span sub-structure can be installed. The normal system as described in 1.3.2 fits on top of this system and will then carry the floor as per usual. This system can also be used in narrow corridors where it is difficult to obtain stability using conventional metods.

This sub-structure consists of an epoxy coated (or electro galvanised coating) and factory assembled pedestal base and metal beams.

1.3.4 Finishes

The Solidfeel raised access floor finishes can be fitted as specified in the “Bill of Quantities”. High pressure laminate (HPL) should be factory bonded to the surface of the access floor panel and be (either):

1. Bevelled at the edge; or
2. Of integral trim design.

Bare panels are to be used where the floor is to be covered in carpets with the a “loose –lay “ backing. It is advisable that carpet tiles are laid off-grid using a pressure sensitive adhesive. A guaranteed precise modularity between the carpet tile and the access floor panel can only be achieved with factory bonded carpet tiles to panel

1.3.5 Load performance table

	UNIT OF MEASURE	SOLIDFEEL 20	SOLIDFEEL 25	SOLIDFEEL 45	SOLIDFEEL 70
TYPE OF LOAD					
CONCENTRATED LOAD	**Kilonewton**	3	4.5	5.6	9
(on a 25 x 25mm area)	**kg**	296	459	571	918
	lbs	675	1011	1259	2023
UNIFORMLY DISTRIBUTED LOADS/m2	**Kilonewton**	9	13.5	15.6	25
	kg	918	1377	1591	2549
	lbs	2023	3035	3507	5620
SAFETY FACTOR	**Kilonewton**	27	40.5	42	N/A
	kg	2753	4130	4283	
	lbs	6070	9105	9442	
ROLLING LOADS					
200mm x 50mm WHEEL		LOAD 2.05kN	LOAD 2.7kN	LOAD 2.7kN	LOAD 6.8kG
NUMBER OF PASSES		10000	30000	3000	10
150 x 38 mm WHEEL		LOAD 2.7kN	LOAD 3.25kN	LOAD 3.25kN	LOAD 4.5kN
NUMBER OF PASSES		1000	1000	1000	1000
25mm x 75mm WHEEL		LOAD 2.7kN	LOAD 3.6kN	LOAD 4.50kN	LOAD 5.5kN
NUMBER OF PASSES		5	5	5	5
IMPACT LOAD		40kg	55kg	65kg	80kg
PEDESTAL ASSEMBLY					
AXIAL LOAD	**Kilonewton**	22.7	22.7	22.7	22.7
	kg	2315	2315	2315	2315
	lbs	5103	5103	5103	5103
PANEL SPECIFICATIONS					
PANEL SIZE		600 x 600	600 x 600	600 x 600	600 x 600
TOP SHEET		0.7mm	0.9mm	1.1mm	2.00mm
BOTTOM SHEET		1.0mm	1.0mm	1.3mm	1.3mm
PANEL MASS		13.68kg	14.27kg	16.37kg	19.84kg
PULL TEST ON PEDESTAL BASE		10kg(installation test)	10kg(installation test)	10kg(installation test)	10kg(installation test)
FIRE TEST		60min(CLASS 1)	60min(CLASS 1)	60min(CLASS 1)	60min(CLASS 1)
PAINT SPECIFICATION					
E-COAT : SF range					
EPOXY : SFS Range					

ALL STEEL PANELS	**SERVERN 50**	**SERVERN 70**	**AIRFLOW 50**	**AIRFLOW 70**
PANEL SIZE	600 X 600	600 X 600	600 X 600	600 X 600
TOP SHEET	1.8mm	2.0mm	1.8mm	2.0mm
BOTTOM SHEET	1.4mm	1.8mm	1.4mm	1.8mm

1.3.6 Load performance testing

The above loading performances (Section 1.3.4) are shown as a guide only to typical performance and normal application practice. It is recommended, as test and performance requirements vary with National Standards and procedures, that specific test data be obtained.

In order to determine compliance of the access floor system with the Load Performance Table, the following test method is followed:

- The panel, without surface covering, is supported by the specified pedestal heads (and stringers, if applicable). Pedestal heads are mounted on rigid blocks to eliminate distortion of results, which may occur from the isolated use of pedestal base assemblies in test fixture. The blocks rest on a solid test bed.

- Loads are applied to the top surface of the panel. The loads are transmitted to the panel surface by a 25mm x 25mm steel indenter. The panel is loaded at the centre.

- The panel is first loaded to the design load to settle the system. After unloading, a pre-load of 0.25kN is applied and both readouts are to be set at zero. The panel is then to be loaded in 0.50kN increments to the design load and the deflection readings are taken incrementally. The load is then removed from the panel and the 0.25kN pre-load is reapplied to measure set on the dial indicator.

1.3.6.1 Uniform load test

The panel, without surface covering, is supported by the specified pedestal heads (and stringers, if applicable). Pedestal heads are mounted on a rigid block to eliminate distortion of results, which may occur from the isolated use of pedestal base assemblies in the test fixture. The blocks rest on a solid test bed.

The load is applied uniformly over the top of the panel as follows:

- Indicates are positioned on the underside of the panel to measure the deflections under load at the centre and at the mid-span of the edge.

- The panel is first loaded to the design load to settle the system. After removing the load, a pre-load of 0.25kN is applied and the indicators are then set at zero. The panel is then to be loaded in 0.25kN increments to design load and the deflection readings are taken incrementally. The load is then removed from the panel and the 0.25kN pre-load is then reapplied to measure the permanent set on the measuring instrument.

1.3.6.2 Rolling load test

Three abutted panels, without surface coverings, are supported by the specified pedestal heads (and stringers, if applicable). The pedestal heads are mounted to a rigid rolling load fixture to eliminate distortion of results, which may occur through the isolated use of pedestal base assembled in the test fixture.

The specified wheel or castor is mounted in the fixture and loaded to the specified weight.

The wheel is then rolled over the panel surface from the first panel across the full length of the test panel to the third panel along the centre line of the panels, and along a line, which is 50mm from the panel edges. For each of these two test locations, new sets of panels are used.

After completion of the rolling loads, the maximum permanent set of the surface is measured.

1.3.7 General performance specification

1.3.7.1 Electrical Receptivity and conductivity

For computer rooms the resistance between the surface of the panel of the access floor panel and earth is between 5×10^5 and 2×10^{10} Ohms measured at 22 to 25 degrees Celsius and 25% to 65% relative humidity (after the room has been stabilised at these levels for 48 hours).

For all raised access floors the entire system will be electrically conductive to allow for grounding at a later date, if required.

1.3.7.2 Fire resistance and tests

All components of the access floor system are non-combustible when tested in accordance with SABS 0177 part V and SABS 1549 and the completed installation will comply with the requirements of the National Building Regulations and Building Act of 1977 (as amended) where applicable.

1.3.7.3 Compliance with codes and laws

The construction of the raised access floor system and the materials and components used therein will comply with all local codes and laws regarding fire, safety and health.

1.3.7.4 Pedestal base adhesive

All pedestal bases must be adhered to the sub-floor. The adhesive shall is conductive, waterproof and non-soluble when cured. The pedestal and the adhesive will be capable of resisting a horizontal force of 10kg applied at a height of 300mm from the sub-floor when the adhesive has cured.

1.3.7.5 Plenum dividers

Plenum dividers is not a standard Solidfeel Access Floor component.

1.3.7.6 Special panels

Panels (with airflow services) will be installed by the air conditioning sub-contractor in the access floor system on site under the supervision of the access floor sub-contractor. Similarly, panels with electrical services will be installed by the electrical sub-contractor. However, the access floor sub-contractor shall be responsible for the final fixing and levelling of these panels (with services) and ensuring that panels are installed in accordance with the sub-contract documents.

Loading specification of floor fittings will be supplied by the manufacturers of the fittings.
Solidfeel manufacturers and supplies various air flow panels, electrical out-let boxes, grommets and brush grommets.

Should any of the items be supplied by an outside contractor it will be responsibility of this supplier to ensure that these item are compatible with the Solidfeel Access floor system and approved by Solidfeel and the access floor sub-contactor

2 GENERAL

2.1 SITE CONDITIONS

2.1.1 Off Loading

Whilst access flooring materials are generally very robust, care should be taken when off-loading to avoid damage caused by forklift, truck, manual handling or hoist facilities. Check hoisting facilities before delivery of panels so that correct pallets are used.

2.1.2 Storage

Materials must be stored in areas that are dry, watertight and sufficiently ventilated to ensure that there are no excessive variations in temperature or humidity. The parameters for temperature and humidity are 5°C – 30°C and maximum 75% R.H. Materials should be stacked in such a manner that the structural sub floor is not overloaded or damaged.

2.1.3 Safety

In addition to the statutory and the specific site safety requirements, the appropriate safety equipment and procedures should always be employed when using installation equipment, sub-floor sealers, adhesives and power tools. Check for air leakage and electrical continuity requirements before starting the access floor installation.

2.2 SUB-FLOORS

2.2.1 Sub-Floor Conditions

Sub-floors must be free of any dust, debris, oil, grease or other contaminates which may be detrimental to the pedestal adhesive bond. The overall level of the sub-floor should be checked to insure that variations are within the adjustment range of the access floor support pedestals. The moisture content in the floor should be lower than 3% (as measured by a TRAMEX or similar instrument) or lower, should the pedestal adhesive used, require it to be so.

Work of all sub-trades in the plenum [floor void] to be completed and tested to the satisfaction of the contractor before the raised access floor installation commences Other trades will not be allowed on the floor for the duration of the installation as well as any traffic for at least 24 hours thereafter to ensure that the epoxy gets time to set properly.

2.2.2 Sub-Floor Strength and Level

The strength, composition and general condition of the sub-floor is normally outside the installation contractor's control and his responsibility, but should be of such specification to provide adequate strength. It is recommended that the main contractor makes allowance for re-screeding of floor, power-floated for areas more than $30m^2$ and steel-floated for areas less than $30m^2$.

2.2.3 Sub-Floor Sealing

Sealing of the sub-floor within the underfloor void is normally only required when the void is to be used as a HVAC PLENUM. When sealing of the sub-floor is specifically requested, it is essential to insure that the sealant is compatible with the proposed pedestal adhesive. Existing timber, asphalt or floors with various coverings, etc., should be evaluated for suitability with access flooring. Pedestal adhesive compatibility must be considered. The strength of the existing flooring bond must be strong enough to prevent failure. Mechanical fixing may be required for certain sub-floors.

2.3 TOOLS REQUIRED

Laser Level: (Rotating)	The laser level emits a narrow rotation beam of light and is used as an ideal levelling instrument for installing an access floor.
Small Level:	Suitable for checking that pedestals are perpendicular.
Straight Edge - 3600mm	The straight edge should be marked at 600mm centres for the setting out and the levelling of pedestals.
Band Saw:	A good quality band saw can save a great deal of time during installation, for cutting panels to perimeters neatly and accurately.
Power Screwdriver:	Particularly useful for installing large areas of access floor with the panel-loc system.
Other Hand Tools:	Metal tape 30m Metal tape 5m Chalk line Electric hand drill Screwdrivers Panel lifters - suction or carpet

3 INSTALLATION TOLLERANCES

The following extracts from SABS 1549:1992 and the SolidFeel Technical Specification outline the main tolerances applicable to the installation of raised access floors.

3.1 GAPS BETWEEN PANELS

The maximum gap between panels when located in their respective positions shall not exceed 1 mm.

3.2 FIT

The system shall not rely on perimeter walls, columns etc. for lateral stability. It should provide a close fit to such interface whilst allowing for possible building movement and hydrothermal movement in the floor system, but without any detrimental effect on the floor performance. At perimeters and around columns etc., the maximum allowable gap shall be 15mm with edge panels being positively located to prevent lateral movement of the floor assembly. Special consideration should be given to the panel support arrangements at threshold interfaces, which shall not create a hazard to pedestrians.

3.3 OVERALL LEVELS

The floor level test shall be done strictly with an appropriate laser machine provided by the contractor.
Completed floor to be inspected by architect prior to any traffic and loading is placed on the completed floor.

TOLERANCE AND LIMITS TABLE	
Description	**Tolerance/Limit**
Installed access floor level	1.50mm in any 3m direction 2.50mm over entire floor *
Variation in height between adjoining panels	0.50mm
Max. depth of panel and pedestal head assembly	±40mm

* - Due to the variances in the beam thickness between different classes of laser equipment and site conditions a variance of up to 7mm will be acceptable over distances exceeding 10m

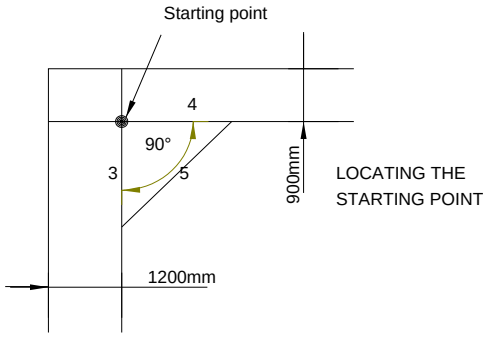
4 INSTALLATION

4.1 STEP 1

4.1.1 Locating the starting point and grid lay - out

- Economical use of materials.
- Co-ordination with other trades and service to be installed in the floor void.
- Avoid cut panels at doorways and other obstacles.
- Avoid very small cut panels (less than 300mm).
- Select the longest and straightest wall to set out from with full half panels as determined.
- Work should start from the farthest point of the room and proceed towards the doorway to avoid pedestrian trafficking or the movement of materials across the newly installed floor.

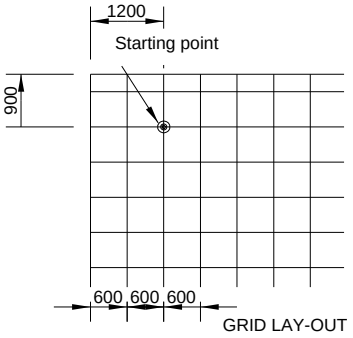
The starting point is then determined approximately 1200mm from the two adjacent walls where full panels are used or 900mm for half panels. The grid should be set out that full panels do not exceed the maximum 15mm permissible perimeter gap or can be cut to accommodate variations in the perimeter wall.



4.1.2 Setting out the grid

After determining the starting point (as above or in accordance with the architect's approved grid layout), set out from that point line at 90^0, and do not exceed the 1200mm (or 900mm) from the adjacent walls. Check the 90^0 angle for accuracy using either a laser with 90^0 facility or by using the 3-4-5 triangle technique.

With the starting lines now established the 600mm x 600mm grid can be set out to act as a guide for positioning of the pedestals.



4.1.3 Establishing floor height

When establishing the floor height the same reference datum should be used throughout the area and not transferred from point to point.

- Check that the proposed floor height is compatible with other building elements.
- Check that pedestals selected have sufficient adjustment to cope with the sub-floor variation on site.

4.2 STEP 2

4.2.1 Installation of pedestals and panels

Many methods for actual installation of Access Floors have been developed over the years, of which the 'L' method is probably the most popular.

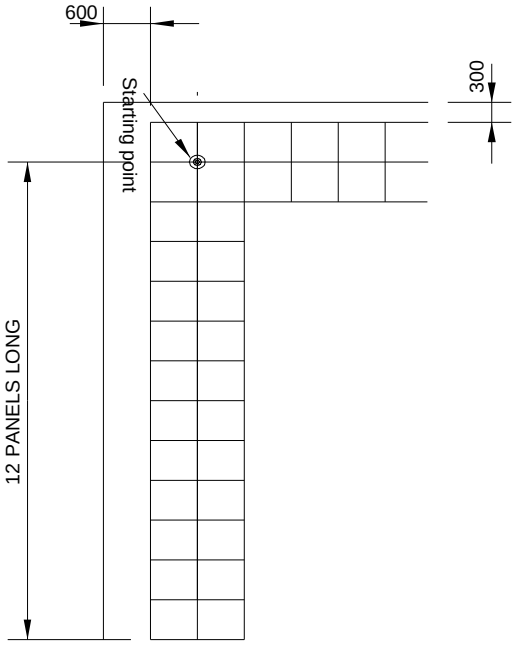
4.2.2 The "L"' method

After confirming the starting lines and finished floor height, as described in step 1, the first section of the floor called the "L" is now ready for installation. At the starting point, established on the sub-floor, the first pedestal should be accurately centred and permanently anchored using adhesive and mechanical fixing.

Place additional pedestals at 600mm centres along the starting lines so that a two panel wide section of flooring forming an "L" shape with each leg being approximately 12 panels long.

Now determine the height of the pedestals and remember to use the pedestal at the starting point to establish the datum line of the laser or string line. Apply adhesive to pedestals along one leg of the "L" and adjust levels. Repeat the above procedure for the other leg of the "L".

Install the panels in the "L" SHAPE to establish the start of the floor installation.



4.2.3 Stabilising the "L"

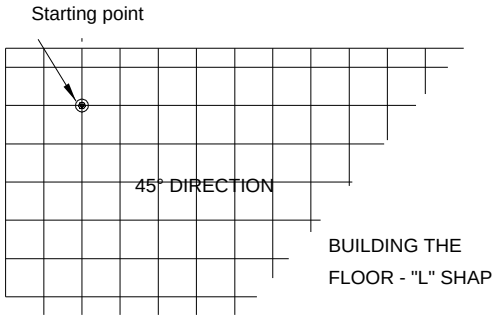
Once the "L" has been established it is advisable, especially with the free standing system, to fix the full or cut panels to the perimeters to ensure that the basic "L" is not disturbed as additional panels are added. The pedestals are added at 600mm centres around the perimeter walls.

NOTE: Only pedestals which are loaded on all four quadrants of the pedestal head should be glued down. If this is not possible the pedestal must be left until such time that it can be glued and loaded with a panel on all four quadrants.

4.3 STEP 3

4.3.1 Building the floor

Using the "L" as described in step 2, continue installing the floor by filling in the inside of the "L" one pedestal and one panel at a time moving away from the starting point in a 45^0. direction, extending the legs of the "L" as required.

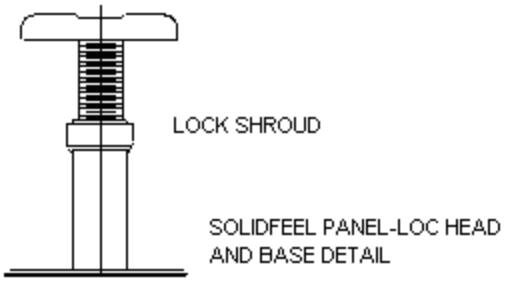


4.3.2 General installation instructions

If any problems occur during the installation such as rocking or lipping panels, the installation should be suspended and the problem rectified before continuing. **Do not compensate** for problems by making adjustments to proceeding or succeeding pedestals as this will start a progression of adjustments which will accumulate as the installation progresses. The floor will rise and/or fall, grid lines will run out and more problems will be created.

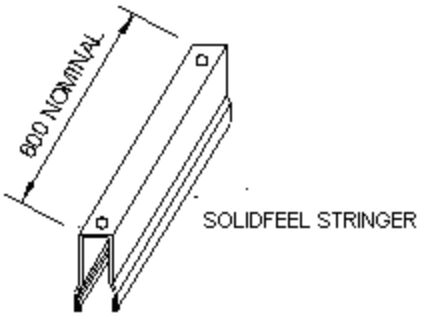
- **Pedestals**

Perimeter cut panels should be installed using an perimeter pedestal and stringers screw fixed into head. Once the level of the pedestal is determined it should be securely locked in position. It is imperative that pedestals are installed vertically (plump) otherwise an uneven floor will result. This is a root cause installation problem. The adjustment recommended by Solidfeel should never be exceeded. This is to ensure system safety and performance.



- **Stringers**

These are steel cross braces, which locate from pedestal head to pedestal head to create a matrix across the floor. Normally supplied in snap-loc or screw-down format, they provide additional rigidity to the system particularly where high floor levels are involved. Stringers, where required should be installed in natural sequence with the pedestals and panels.



4.3.3 Cut - out panels

Holes of any description cut into floor panels may, depending on their size and position, require additional support pedestals to maintain the integrity of the installation. The cut-outs should not be closer to the panel edge than 75mm. All cuttings are to be finished with metallic tape or a sealant like "NS4" from "Duram"

4.3.4 Screw-down panels

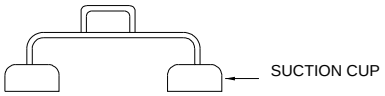
On no account should panels be installed and the screws left loose to be tightened at a later stage as this will cause unnecessary stress within the floor. This may result in screws not seating correctly leading to panels being pulled out of position.

4.3.5 Uplifting and relocating panels

Always use the appropriate lifting tool to remove or replace panels. Never try to remove panels using screwdrivers, etc. Do not replace by kicking the panel into position - damage will occur.

After the installation of the access floor, or sections thereof, the floor should be signed off and handed over to the main contractor / client before any other contractors are allowed to access the floor void.

It is recommended that the access flooring sub-contractor makes an allowance in his tender for a final check and re-level of the access floor before the final handover.



LIFTING TOOL

5 INSTALLATION PROBLEMS

The installation of Solidfeel access flooring is generally a simple and straightforward operation. The following points are the most common problems encountered on site and can be overcome easily providing care is taken and problems are resolved at source.

5.1 ROCKING PANELS

A common problem, which can generally be resolved if, dealt with at the point of installation. It is caused by one pedestal head not being in the same plane of level as the other three. It can usually be attributed to one or more of the following:

- Pedestals not set perpendicular.
- Dirt or debris on one pedestal head
- If used, a missing head gasket
- Trafficking of the floor prior to the full curing of pedestal adhesive.

5.2 LIPPING PANELS

This is the situation where one edge of a panel is significantly higher than that of the adjacent panel. The specified maximum for this condition is given in the 'TOLERANCE' section of the technical specification. It is mainly caused by pedestal not being fixed perpendicular but can also be caused by dirt on the pedestal heads. Lipping can also occur where pedestals have been glued down with panel weight on one side only, causing pedestals to tip slightly.

5.3 GRID/MODULE OUT

This can be caused by damaged panels being used, overly loose or tight installation, or lack of care when positioning panels. This is extremely difficult to rectify if allowed to progress.

5.4 LOSS OF LEVEL

Using different datum points as apposed to a single reference point will cause levels to change. The other prime causes are non-rectification of rocking or lipping panels at source, the removing of any of the understructure components or uplifting of areas of panels.

NOTE: Do not compensate for problems by making adjustments. This will accumulate as the installation progresses and more problems will be created.

6 MAINTENANCE

6.1 GENERAL

6.1.1 Protection of finished floor installations

Once an area of installation is complete the correct protection will ensure its quality and the durability. Having completed an individual area, it must be allowed to set for a minimum of 24 hours before it is used.

In particularly cold conditions adhesive-curing times may become extended. The adhesive conditions should be checked after 24 hours before traffic is permitted. If an installation is trafficked before adhesive has fully cured, rocking or lipping panels and changes in level will occur.

Care must be taken to ensure that floors are not overloaded or abused when moving other materials or equipment on site especially when using moving equipment with wheels or castors as these magnify the load transmitted to the floor.

The access floor is part of the building finish and should be treated accordingly. Damage, abuse and overloading must be prevented to ensure that the floor system performs to its design specification.

Floor systems subject to water flooding/damage cannot be guaranteed in terms of performance and should be removed and replaced

During the progress of the works, the subcontractor shall protect his work and report in writing to the main contractor any damage caused to his work by others. Only the subcontractor shall have access to the plenum [floor void] and will only have permission to uplift and replace panels for other sub-trades on written instruction of the main contractor

6.2 MAINTENANCE AND USE

Basic access floor systems require little if any maintenance once the inspection is completed. Installations should be inspected during normal use for any signs of damage or deterioration.

Other than vacuum cleaning of the void when required and ensuring that pedestal heads are clean when replacing panels, cleaning of the system is not normally necessary. The system components can be wiped down with a dry cloth should it be required. The coverings should be cleaned in accordance with the cleaning guidelines from the manufacturer of the covering.

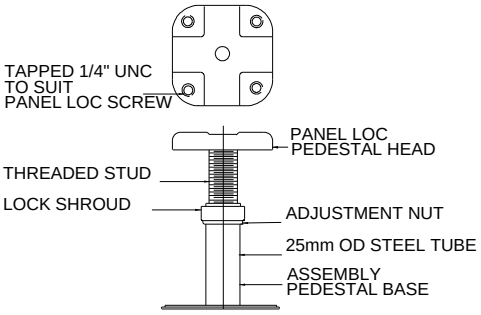
Panels should be removed vertically using the appropriate lifting device. Never remove panels with screwdrivers, etc. They should be replaced in the same rotation, never drop or kick panels into position.

When access to the void is necessary, the **minimum number of panels** should be removed at any one time. Panels should ideally be lifted in a checkerboard module. Where a large area is to be uplifted a minimum of two rows of panels should remain intact between rows of uplifted panels and the creation of “ISLANDS” of panels within the installation should be avoided at all times.
No understructure components should be removed as this will affect the stability of the floor and loss of level will occur.

7 SUBSTRUCTURE

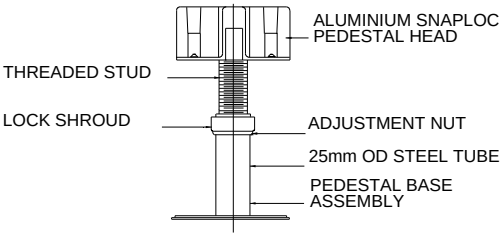
7.1 PANEL - LOC SYSTEM

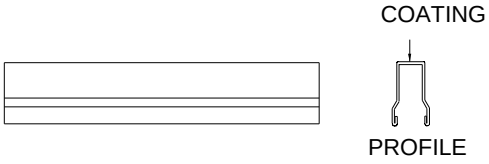
The all steel Panel - Loc pedestal system is suitable for all general office applications. Each floor panel is mechanically fastened to the pedestal at all four corners, ensuring rigidity, lateral stability and solid feel underfoot. Access is achieved by releasing the fasteners and lifting the panel. Each pedestal head has an adjustment-locking device to ensure pedestal height is maintained. Security of sensitive areas is improved by limiting underfloor access.



7.2 SNAP LOC SYSTEM

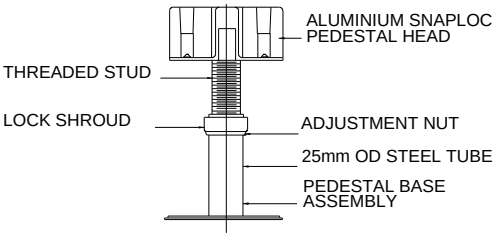
Snap-Loc understructures are suitable for general office and computer room applications and provide more stability by utilising stringers that assist in maintaining floor and pedestal position when panels are moved. Stringers snap on and off the pedestal heads without tools. An electrical conductive or non-conductive gasket is fitted to the stringer.





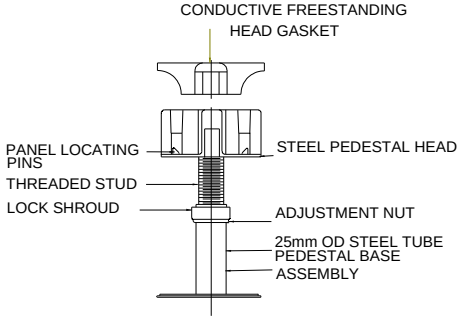
7.3 SCREWDOWN SYSTEM

Identical performance features as Snap - Loc, plus the addition of mechanical fasteners at the stringer and head connections. Screwdown stringer screws are self tapping - from own countersink - and should be installed progressively to insure panels are free fitting and readily removed. The Screwdown system is recommended for areas where higher finished floor heights are required. Each pedestal head has an adjustment-locking device to ensure pedestal height is maintained.



7.4 FREESTANDING SYSTEM

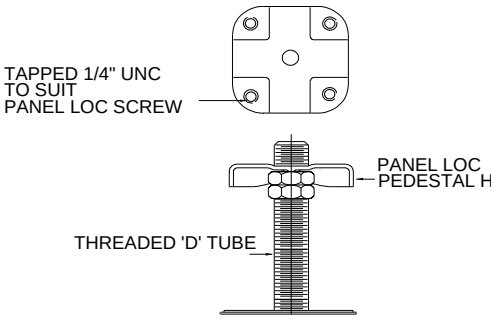
Freestanding understructures utilise aluminium freestanding pedestal heads. Panels are held in place by locating pins on the pedestal head. Freestanding systems are normally used in small, low finished floor heights (FFH), perimeter-enclosed areas. An



electrical conductive gasket is placed on top of the pedestal head to eliminate rattles and improve sound insulation. Each pedestal head has an adjustment nut shroud to insure pedestal height is maintained.

7.5 LOW - LOC SYSTEM

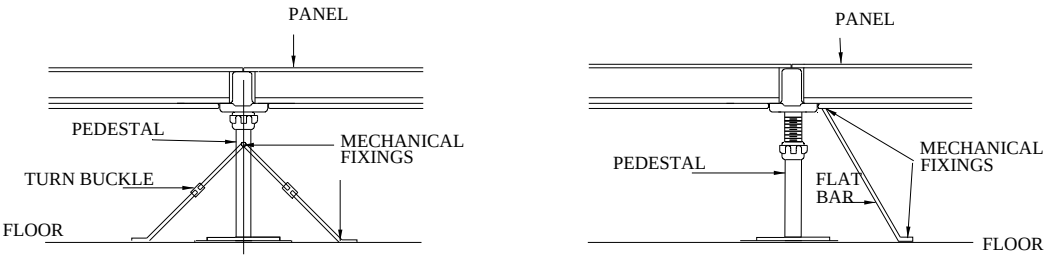
Identical performance features to the Solidfeel par - loc system. The low-loc can also be used wi finished floor heights as low as 75mm. With th system the range of vertical adjustment is therefo limited.



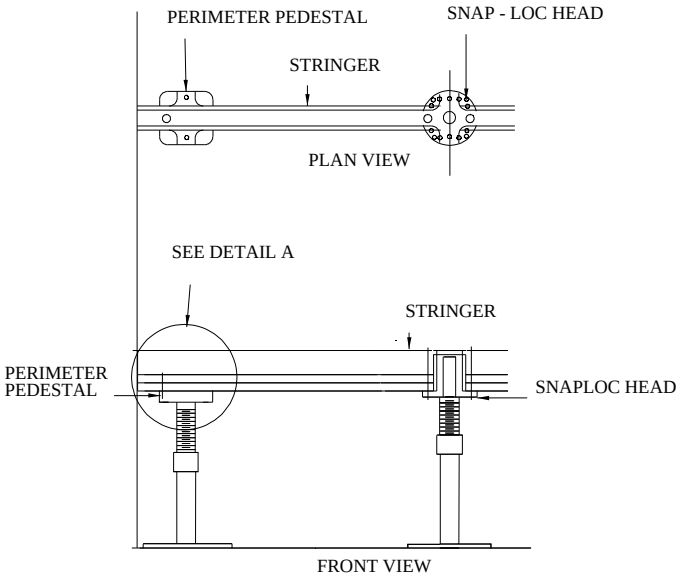
7.6 LONG SPAN SYSTEM

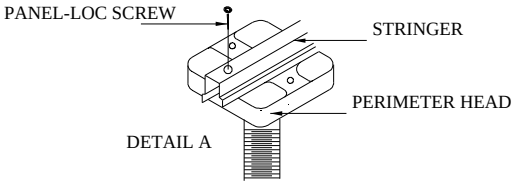
This systems serves as a substructure to any of the above (7.1 – 7.5) systems and gives flexibility to accommodate larger spans as well as stability in narrow corridors where support is difficult to obtain using the conventional metods.

8 INSTALLATION DETAIL

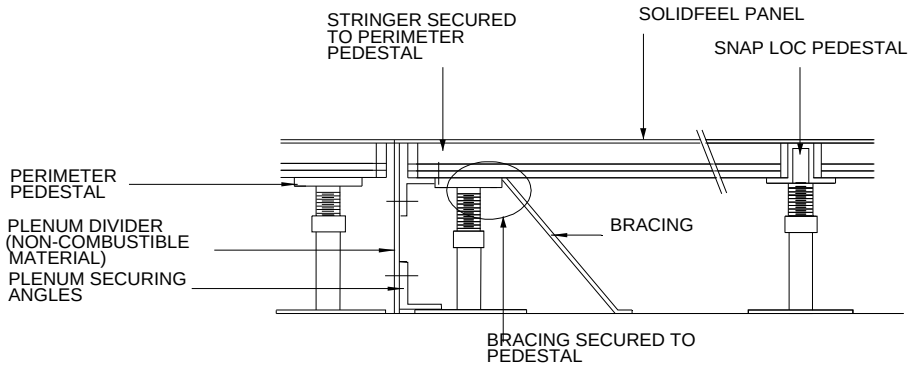


PEDESTAL BRACING DETAIL

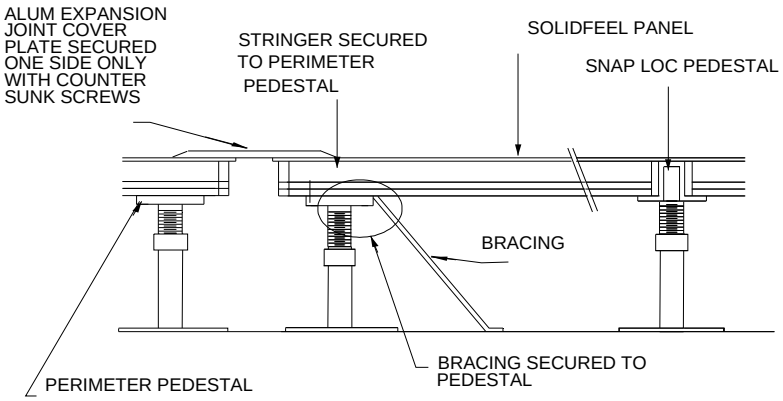




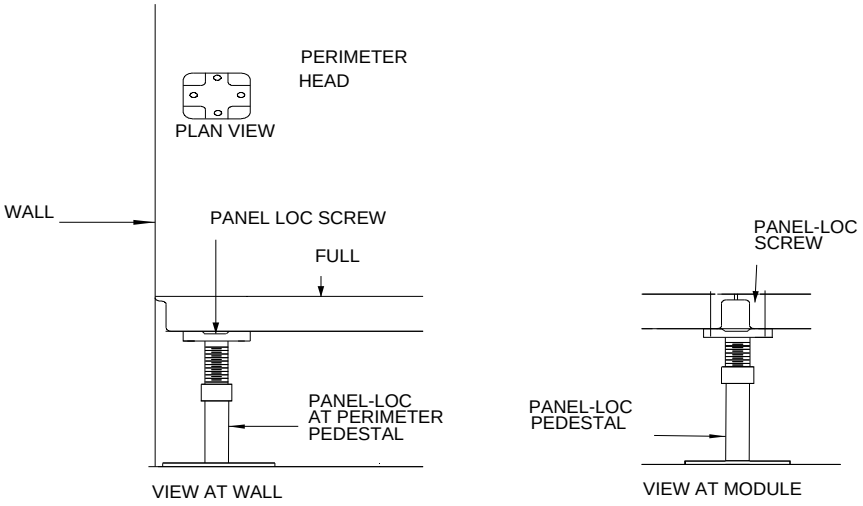
PERIMETER HEAD INSTALLATION



PLENUM DIVIDER DETAIL



EXPANSION JOINT DETAIL



PANEL LOC SUPPORT SYSTEM

Complete Long-span system with a sub-structure and panel fitted on top of it.