

0541P ASP ACCESS FLOORS**Branded worksection**

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Worksection abstract

This branded worksection *Template* is applicable to ASP Access Floors pedestal access floor systems.

Background

This worksection is based on AS 4154-1993 which was withdrawn in 2016.

Systems may include service elements such as sub-floor gas flooding, air conditioning, cable trays, smoke detection and sub-floor drainage. Airtight construction requires coordinated effort.

How to use this worksection

This worksection *Template* must be customised for each project. See [A guide to NATSPEC worksections \(www.natspec.com.au\)](#) for information on *Template* structure, word styles, and completing a worksection.

Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections. See for example:

- *0181 Adhesives, sealants and fasteners.*
- *0315 Concrete finishes* for substrate surface treatment (i.e. sealants to suppress dust).
- *0551 Joinery* for ramps if not part of the access floor system.
- *0651 Resilient finishes.*
- *0652 Carpets.*

Documenting this and related work

You may document this and related work as follows:

- Layout, height and dimensions with finished floor levels of the access floor and its substrate to your office documentation policy.
- The location of perforated or louvred panels and similar accessories should be shown on the drawings. If perforated panels are specified, the percentage open area should also be stated.

The *Normal* style text of this worksection may refer to items as being documented elsewhere in the contract documentation.

Make sure they are documented.

Specifying ESD

ASP access floors have the following sustainable product attributes:

- All panels and pedestal heads are made from recycled steel & aluminium.
- High system recycled content (> 95%) and the use of sustainable and recyclable surface finishes.
- Panel cutting at the point of manufacture, minimising waste and transport weight.
- Locally manufactured pedestal adhesive with low VOC emissions.
- Environmental Product Declarations (EPD) for products are available.

The following may be specified by including additional text:

- Recycled material content, e.g. steel and aluminium for panels and pedestals.
- Recycling of off-cut panels.
- Waste minimisation by maximising usable amounts of cut panels to the perimeter.
- Panels with no PVC.
- Panels using adhesives with zero or low VOC emission.
- Sub-floor sealers with low VOC emission.
- Panel cutting at the point of manufacture to minimise waste and transport weight.

Refer to the NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

ASP Access Floors Pty Ltd is a leading global company specialising in the manufacture, distribution and installation of access floors. ASP floor systems are suitable for various environments such as commercial office, data centres, education facilities, entertainment venues and casinos. They are available in a number of loadings from medium grade to super industrial grade. The panels are available prefinished or with a bare finish. The ASP mission is to provide clients with exceptional products and service.

1.1 RESPONSIBILITIES

General

Requirement: Provide ASP access floors consistent in finish treatment, as documented.

Documented is defined in *0171 General requirements* as meaning contained in the contract documents.

Products and finishes should be selected to be resistant to impacts expected in use.

1.2 COMPANY CONTACTS

ASP technical contacts

Website: www.aspfloors.com.au/contact/

1.3 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements*.

0171 General requirements contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. *0171 General requirements* references the *018 Common requirements* subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

1.4 MANUFACTURER'S DOCUMENTS

Technical manuals

Website: www.aspfloors.com.au/the-asp-product-range/

1.5 TOLERANCES

General

Maximum horizontal deviation from true floor grid (mm): [complete/delete]

e.g. 3 mm.

Maximum deviation of a grid line from straight: [complete/delete]

e.g. 1:1000 to a maximum of 3 mm.

Surface level (mm): [complete/delete]

e.g. 1.5 mm deviation from a 3 m straightedge and a maximum of ± 2.5 mm over the entire floor.

Panel dimensional tolerances

Panel flatness: For floor panels under no-load conditions, as follows:

- Concavity or convexity not more than 5 mm when measured diagonally across a 600 mm module.
- Deviation of any corner to the other three corners due to twisting not more than 1.00 mm over a 600 mm module.

Panel squareness: Panel deviation from square not more than 0.06% of the shorter diagonal length.

Panel dimensions: Panel deviation from the work size not more than ± 0.25 mm.

1.6 SUBMISSIONS

Fire performance

Fire hazard properties: Submit evidence of conformity to PRODUCTS, FIRE PERFORMANCE, Fire hazard properties.

Operation and maintenance manuals

General: On completion, submit bound recommendations for the care and maintenance of the access floor, and operating instructions for panel removal and height adjustment.

Products and materials

Manufacturer's data: Submit the manufacturer's published product data including diagrams and illustrations.

Type tests: Submit results, as follows:

- Slip resistance to AS 4586.

Type tests are carried out off-site. However, submission of evidence of a successful type test may be called up here for requirements specified in **SELECTIONS** or **PRODUCTS**, if there are no **SELECTIONS**.

Prototype

Description: Erect a prototype of the access floor, including at least one example of each of the components.

Location and extent: [complete/delete]

Air plenum: Make sure all parties responsible for constructing or penetrating the underfloor air plenum participate in the prototype, consisting of all plenum components, penetrations, seams and openings.

Samples may also be required, depending on method of specifying, particularly for factory-applied finishes such as timber or vinyl. Amend to suit the project.

Shop drawings

General: Submit shop drawings to a scale that best describes the detail, showing the following:

- Floor plan layout: Grid modules, interruptions to grid, location of stringers, panels requiring drilling or cut-out for services, location of non-standard panels, grilles, registers and perforated panels.
- Stringer section: Material and dimensions.
- Panel section: Construction, materials, dimensions and finishes.
- Pedestals: Material, dimensions, limit of vertical adjustment, method of locking, methods of attachment to floor and to stringers or panels.
- Edge details and junctions with adjoining work.

Amend to suit the project.

Subcontractors

General: Submit names and contact details of proposed suppliers and installers.

Evidence of experience: [complete/delete]

Delete if supplier/installer details are not required. If an air plenum is required, consider requesting evidence of previous experience.

Tests

0171 General requirements covers tests in **Definitions** and calls for an inspection and testing plan under **SUBMISSIONS, Tests**.

Site tests: Submit results as follows:

- Air leakage of air plenums.

Warranties

Requirement: Submit the manufacturer's product warranties for the system and the individual components.

Describe the requirements of warranties in EXECUTION, **COMPLETION, Warranties** and list the submissions required here.

1.7 INSPECTION**Notice**

Requirement: Give notice so that inspection may be made of the following:

- Pre-construction on-site prototype of air plenum.
- Subfloor services installed before access floor installation.
- Plenum sealing activities.
- Floor panels placed before surface covering, if not integral.

Amend to suit the project, adding critical stage inspections required.

Add **Hold points**, if required.

2 PRODUCTS

2.1 GENERAL

Product substitution

Other products: Conform to PRODUCTS, **GENERAL, Substitutions** in *0171 General requirements*.

The *0171 General requirements* worksection clause sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

Storage and handling

Requirement: Store access floor system and components in a dry and secure storage area unaffected by weather.

Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.

Edit the list to suit the project or delete if not required.

2.2 FIRE PERFORMANCE

Fire hazard properties

Critical radiant flux: Tested to AS ISO 9239.1.

Non-sprinklered buildings: The floor finish must have maximum *smoke development rate* of 750 percent-minutes tested to AS ISO 9239.1.

Refer to NATSPEC TECHnote DES 020 for further information on fire hazard properties.

Access floor system: [complete/delete]

Include the appropriate value from BCA Spec C1.10 Table 2 for the building class.

2.3 PERFORMANCE

Use of this clause assumes that the contractor will design the access floor installation, at least in detail. This may not be appropriate if the contract is of the construct-only type. If using this clause, make sure that prescriptive requirements do not conflict. Also, review the **GENERAL** subsection.

Use

Area function: [complete/delete]

e.g. General office, Computer room, Clean room, High load space, Lift lobby. If there is more than one area function in the project, prepare a separate schedule for each.

Intended use of system: [complete/delete]

Choices include the following:

- A readily accessible underfloor space suitable for running electrical, mechanical, computer or communication services.
- An air supply plenum.
- A return air passage, which may include provision for laminar airflow as required in clean room systems.

Load

Load capacity: [complete/delete]

Select load type from the following:

- Concentrated load. (kN)
- Ultimate load. (kN)
- Rolling load. (kN)
- Impact load. (kN)

- Uniform load. (kN/m²)

Stability

General: Provide a completed floor system which is rigid, free from vibration, creep and squeaking, which has a smooth and uniform finished surface, and which will maintain these conditions when sufficient panels have been removed for normal access.

Access for maintenance: [complete/delete]

If required, add requirement here. See also NATSPEC TECHreport TR 07 on providing maintenance access.

Air tightness of air plenums

If using the underfloor space as a plenum, state the permissible air leakage rate per unit of plenum surface area at a nominal pressure differential. e.g. 3 L/(s.m²) of plenum surface area at 50 Pa pressure differential. Divide m³/(h.m²) by 3.6 to get L/(s.m²).

Requirement: Air leakage rate between panels and at perimeter:

- Maximum: [complete/delete]
- Minimum: [complete/delete]

Include if a minimum limit is required.

2.4 ASP ACCESS FLOOR SYSTEMS

General

Description: Raised access floor system comprising:

- Access floor panels.
 - Size: 600 x 600 mm.
 - Finishing panel sizes: 600 x 300 mm and 600 x 800 mm.
- Pedestals.

The pedestals are provided with an adjusting and locking nut to maintain the assembly at a selected height, which requires a deliberate action to change the height setting to prevent vibration displacement.

- Stringers.

Stringer-supported systems provide a higher degree of stability than stringerless systems (each suitable for particular purposes). Consult manufacturers. Stringerless systems may be gravity held, or gravity held and located by punched tabs, threaded fasteners, and the like. They are not recommended for use in computer rooms unless provided with a positive location and locking facility between floor panels and pedestal head.

Delete if using the Icon X or Urban Interlock access systems.

Slip resistance classification: [complete/delete]

Concept +

Concept + access floor systems come with pre-finished access floor panels. Concept + is suitable for commercial environments and areas requiring access to services in the underfloor space, such as power, data, fire and hydraulics.

System: [complete/delete]

Select from the following:

- Concept + Concrete Heavy Grade 4.5 kN.
- Concept + Custom Urban Heavy Grade 4.5 kN.
- Concept + Custom Icon Heavy Grade 4.5 kN.
- Concept + Porcelain Heavy Grade 4.5 kN.
- Concept + Terrazzo Heavy Grade 4.5 kN.
- Concept + Timber Heavy Grade 4.5 kN.

Colour: [complete/delete]

See ASP website for colour selection.

Icon

Icon Panels consist of powder coated steel top plates and steel bottom plates with corrosion resistant protection, encapsulating cementitious cores. The panels are non-combustible and resistant to moisture.

Icon X is suitable for commercial environments and can be used for power and data cable management. It is suitable where the height between the top surface of the installed access floor and the subfloor is not more than 800 mm.

Icon Air is suitable for environments using an underfloor HVAC (heating, ventilation and air conditioning) system. The system uses a clip-on airtight stringer which creates a seal in between the panels to control and minimise air leakage. With the stringer seal, the underfloor cavity converts into an air plenum.

Icon Data HPL is a finished system suitable for computer and data centre environments. It can be used for mapping and distributing cabling, data and other electrical services in the subfloor. The system has an anti-static 1.6 mm thick High-Pressure Laminate (HPL) finish.

Icon Data Vinyl is a finished system suitable for computer and data centre environments. It can be used for mapping and distributing cabling, data and other electrical services in the subfloor. The system has a dissipative anti-static 2 mm thick vinyl surface finish.

Icon Rigid is suitable for areas that require a more rigid installation due to high load or traffic, or where the height between the top surface of the installed access floor and the subfloor is more than 800 mm.

System: [complete/delete]

Select from the following:

- Icon X Medium Grade 3.0 kN.
- Icon X Heavy Grade 4.5 kN.
- Icon X Extra Heavy Grade 6.0 kN.
- Icon X Industrial Grade 9.0 kN.
- Icon Air Medium Grade 3.0 kN.
- Icon Air Heavy Grade 4.5 kN.
- Icon Air Extra Heavy Grade 6.0 kN
- Icon Air Industrial Grade 9.0 kN.
- Icon Data HPL Heavy Grade 4.5 kN.
- Icon Data HPL Extra Heavy Grade 6.0 kN.
- Icon Data HPL Industrial Grade 9.0 kN.
- Icon Data HPL Heavy Industrial Grade 11.0 kN.
- Icon Data HPL Super Heavy Industrial Grade 13.0 kN.
- Icon Data Vinyl Heavy Grade 4.5 kN.
- Icon Data Vinyl Extra Heavy Grade 6.0 kN.
- Icon Data Vinyl Industrial Grade 9.0 kN.
- Icon Data Vinyl Heavy Industrial Grade 11.0 kN.
- Icon Data Vinyl Super Heavy Industrial Grade 13.0 kN.
- Icon Rigid Medium Grade 3.0 kN.
- Icon Rigid Heavy Grade 4.5 kN.
- Icon Rigid Extra Heavy Grade 6.0 kN.
- Icon Rigid Industrial Grade 9.0 kN.
- Icon Rigid Heavy Industrial Grade 11.0 kN.
- Icon Rigid Super Heavy Industrial Grade 13.0 kN.

Urban Interlock

Urban Interlock Panels consist of galvanised steel top plates and steel bottom plates with corrosion resistant protection, encapsulating calcium sulphate cores.

The Urban Interlock System is suitable for applications where stone or tile finishes are to be applied. The panels used for the system have an interlocking edge profile to ensure panels remain locked together, eliminating movement.

System: [complete/delete]

Select from the following:

- Urban Interlock Extra Heavy Grade 6.0 kN.
- Urban Interlock Industrial Grade 9.0 kN.
- Urban Interlock Heavy Industrial Grade 11.0 kN.
- Urban Interlock Super Heavy Industrial Grade 13.0 kN.

Floor heights

Nominal finished floor height above substrate (mm): [complete/delete]

Maximum height of access floor (mm): [complete/delete]

Minimum height of access floor (mm): 150.

Applies to adjustable floors. May be reduced to 80 mm if adjustability is not required.

Minimum underfloor clearance to computer access floor (mm): [complete/delete]

e.g. 50 mm when used as an air conditioning plenum and 50 mm when used only for conduits, small pipes and signal cables.

2.5 ACCESSORIES

Ramps

Slope: Maximum 1:10.

1:10 maximum gradient when ramps are less than 1.9 m long, for a maximum rise of 190 mm. Refer to AS 1428.1 for 1:14 ramp gradient requirements, lengths and landing requirements.

Load characteristics: Match floor panels.

Specify cover plates (e.g. Flush extruded aluminium) at access floor junction.

Stairs

Requirement: [complete/delete]

Describe or refer to details. Include fascia panels to sides of stairs and ramps.

Railings

Requirement: [complete/delete]

Alternatives:

- Describe or refer to details.
- May be part of proprietary system.
- May require electrical grounding.
- Delete if not required.

Vertical edging panels

Requirement: [complete/delete]

Where the access floor does not cover the whole of the room. Also called fascia panels. Describe front and back faces, cores, and accessories. Perimeter support is often provided by angles. A row of edge pedestals may be preferred.

Skirting trims

Requirement: [complete/delete]

Services

Electrical outlets: [complete/delete]

Data outlets: [complete/delete]

Telephone outlets: [complete/delete]

Combined services boxes: [complete/delete]

Fire extinguisher access plugs: [complete/delete]

Cable access grommets: [complete/delete]

Wire trays: [complete/delete]

Electrical outlets; Data outlets; Telephone outlets; and Combined services boxes: Specify type e.g. Inset flush. Combined boxes with lids are the norm. Specify rate e.g. number per 10 m², and/or indicate locations on drawings.

Sound dampening

Pedestal head gaskets: [complete/delete]

Stringer pads: [complete/delete]

Air grilles to air plenums

Product: [complete/delete]

Alternative: Specify material, blade size, vane design, and dampers e.g. integral fire damper.

Conductive air grilles: Insulate from electrical earth.

Non-conductive air grilles: Do not expose metal screws.

Air flow rating: [complete/delete]

Air flow ratings vary depending on the grille type. Consult ASP for grille types and air flow ratings.

Adjustability: [complete/delete]

Adjustability: e.g. Required - state method if warranted.

Air plenum dividers

Air plenum dividers: [complete/delete]

Acoustic baffles: [complete/delete]

Dividers may also be required for fire or smoke compartmentation, or acoustic separation, for example. Specify fire-resistance level, acoustic rating, or construction. Specify gaskets, sealants.

Lifting devices

General: Required.

Number: [complete/delete]

Marking: If panels must not be lifted from the side, mark the lifting devices. Lift panel vertically at centre.

2.6 SUBFLOOR FINISHES

General

Understructure: Metallic-coated finish to all metal components.

Substrate surface sealer: [complete/delete]

e.g. ASP Low VOC Dust Sealer.

3 EXECUTION

3.1 PREPARATION

Working environment

General: Do not start work before the building is enclosed, wet work is complete and dry, and not subject to extremes or rapid variations of temperature or humidity. Protect adjoining surfaces.

Subfloor

Cleaning: Remove debris, waste material, dust and oil from subfloor before sealing.

Sealing: Seal whole area below the access floor, including perimeter walls, before installation, as follows:

- First coat: Apply before commencement of access floor.
- Second coat: If required, apply ahead of pedestal installation.

Application of the second sealing coat is required where the system is to be airtight. Consult ASP for details.

Protection

Requirement: Provide temporary protection from surface damage and concentrated loads, during installation of the access floor and of items which it supports.

3.2 INSTALLATION

Site cutting

Requirement: Provide low VOC sealer to site cut panels.

Pedestal bases

Requirement: Fix all pedestal bases with low VOC adhesive, recommended by the manufacturer for this application.

Stringers

Spanning: In both directions between pedestals, if required by the system documented.

Connection to pedestal heads: [complete/delete]

Select clip on for the Icon Air access system, or screw fix for the Concept +, Icon Data HPL, Icon Data Vinyl, Icon HD or Icon Rigid access systems.

Delete if using the Icon X or Urban Interlock access systems.

Cut-outs

Cut-outs: Provide cut-outs for cable access and air grilles as necessary.

Edge cut-outs: Provide stringer or pedestal, or both, support.

Openings: Do not permanently omit panels.

Labelling

Especially applicable to some non-pedestal systems.

Non-standard panels: Identify for relocation purposes.

Service identification labels: Provide self-adhesive labels identifying services and their direction. Fix to the visible surface of the floor panel, and under carpet finish if any.

Panels over items such as window cleaning harness anchors should also be identified. Labels may be provided by services contractors. Delete if not required.

Sealing

Perimeter gap sealing method: [complete/delete]

Describe or refer to typical details. e.g. Closed cell foam tape.

Air distribution

Air plenum sealing: [complete/delete]

Required when plenum is pressurized for air distribution. Specify the application of a low VOC sealant that permanently retains its flexibility to gaps in the building fabric located within the plenum. Nominate whether this is to be done by the access flooring contractor, or others. Make sure all wall linings passing through the access floor are sealed at the slab line. Seal all penetrations into cavity walls and slabs for air ducts, plumbing pipes, electrical conduit and voice/data cabling prior to installation of access floor. Refer to services consultant for advice.

Air plenum dividers: [complete/delete]

Install a 35 x 35 mm angle to the subfloor on the nominated side measured from the centreline of the panel. Install clip on air highway stringer to pedestal head and fix sheet metal to suit floor height to form zone baffle. Seal all joints with fire-resistant mastic.

3.3 TESTING

0171 *General requirements* covers tests in **Definitions** and calls for an inspection and testing plan under **SUBMISSIONS, Tests**.

Completion tests

Air plenum test pressure (Pa): [complete/delete]

Coordinate with equipment and/or air conditioning specifications. Check if it is carried out by the air conditioning contractor. Edit as required. Testing, inspecting and reporting of air leakage should be performed by an independent commissioning agent. If a prototype is documented, make sure it is also inspected and tested to meet air leakage requirements.

3.4 COMPLETION**Vermin sealing**

Subfloor: Make sure vermin sealing of underfloor area has been completed.

Vermin sealing: [complete/delete]

Not always carried out by access floor contractors. e.g. Select from Required or Not required.

Maintenance manual

Contents: Include the following information:

- Limitation on maximum and minimum height of floor, cross-bracings, stringers or additional pedestal fixings required above a particular height.
- Limitation on adjustability.
- Installed mass of system /m².
- Maximum number and positions of panels that may be temporarily removed during servicing without endangering safety of floor system.
- Method of cleaning of floor covering with particular reference to adhesives and panel substrate, wet mopping, and use of waxes and floor polishes.
- Equipotential bonding method.

The manufacturer normally advises equipotential bonding method to all substantial metallic components.

Spares

Requirement: Supply pedestals, stringers and uncut floor panels (including finishes) of each type at a rate of 2% of total installation or nominate specific numbers of each component.

Storage location: [complete/delete]

Replacement

Corrosion: Replace corroded elements.

Cleaning

Requirement: Clean access floor thoroughly and make sure it is dust free, before delivery of items which it supports.

Air plenum: Vacuum underfloor area so it is free of dust, and metal filings.

Generally carried out by a specialist cleaning company. Dust-free surfaces are imperative in plenum and laminar air flow return spaces especially.

Warranties

Requirement: Provide warranties for materials and workmanship in the form of interlocking warranties from the supplier and the installer.

Form: Against failure of materials and execution under normal environment and conditions of use.

Warranty terms: [complete/delete]

Period: 5 years.

Consult or negotiate with manufacturers for warranty terms and period, and specify only such terms as are actually available.
Warranty terms: State requirements, if any, additional to those in the worksection, for each relevant item.

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 4586	2013	Slip resistance classification of new pedestrian surface materials
AS ISO 9239		Reaction to fire tests for floor coverings
AS ISO 9239.1	2003	Determination of the burning behaviour using a radiant heat source

The following documents are mentioned only in the *Guidance* text:

AS 1428		Design for access and mobility
AS 1428.1	2009	General requirements for access - New building work
AS 4154	1993	General access floors (elevated floors)
BCA Spec C1.10	2019	Fire resistance - Fire hazard properties
NATSPEC DES 020	2018	Fire behaviour of building materials and assemblies
NATSPEC GEN 006	2015	Product specifying and substitution
NATSPEC TR 01	2019	Specifying ESD
NATSPEC TR 07	2019	Access for maintenance