EV / General Battery Facility Specification Guide

About Us

Asgard Hi-Tech Solutions are experienced, trusted design and construction partners for General Battery Manufacturing turnkey facility fitout within UK, EMEA and North America.

We understand manufacturing needs to take place in ultra-low humidity dry rooms, even in R&D labs or large-scale production facilities. We can assist in feasibility or conceptual project development; this can be undertaken under a PCSA. During design, we can assist with value engineering in conjunction with a multidisciplinary design team for all Battery Manufacturing Facilities.

We design our Battery Manufacturing Dry Room facilities using various classifications from;

- Dew Point -50ºC
- Dew Point -40ºC
- Class 10,000 - ISO 7
- Class 100,000 - ISO 8
- Room Temperature Range: 20ºC - 30ºC (+/- 5ºC)
- RH Range: 0.5% - 75%

We offer complete Clean / Dry Room Walling systems, Ceiling systems, Floors and Door Solutions. Clean / Dry room Systems permeability always needs to be eliminated or controlled to minimise the risk of water vapour within battery manufacturing process rooms.
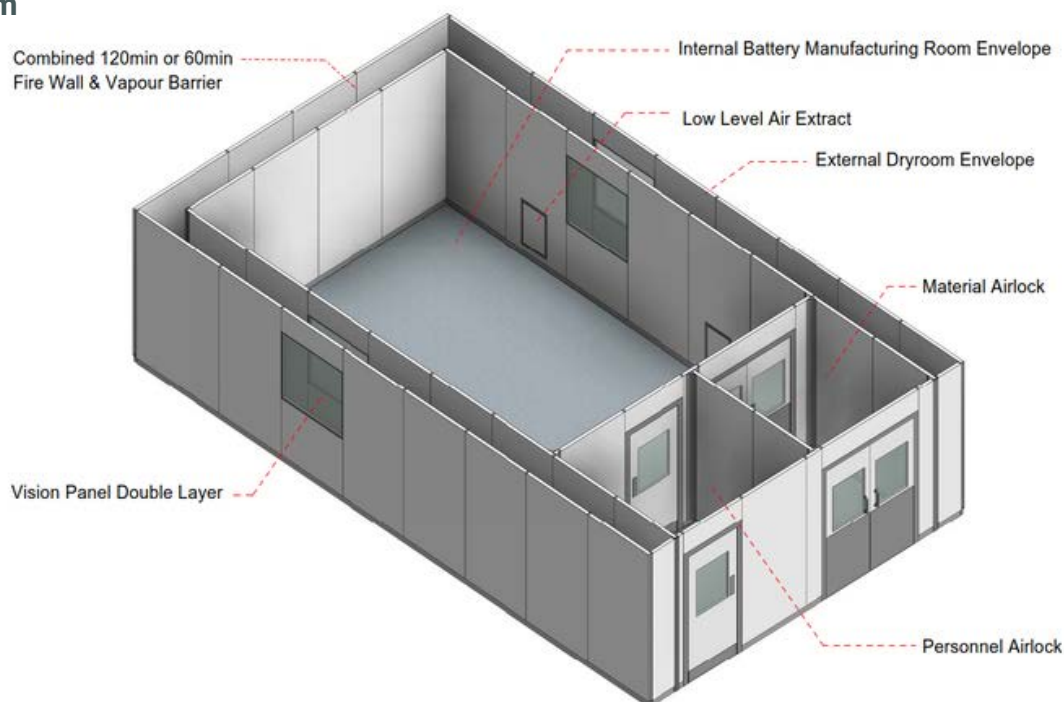
Our complete system eliminates or controls water vapour leakages and are specifically designed for impermeability. Our Dry room wall and ceiling systems are specifically designed to offer low deflection & Dry room watertightness. Service, Equipment & utility panel wall penetration are planned, designed and formed during our panel manufacturing process. Our Dry room wall panel system offers autostability up to 7.000m height. MEP & Utility Panel ceiling penetration are planned, designed and formed during our panel manufacturing process. This keeps unplanned penetration to a minimum when forming on site.

We provide full modularity for services & equipment integration such as "Pass Boxes" and full modularity for MEP & utility panel integration. We conform with EN ISO 14622-4 Annex E for materials & BS EN14644 for construction.

3D Dryroom

Combined 120min or 60min Fire Wall & Vapour Barrier

Vision Panel Double Layer

Internal Battery Manufacturing Room Envelope

Low Level Air Extract

External Dryroom Envelope

Material Airlock

Personnel Airlock

Our system is compliant to ISO9932 and BS ISO15106, where permeability is limited to 0,5g per linear meter per 24 hours.
We offer DEMOUNTBLE system panels for Tool move in / out & maintenance in Pre-determined locations.
We have a number of anti static floor options, wet applied system to achieve Ω 1 x 10^{-5} x 10^{-8}.

"Our integrated team can assist in feasibility or conceptual project development, value engineering in conjunction with a multidisciplinary design team for all Battery Manufacturing Facilities."

Dry Room Wall Panel System
Ref: DS001

The dry room system must be suitable for -50 & -40 dew point environments & class 10,000 ISO 7 + class 100,000 ISO 8 classification. Room Temperature Range: 20ºC - 30ºC (+/-5ºC). RH Range: 5% - 75%

Dry room partition panel comprised of:

- Dry room & cleanroom system permeability needs to be suitable for battery manufacturing.
- Eliminate or control water vapour leakages. Specifically designed for impermeability.
- Low deflection & high air tightness.
- Max deflection under 20Pa of pressure difference is l/1200, l = height of cleanroom wall.
- Design wind load (incl. C-factor): q_d = 0,8 kN/m².
- Acoustic attenuation – 24dB(A).

## PANEL CHARACTERISTICS & PERFORMANCE

- **Demountable panel system** suitable for tool install & maintenance activities. Demountable zones will be up to 4.000m wide x 8.400m height.
- **Earthing:** Anti-electrostatic will be required, it will be necessary to guarantee the surface continuity of the wall partitions & ceilings at $10^9\Omega$.
- **Reinforcement:** Reinforcement integrated in the cleanroom wall system for washbasins, sinks, fire hoses, wall mounted cupboards, shelves & other fixed equipment must be included. The tear force applied will not exceed 50daN.
- All penetrations are factory prepped.
- Panel Thickness: 50mm, Standard Width: 1200mm
- Thickness of coated steel outer face: 0.6mm
- Weight: 12kg/m² (Honeycomb core)
- Fire Classification: A2-s1-d0
- Maximum Panel Height: 4000mm (Aluminium Honeycomb Core), Maximum weight for items fixed to partition 15kg.
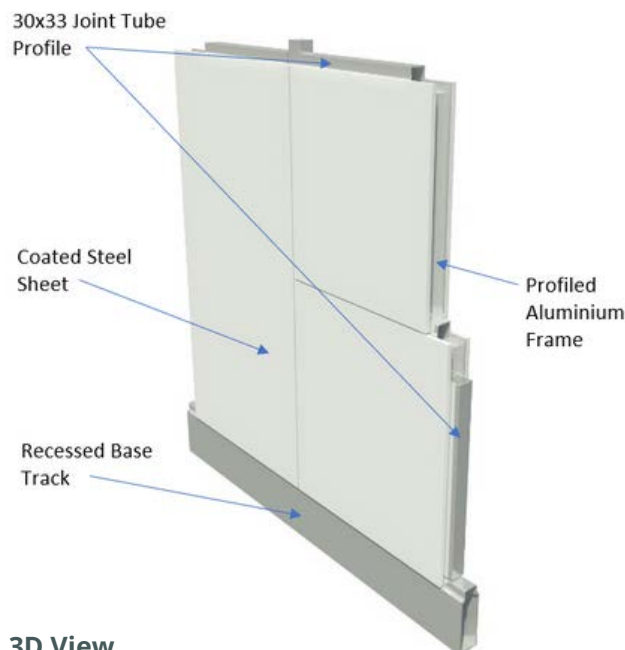
PANEL FINISH OPTIONS

- Panel Finish – uPVC or to match clients SOP
- Colour – RAL 9010.

PANEL CORE OPTIONS

- Aluminium Honeycomb Core (Density 20kg/m³)
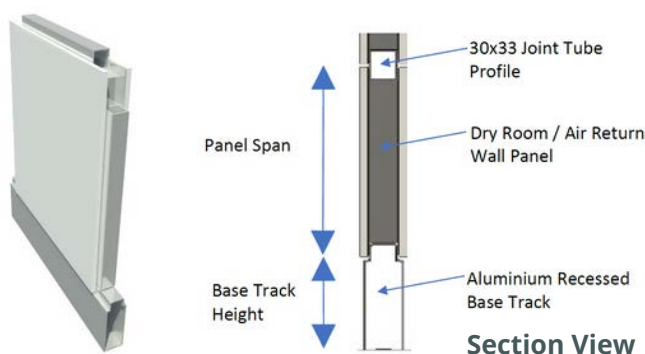
Section View

3D View

Dry room partition panel comprised of:

- Two external coated steel sheets with various surface finishes.
- Bonded to a profiled aluminium frame to four edges.
- With an aluminium honeycomb core.
- Panel edges profiled to interlock with adjoining panels by inserting a 30x33mm joint tube profile.
- Panel sits on a recessed base track 100mm high secured to existing building floor structure. Vinyl or poured Epoxy floor can be installed flush with face of partition panel.

Note: Panel coated to one side only, standard backer to other side. For double sided finish or non standard panel size please contact us.

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Dry Room Demountable Wall Panel Ref: DS002

Dry room partition panel comprised of:
- Two external coated steel sheets with various surface finishes.
- Bonded to a profiled aluminium frame to four edges.
- With an aluminium honeycomb or rockwool core.
- Panel edges profiled to interlock with adjoining panels by inserting a stainless steel compressible strip unit (spring clip).
- The spring clip is used when an individual SB05 cleanroom panel is required to be removable in the future to allow access for equipment or other items.
- On the specified removable panel one spring clip is to be installed on the head & two spring clips to the left and right of the panel with the adjoining panels.
- To remove the panel silicone seal to be cut and a flat thin 1mm thick plate inserted to compress all 6 springs and remove the panel horizontally.
- Panel sits on a recessed base track 100mm high secured to existing building floor structure. Vinyl or poured Epoxy floor can be installed flush with face of partition panel.

PANEL CHARACTERISTICS & PERFORMANCE

- Panel Thickness: 50mm
- Thickness of coated steel outer face: 0.6mm
- Weight: 12kg/m² (Honeycomb core)
- Fire Classification: A2-s1-d0
- Maximum Panel Height: 6000mm (Aluminium Honeycomb Core)
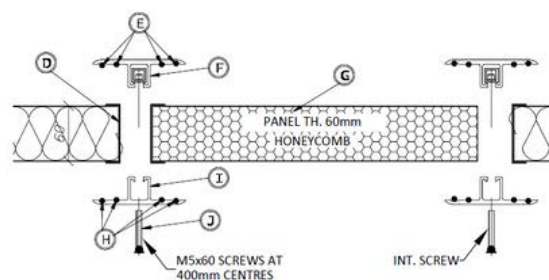- Maximum weight for items fixed to partition 15kg.

PANEL FINISH OPTIONS

- Panel Finish – uPVC or to match clients SOP
- Colour – RAL 9010.

PANEL CORE OPTIONS

- Aluminium Honeycomb Core (Density 20kg/m³)

3D View
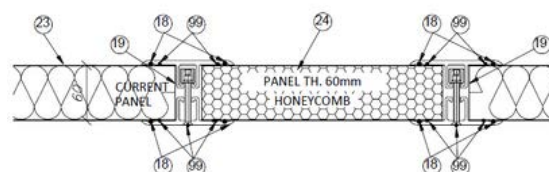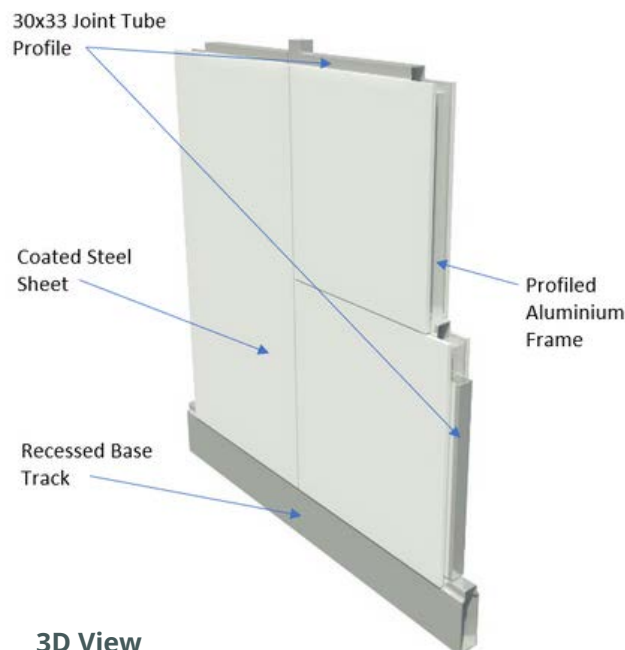
18 - SIKAFLEX 221 SEALANT
19 - ALUMINIUM ADHESIVE TAPE
23 - INDUSTRIAL TYPE PANELS WITH 2 PRE-COATED STEEL FACES(FV06)
24 - DEMOUNTABLE PANELS WITH 2 PRE-COATED STEEL FACES (NIDA06)
99 - BUTYL SEALANT

PANEL TH. 60mm HONEYCOMB

M5x60 SCREWS AT 400mm CENTRES

INT. SCREW

PANEL TH. 60mm HONEYCOMB

TYPE HKD ANCHOR

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K30 Combined Vapour Barrier & 2-hour Fire Rated Partition System Ref: DS003

The wall panels are constructed of Z225 galvanised steel sheet, 0.6 mm thick. 4-sided steel frame with 45° miter at corners to interlock with a proprietary fast tongue and groove assembly. The panel core High density volcanic rock fiber (165 Kg/cu.m), inorganic, rot-proof, chemically neutral and amorphous (no corrosive action), non-hydrophilic (no capillary seepage). Reinforced insulation = 0.047 W/m.K.

- Permeability = 0.5g per linear meter per 24 hours.
- Fire Classification: EI180 for panel spans up to 3.8m.
- Fire Classification: EI120 for panel spans up to 5m.

Examples of use:

- Large adjoining areas and installations between or within buildings and structures.
- Emergency and safety corridors and stairs.
- Vertical links such as lift shafts, ventilation conduits, technical service shafts and chutes.
- Technical cubicles.
- Premises where a high risk of fire exists.
- Acoustic attenuation – 38dB(A).

3D View

PANEL CHARACTERISTICS & PERFORMANCE

- Panel Thickness: 120mm
- Thickness of coated steel outer face: 0.6mm
- Weight: 29.5kg/m²
- Fire Classification: EI120 or EI180 (panel span depending)
- Maximum Panel Height: 7000mm
- Standard Width: 1200mm
- Fast tongue and groove assembly.
- Fixing and installation as per CSTB test report N° RS05-010.

PANEL FINISH OPTIONS

- Panel Finish – Polyester lacquer 25 µ. Smooth appearance.
- Colour – White RAL 9010, Sand 42

PANEL CORE OPTIONS

- Rockwool Core (Density 165kg/m³)
- Insulation value 0.0470 W/m.K.
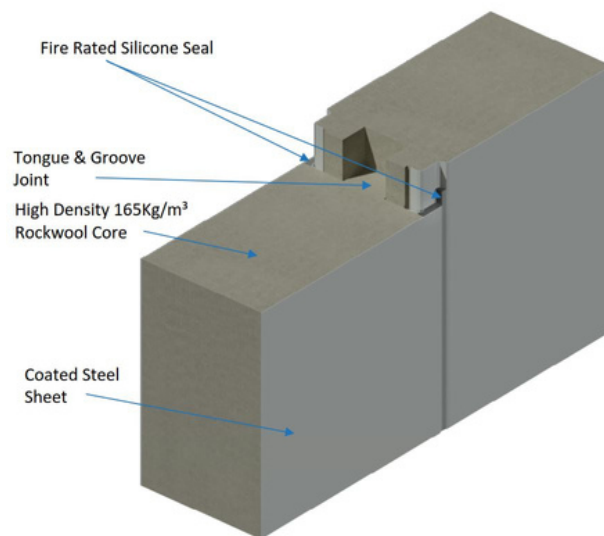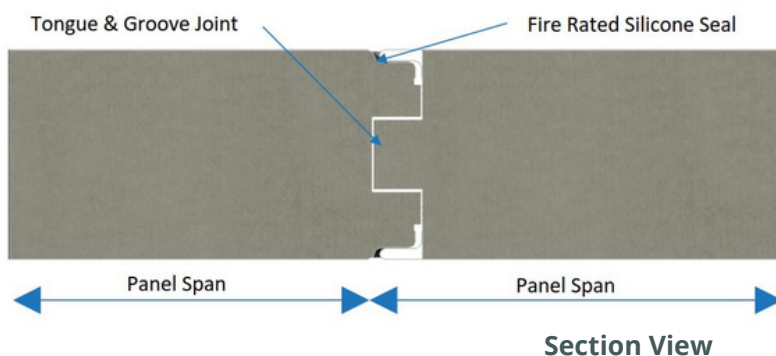
PANEL ACCESSORIES

ARTICLE REF. CODE	DESCRIPTION	PACKING
562203	PXC FIRE RATING CF12	Per Unit
402102	Upper stringer, L, 70 x 50 • 15/10	Per Metre
402102	Lower stringer, L, 50 x 50 • 15/10	Per Metre
296044	SPIT BOLT PLUG, V6-8/30	Per Unit
291040	SELF-DRILLING SCREW 4.2 X 16 Q ZINC PLATED	Per Unit
150109	INTUMESCENT STRIP 20 X 2 ROLLS OF 6 M	Per Metre
162021	FR 66 INTUMESCENT WHITE SEALANT	Per Unit
162018	Silicone 7 S	Per Unit

Section View

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Dry Room Ceiling System – Walk on 1.5kN/m² Ref: DS004

The dry room system is suitable for -50 & -40 dew point environments & class 10,000 ISO 7 + class 100,000 ISO 8 classification. Room Temperature Range: 20ºC - 30ºC (+/- 5ºC). RH Range: 5% - 75%

Dry room walk on ceiling panel comprised of:

- a 4-sided profiled aluminum frame with 45° miter at corners to interlock with a proprietary extruded aluminum ceiling suspension profile (steel prohibited).
- The panel core aluminum honeycomb with a density of 20kg/m3 in order to guarantee the best core to outer steel face bonding, the thickness of the Aluminum honeycomb sheet has a maximum tolerance of -0,1/+0,1 mm. The quantity of glue is limited to 300g/m2/side to comply with fire certificate UL 723". The glue must be water-based.
- Panel connected to existing structure via the ceiling suspension profile connected to M10 threaded rod assembly with a clevis and clip coupler.
- Flush ceiling support hanger grid at 1200x4000mm
- Maximum point loading - 90kg
- Maximum evenly distributed load - 150kg / m²
- Acoustic attenuation – 24dB(A)

3D View

## PANEL CHARACTERISTICS & PERFORMANCE

- Panel Thickness: 50mm, Standard Width 1200mm
- Thickness of coated steel outer face: 0.6mm
- Weight: 12kg/m² (honeycomb core)
          17kg/m² (rockwool core)
- Fire Classification: A2-s1-d0
- Maximum Panel Span: 3000mm (rockwool core)
- 4000mm (aluminium honeycomb core)
- Maximum Loading: 1.5kN/m² or 0.9kN point load
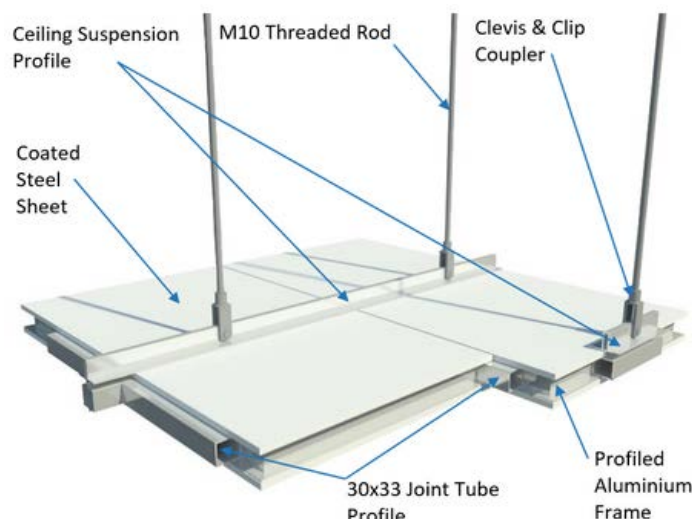
PANEL FINISH OPTIONS

- Panel Finish – uPVC or to match client's SOP
- Color – RAL 9010

PANEL CORE OPTIONS
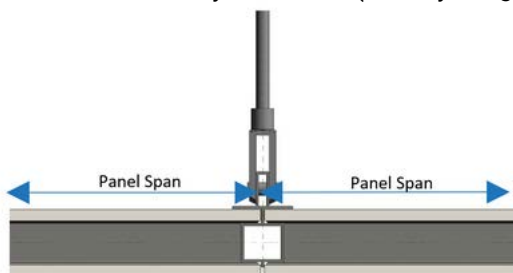
- Aluminium honeycomb core (Density 20kg/m³)

Section View

Note: Panel coated to one side only, standard backer to other side. For double sided finish or non standard panel size please contact us.

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FFU Ceiling System - Walk on 1.5kN/m² Ref: DS005

FFU walk on ceiling panel comprised of:

- a 4-sided profiled aluminum frame with 45° miter at corners to interlock with a proprietary extruded aluminum ceiling suspension profile (steel prohibited).
- The panel core aluminum honeycomb with a density of 20kg/m³ in order to guarantee the best core to outer steel face bonding, the thickness of the aluminum honeycomb sheet has a maximum tolerance of -0,1/+0,1 mm. The quantity of glue is limited to 300g/m² to comply with fire certificate UL 723". The glue must be water-based.
- Panel connected to existing structure via the ceiling suspension profile connected to M10 threaded rod assembly with a clevis and clip coupler.
- Flush ceiling support hanger grid at 1200x4000mm
- Maximum point loading - 90kg
- Maximum evenly distributed load - 150kg / m²
- Acoustic attenuation – 24dB(A)

## PANEL CHARACTERISTICS & PERFORMANCE

- Panel Thickness: 50mm, Standard Width 1200mm
- Thickness of coated steel outer face: 0.6mm
- Weight: 12kg/m² (honeycomb core)
- Fire Classification: A2-s1-d0
- Maximum Panel Span: 4000mm (aluminium honeycomb core)
- Maximum Loading: 1.5kN/m² or 0.9kN point load

PANEL FINISH OPTIONS

- Panel Finish – uPVC or to match client's SOP
- Colour – RAL 9010
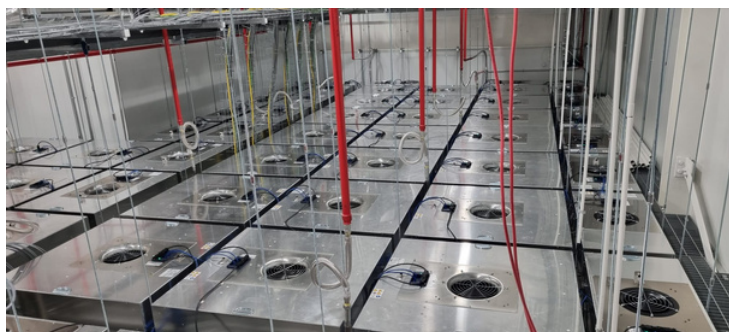
PANEL CORE OPTIONS

- Aluminium honeycomb core (Density 20kg/m³)
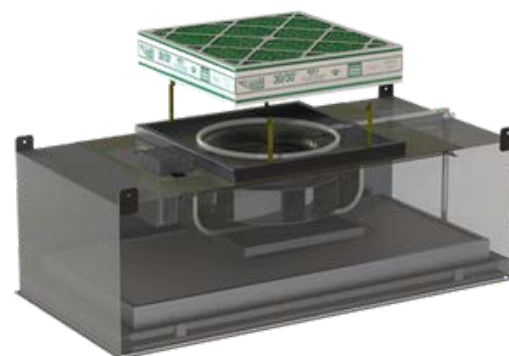
Fan Filter Unit

Note: Panel coated to one side only, standard backer to other side. For double sided finish or non standard panel size please contact us.

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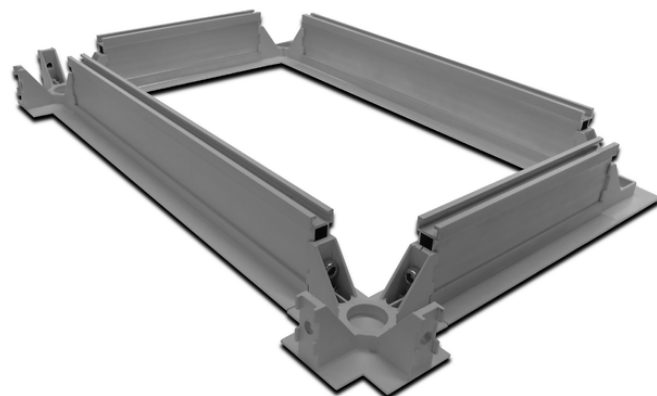# Dry Room Ceiling System - Walk on FFU 1.5kN/m² Ref: DS006

The dry room grid ceiling system is suitable for -50 & -40 dew point environments & class 10,000 ISO 7 + class 100,000 ISO 8 classification. Room Temperature Range: 20ºC - 30ºC (+/-5ºC). RH Range: 5% - 75%

Dry room walk on ceiling grid system comprised of:

- 56mm wide aluminium extrusion main and cross runners of identical shape, connected to die-cast joints with the provision for cable entry or sprinkler head.
- The aluminium extrusion comes as standard with an anodized finish and with die-cast joints painted in a matching colour, other paint finishes available on request.
- The 56mm aluminium main and cross runners come with a sliding track at the cleanroom side to allow for suspended installation of teardrop lights, aprons or partitions with a T-bolt.
- The frame construction allows for standard grid modules of 600 x 1200mm and 1200 x 1200mm, however other grid sizes can also be provided.
- The self weight of the ceiling panel (max 15.0kg per panel 1.2m x 1.2m) supported by the ceiling grid with a ultimate uniformly distributed load of 200 kg/m² on the ceiling panel. Point load of 110kg on the ceiling panel for the applied load during maintenance.

PANEL CHARACTERISTICS & PERFORMANCE

- Grid: Aluminium extrusion 6063-T5.
- Point load 120kg
- Uniform distributed load 200kg/m²
- Tested to BS 5950
- Light weight and strong aluminium grid systems.
- Simple and flexible installation.
- Precision die-cast connectors
- Provides tight seal and alignment.
- Sprinkler drop connection.
- Anodized finish and powder coated options.
- Reusable and relocatable system
- Compatible FFUs and Lighting available.

Isometric View 1200mm x 1200mm
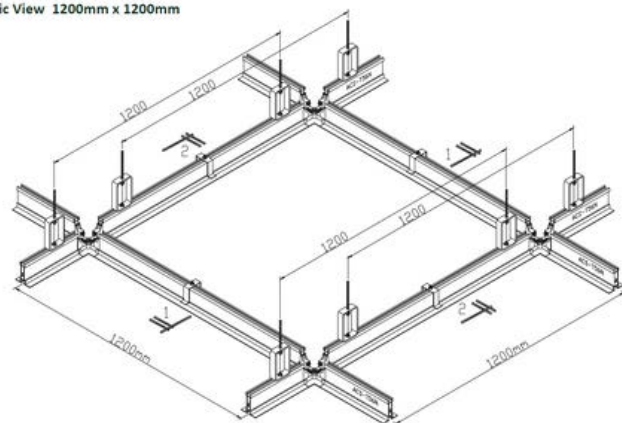
Isometric View 600mm x 1200mm
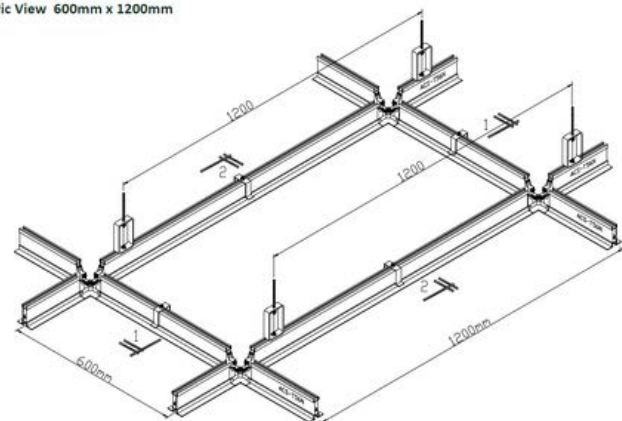
Dry Room Ceiling System - Non Walk on - Soffit Liner Ref: DS007

The ceiling system is suitable for -50 & -40 dew point environments & class 10,000 ISO 7 + class 100,000 ISO 8 classification. Room Temperature Range: 20ºC - 30ºC (+/- 5ºC). RH Range: 5% - 75%

Dry room walk on ceiling panel comprised of:

- a 4-sided profiled aluminum frame with 45° miter at corners to interlock with a proprietary extruded aluminum ceiling suspension profile (steel prohibited).
- The panel core aluminum honeycomb with a density of 20kg/m³ in order to guarantee the best core to outer steel face bonding, the thickness of the aluminum honeycomb sheet has a maximum tolerance of -0,1/+0,1 mm. The quantity of glue is limited to 300g/m² to comply with fire certificate UL 723". The glue must be water-based.
- Panel connected to existing structure via the ceiling suspension profile.
- Flush ceiling support hanger grid at 1200x3000mm
- Maximum point loading - 10.66kg / m²
- Maximum evenly distributed load - 150kg / m²
- Acoustic attenuation – 24dB(A)

## PANEL CHARACTERISTICS & PERFORMANCE

- Panel Thickness: 17.5 mm, Standard Width 1200mm
- Thickness of coated steel outer face: 0.6mm
- Weight: 11kg/m² (aluminium honeycomb core)
- Fire Classification: A2-s1-d0
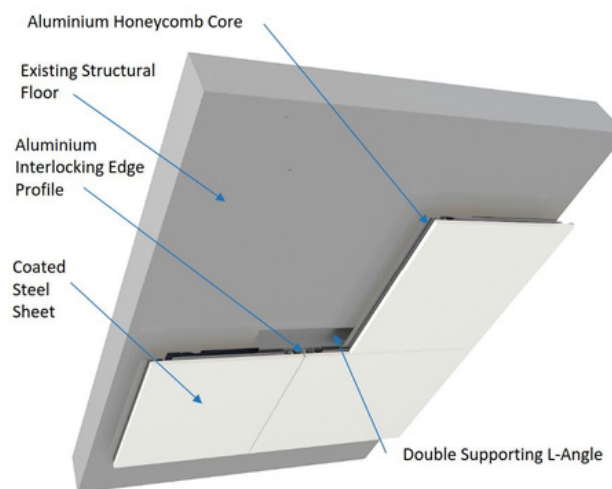- Maximum Panel Span: 3000mm (aluminium honeycomb core)

PANEL FINISH OPTIONS

- Panel Finish – uPVC or to match client's SOP
- Colour – RAL 9010

PANEL CORE OPTIONS

- Aluminium honeycomb core (Density 20kg/m³)
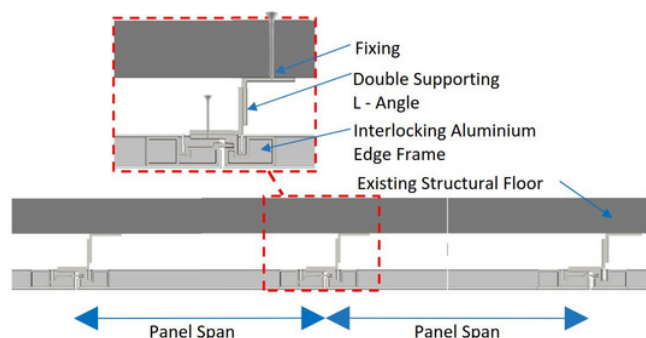
Section View

3D View

Note: Panel coated to one side only, standard backer to other side. For double sided finish or non standard panel size please contact us.

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Dry Room Flush Glazing System
Ref: DS008

Dry room vision panel comprised of:
- Two external 6mm laminated glass double glazed with various surface finishes.
- Bonded to a profiled aluminium frame to four edges.
- With a desiccant strip profile internally.
- Panel edges profiled to interlock with adjoining panels by inserting a 30x33mm joint tube profile.
- Panel sits on a recessed base track 100mm high or directly above a partition panel under vision panel.

## VISION PANEL CHARACTERISTICS & PERFORMANCE

- Panel Thickness: 50mm
- Thickness of glass outer face: 6mm
- Weight: 15kg/m²
- Fire Classification: A2-s1-d0
- Standard Panel Width: 1200mm
- Maximum room temperature to one or both sides of vision panel 60°C (the difference between both sides should be as low as possible)

GLASS FINISH OPTIONS

- 6mm Laminated Glass (clear or tinted)
- 6mm Toughened Glass (clear or tinted)
- 8mm Toughened & Laminated Glass (clear)
- 8mm Smart Privacy Glass (switch from opaque glass to clear glass electronically)
- 6mm Laminated Glass (with yellow low UV yellow transmittance film)

VISION PANEL CORE OPTIONS

- Built-in manually operated blind
- Built-in electronically operated blind
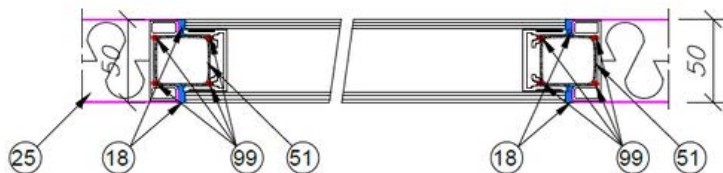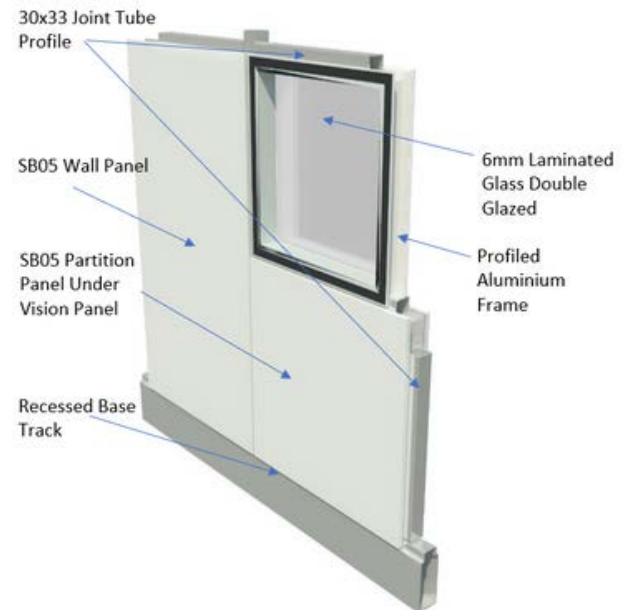
3D View

Section View

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Airtight Door with Inflatable Gasket Seal - Airlocks - Dry Room plenum entrance/ exit door
Ref: DS009

Dry room / cleanroom proprietary airtight door system, suitable for -50 & -40 dew point dry room environments. Class 10,000 ISO 7 & class 100,000 ISO 8. This door system will include cabling path and transfer path between door leaf and frame. All other electrical equipment and reinforcement for mechanical joinery such as door closures will be included.

The door leaf and frame assembly to be fully welded before powder coating. The powder coat is at least 80μm thick.

Cleanroom single, airtight doorset's comprised of:

- Door Leaf: Powder Coating (PPC) or 316 Stainless Steel. Folded & sealed.
- Door leaf core aluminium honeycomb or rockwool.
- Fully flush vision panel (size options below).
- Door Frame 4 sided solid Mild steel PPC or 316 Stainless Steel to interlock with adjoining panels by inserting a 30x33mm joint tube profile. Door frame incorporates a pressure inflatable EPDM rubber O-seal to all 4 edges of the frame. When O-seal is inflated to between 2-2.5 bar, Air leakage rate of less than 10 L/H under positive or negative 250 Pascal's of Pressure.

DOOR CHARACTERISTICS & PERFORMANCE

- Door Thickness: 50mm
- Thickness of coated steel outer face: 0.75mm
- Maximum frame width (Single Door 1200mm) frame height (Single Door 2430mm)
- Standard ironmongery includes: **Door Hinges** - Custom Heavy Duty surface mounted hinges, **Push plate** - stainless steel 75mm wide x 300mm long, **Kick plate** - stainless steel to client requirements, Door base dropseal.

DOOR IRONMONGERY OPTIONS

Hinges: Loira+ surface mounted 3D adjustable hinge, AssaAbloy Stainless Steel Butt Hinge. Door Locks: Flush integrated Dorma EM 1800 AM integrated maglock with effeff 10405 ball contact switch.

DOOR VISION PANEL OPTIONS

340mm wide x 620mm high double glazed 6mm glass,
600mm wide x 800mm high double glazed 6mm glass,
200mm wide x 1500mm high double glazed 6mm glass,
1 or 2no Vision Panels can be installed in a single leaf.

DOOR LEAF FINISH OPTIONS

Powder Coating (PPC) or 316 Stainless Steel. i.e. door leaf. Door Leaf: In PPC steel or 316L Stainless Steel. Folded & sealed.

Note Door Frame Only Available in Polyester Powdercoat Finish to any RAL Classic Colour.

Dry Room / Cleanroom Swing Doors - Non-Fire Rated Ref: DS010

Dry room / cleanroom door system including cabling path and transfer path between door leaf and frame. All other electrical equipment and reinforcement for mechanical joinery such as door closures is included.

Cleanroom single, double or leaf & half doorset's comprised of:

- Door Leaf: Two external coated steel sheets with various surface finishes folded & sealed.
- Door leaf core aluminium honeycomb or rockwool.
- Fully flush vision panel (size options below).
- Door Frame solid aluminium extrusion profiled to interlock with adjoining panels by inserting a 30x33mm joint tube profile.
- Door frame powder coated to any RAL classic colour & fully welded at corners with no visible mitre joint.
- Flush Mounting of door interlock controls & components.

DOOR CHARACTERISTICS & PERFORMANCE

- Door Thickness: 50mm
- Thickness of coated steel outer face: 0.75mm
- Maximum frame width (Single Door 1400mm) (Double Door 2500mm) frame height (Single & Double 2630mm)

DOOR IRONMONGERY OPTIONS

Hinges: Loira+ surface mounted 3D adjustable hinge, AssaAbloy Stainless Steel Butt Hinge.

Door Locks: Flush intergrated Dorma EM 1800 AM intergrated maglock with effeff 10405 ball contact switch, AssaAbloy EL 560 or EL 590 electronic moterised lock, Adams Rite 7170 electronic strike lock. JPM Multibat 1 point lock block with or without key cylinder.

Pull & Leaver Handles: Normbau Model 23 stainless steel offset pull handle 300mm long x ø32mm, Normbau NT.DW 291 stainless steel leaver handle 220mm long x ø20mm, Normbau STG 82 black nylon offset pull handle 300mm long x ø32mm, Normbau ZG94F black nylon leaver handle 220mm long x ø20mm, **Emergency Exit:** Exidoor 400 Series.

DOOR VISION PANEL OPTIONS

340mm wide x 620mm high double glazed 6mm glass,
600mm wide x 800mm high double glazed 6mm glass,
200mm wide x 1500mm high double glazed 6mm glass,
1 or 2no Vision Panels can be installed in a single leaf.
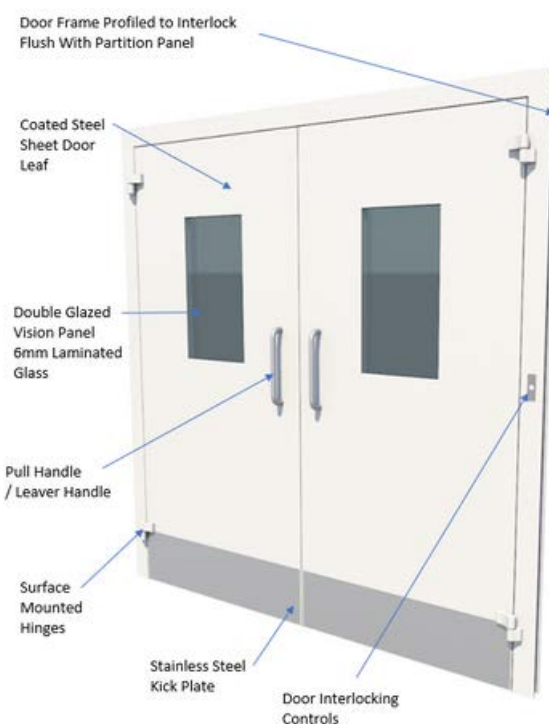
DOOR LEAF FINISH OPTIONS

Standard Polyester Powdercoat steel finish to any RAL classic colour, PET coated steel finish to RAL 9010 white only.
uPVC coated steel finish to RAL 9016 white, 5002 & 5022 Blue, 6026 & 6021 Green, 2000 Orange, 3005 Red, 9005 Black, 7005, 7023 & 9018 Grey.
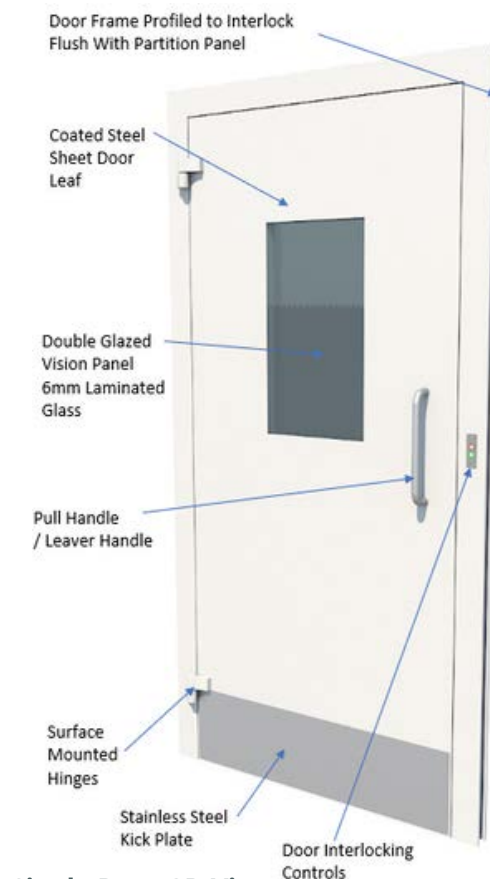
Single Door 3D View

Double Door 3D View

Note Door Frame Only Available in Polyester Powdercoat Finish to any RAL Classic Colour.

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Dry Room / Cleanroom Swing Doors - Fire Rated 2-hour
Ref: DS011

Fire rated - 120 minutes

Flush faced, attractive, available as single or double doorsets with a two hour fire rating. Our fire rated steel hinged doors provide a robust, durable door, available with a wide range of options and finishes and an extensive variety of ironmongery for escape and security functions as well as fire for all Dry room & Cleanroom areas. Cleanroom fire rated single & double doorset's comprised of:

- Door Leaf: Powder Coating (PPC) or 316 Stainless Steel. Folded & sealed.
- Door leaf core honeycomb, mineral wool or urethane block.
- Fully flush vision panel
- Doors are assembled from a double tray to provide an edge thickness of between 3.0 mm and 4.8 mm for maximum strength. Each door leaf is supported on a minimum of three 102 x 76 high load ball race hinges to EN13501 - 2 / 2007 and A1 2009.
- Where high corrosion resistance is a prerequisite, galvanised steel sheet is used with a wide choice of hardware and core infills.
- Door frame powder coated to any RAL classic colour & fully welded at corners with no visible mitre joint.
- Surface mounting of door interlock controls & component.

DOOR CHARACTERISTICS & PERFORMANCE

- Door Thickness: 50mm
- Thickness of coated steel outer face: 1.5mm
- Maximum frame width (Single Door 1100mm) frame height (Single Door 2430mm)
- Standard ironmongery includes: **Door Hinges** - Custom Heavy Duty surface mounted hinges, **Push plate** - stainless steel 75mm wide x 300mm long, **Kick plate** - stainless steel to client requirements, Door base dropseal.

DOOR IRONMONGERY OPTIONS

- Door closer
- Sash lock with lever handles/panic escape ironmongery with or without external access white panic lock with green push bar.

DOOR VISION PANEL OPTIONS

340mm wide x 620mm high double glazed 6mm glass.

DOOR LEAF FINISH OPTIONS

Powder Coating (PPC) or 316 Stainless Steel. i.e. door leaf. Door Leaf: In PPC steel or 316L Stainless Steel. Folded & sealed.

Dry Room / Cleanroom Hermetically Sealed Sliding Doors - Non-Fire Rated Ref: DS012

Dry room / cleanroom hermetically sealed sliding door system is a fully certified and tested, fully hermetic sliding door system, designed specifically for the controlled including sliding door automation, safety sensors. Specifically designed for the controlled environments sector where the requirement exists for a door with the tightest possible seal.

- All versions of the door feature a super silent operation, thanks to the anti-vibration seals, making them ideal for environments where comfort, silence and a warm welcome are indispensable and fundamental requirements.
- The rounded guard and the screwless visible heads prevent dust from building up, thereby making the cleaning process far simpler and more reliable. Electrostatic energy that may have accumulated on the moving wings is permanently discharged through the unique moving earth built into the door.


DOOR CHARACTERISTICS & PERFORMANCE

- Power Supply: 230Vac, 50/60Hz
- Power Consumption: Max 250W
- Door Leaf Construction: Aluminium surround, HPL panel or Stainless Steel or Glazed wing
- Motor Control: Encoder
- Air Permeability Test: UNI EN1026–EN12207 Class 3/4
- UNI EN12426–EN12427 Class 5
- Dimensions: 150mm x 300mm x L
- Earthing Kit from frame to door leaf: Resistance < 0.2 Ohm
- Max Opening / Closing Speed: 0.5m/s (1 wing) 1.0 m/s (2 wings)
- Operating Temperature: + 2° to + 50° C
- Door Core: Polyester
- Acoustic Test: UNI EN ISO 10140–ISO 717
    - 27dB with HPL wing
    - 34dB with Stainless steel wing with 3mm Lead lining

IP Rating: IP20 (with standard canopy)

DOOR SAFETY & PERFORMANCE

Built in motion detectors can be added into the automation, and if necessary can be concealed within the head of the door. Consequently this prevents the usual build up of dust on the outside of the safety sensor, a common problem with standard safety sensor installation. The safety sensors also ensure protection not only in the doorway but also in the side opening movement of the wings, preventing accidental impact with unforeseen obstacles.
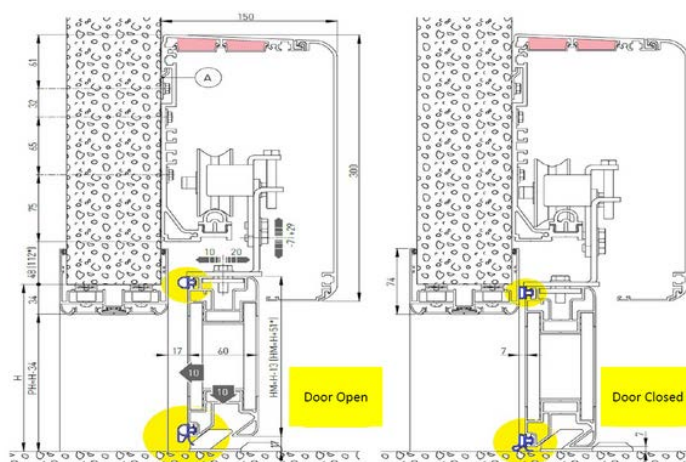
Dry Room / Cleanroom Rapid Rise Doors (High Speed Door)
Ref: DS013

High Speed Door is an engineered solution for dry & cleanrooms, suitable for -50 & -40 dew point environments & class 10,000 ISO 7 + class 100,000 ISO 8 classification. The High Speed Door meets the need of cleanroom environments (GMP), where effective sealing even with high pressure differences is critical, for example air locks. Air loss is constantly reduced to a minimum even with strong pressure on the door curtain, increasing the life expectancy of air filters. Cleanroom single, airtight doorset's comprised of:

- Door Leaf: PVC curtain to various RAL colours
- Fully flush vision panel
- Available with either 15° or 45°, inclination or straight to the ceiling, reducing particle settlement
- Door frame stainless steel grade 304 or 316L polished to 240 gritt
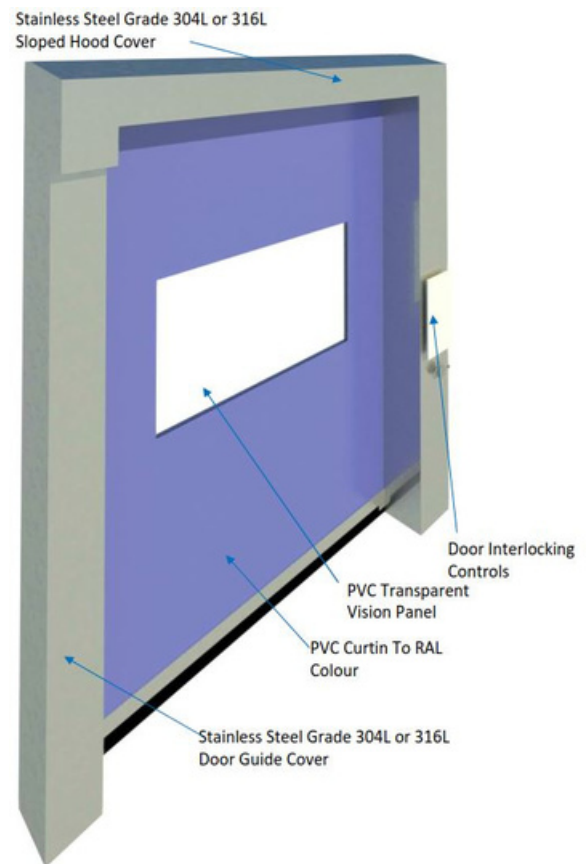
DOOR CHARACTERISTICS & PERFORMANCE

- Door Thickness: 50mm
- Clear opening Width: 2500mm
- Clear opening Height: 2500mm
- Opening Speed: 1.0m/sec
- Leakage rate (with door size 2500 x 2500): < 15 m3/h @ 25 Pa
- Transverse stability of curtain: 2 mm
- Usage temperature: 10 - 30°C
- IP Rating: 55
- Tested: ISO 14644-1 Class 5 & VDI 2083 Part 9.1
- Photo cell in combination with contact edge
- Infra-red light curtain (TLG) optionally available
- Maximum frame width 2000mm frame height 2500mm

DOOR VISION PANEL OPTIONS

Clear transparent PVC maximum 800mm high, 2000mm wide.

DOOR CURTAIN OPTIONS

Polycarbonate curtain material to various RAL colour options.

Stainless Steel Grade 304L or 316L Sloped Hood Cover

Door Interlocking Controls
PVC Transparent Vision Panel
PVC Curtin To RAL Colour
Stainless Steel Grade 304L or 316L Door Guide Cover

Dry Room / Cleanroom Gas Tight Sectional Doors
Ref: DS014

Suited for Dry Rooms, the door consists of sections with tracks that are self supporting and (depending on the rail system) the door leaf is guided horizontally or vertically. The spring system is pre-assembled and comes fitted with powder-coated springs. Cable break bottom fixtures are standard supply. The sections are structured according to the sandwich principle. The insulation core consists of CFC-free solid polyurethane foam. The interior and exterior sheet, consists of 0.5 mm thick galvanized coated steel sheet. The sophisticated panel connections with special sealing, in combination with the 3-flap gaskets, around the door perimeter ensure optimum gas tightness. Standard provided with kick-out window which doubles as emergency exit.

DOOR CHARACTERISTICS & PERFORMANCE

- 40 or 80 mm panel thickness embossed with lines on external side, non-embossed on inside
- GSD 40 in various standard colors:
  - RAL 1021 Rape Yellow
  - RAL 9002 Grey White
  - RAL 9010 Pure White
  - RAL 5010 Gentian Blue
  - RAL 6009 Fir Green
  - RAL 9006 White Aluminium
- GSD 80 in standard color:
  - RAL 9002 Grey white
  - RAL 9006 White Aluminium
  - RAL 7016 Antracite Grey
- Doors can be spray coated in any required RAL color
- Electrical operation with motor direct on shaft, single– or three Phase
- Fitted with bottom safety device by optical sensor and slack cable safety device by micro switch
- Door control can be connected to Ripening Room Control Systems.
- TÜV tested EN-12453 and EN-12445
- Thermal resistance U= 1,2 W/m²K.
- Air permeability - Class 6.

Dry Room / Cleanroom Roller Shutters - Fire Rated 2-hour Ref: DS015

Fire rated - 120 minutes

Our range of Fire Roller Shutter doors have been designed to comply with the requirements of section 8 BS 476 : Part 22: 1987 as tested tested by BRE Fire Research Centre No. TE 84510 with LPCB approval and certification for up to four hours fire protection.

- Modes of Operation: Self coiling (manual push-up) is ideal for smaller openings and does not need a power supply. Electric drive shutters also have a hand chain so that operation can be made in the event of power failure.
- Guide fixing arrangements: Approved installation teams fit Ascot shutters to a variety of buildings and construction materials. Shutters are installed to most type of wall or openings using a combination of fixings.
- Fixings are calculated for every location and torques specified for individual bolt-sets within our fixing instructions. Recommended bolt sizes for fixing the door to the opening structure are calculated.
- Head fixing arrangements: Our doors have various head fixing arrangements approved to allow installation to most construction configurations.

## DOOR CHARACTERISTICS & PERFORMANCE

- Clear opening Width: 2500mm
- Clear Opening Height: 2500mm
- Operation: Electrical drive
- Part close facility
- Curtains: Shutter curtains are constructed from 76 mm traditional curved laths with a standard tee bottom rail
- Guides: Formed from rolled steel, vertical guides
- Hood (coil casing): A profiled galvanised sheet steel hood
- Solenoid: Automatic resettable solenoid release. On receipt of an incoming fire alarm signal the door will close under controlled descent
- Audio-visual panel with in-built time delay
- Battery back-up facility where maintained power is required
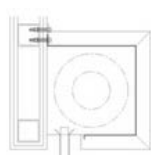
DOOR LEAF FINISH OPTIONS

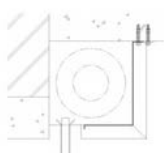Powder Coating (PPC) to any RAL colour.
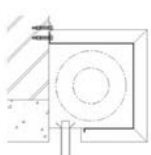
dense/solid brickwork/blockwork
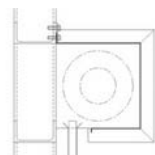
steelwork (fire rated fascia by others)

stud partition into steelwork or timber

concrete
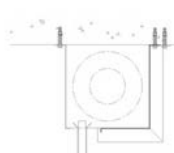
concrete and blockwork

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Dry Room Air Shower - Integrated AHU Ref: DS016

The personnel air shower comes in two designs, one with the integrated Air Handling Unit (AHU) on the top of the shower and with a separate AHU which has "Safe Change" filters. Both are designed to remove particles from the operative with high velocity jets of air. The integrated design is designed to remove non-hazardous particles on the entry to a controlled area.

- Features either a stainless steel or powder coated steel construction with interlocked float/toughened glass personnel doors.
- Maximum clear opening, the door design has been refined to provide a maximum clear entry width with the frame finishing flush to the internal panels.
- 9 adjustable stainless-steel nozzles on each of the two side walls in the shower, total of 18 nozzles in the shower.

CHARACTERISTICS & PERFORMANCE

- Standard size: 1350mm x 1220 mm x 2800mm
- 10 mm thick clear toughened glass door
- Nozzle velocity 32m/s at 5cm from the nozzles
- Low power usage with highly efficient fan, the total power requirement 10Amps at 110 – 230V, 50 to 60HZ, 1 Ph.

OPTIONS

- The system is available with a range of control panel options, the standard is a Siemens Logo PLC, an Allen Bradley PLC or a Siemens S1200 PLC.
- Right Angle Entry Design
- Air knife (requires S1200 PLC upgrade)
- Automated Doors
- 304 or 316 stainless steel construction

3D View

①	Flush Maglock
②	Shower Controls
③	Adjustable air supply nozzle
④	Concealed closer system Solid
⑤	stainless-steel hinge Tinted
⑥	toughened framless glass
⑦	Stainless-steel pull handles

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Dry Room / Cleanroom Accessories
Ref: DS017

Our range of stainless steel cleanroom floor / wall mounted bump rails, bollards, door kick plates and partition corner guards are manufactured to the highest quality standards with steel grade 316L stainless steel.

BUMPER RAILS

- Bars of stainless steel, AISI 316 L, on partition mounted – no connection to the floor
- Stainless steel, AISI 316 L, 4mm thick
- Stainless steel with brushed finish polished to 240 gritt
- Rounded edges and no sharp protrusions. All edges and corners rounded and polished. All surfaces are smooth and without any traces of welded connections

WALL PROTECTION

- Wall protection in stainless steel 316 L or synthetic material can be used to protect walls
- Materials are easily cleanable and antibacterial; all surfaces are smooth with rounded edges. They are designed for shock absorption of heavy materials with heavy traffic

CORNER GUARDS

- Thickness: 1.5mm stainless steel AISI 316 L
- Size: 65mm x 65mm
- Height: 1500mm from top of coving
- Attach to wall using double-sided adhesive
- Corner guards must be sealed on all sides
- Stainless steel with brushed finish polished to 240 gritt

LOW LEVEL EXHAUSTS

- Full integrated into the dry / cleanroom system
- Low level exhaust are designed as independent closed ducts inside the cleanroom wall partitions with sealed connection above ceiling to the ventilation system
- Panels with low level exhaust are demountable and be individually clipped onto the partitions

# Dry Room / Cleanroom Male and Female Gowning Room Furniture Ref: DS018

Our range of material storage units, sink units, step-over benches, PPE dispensers, glove dispensers and worktops/benches are available in stainless steel finishes. We provide all furniture specific to each individual project in line with all cleanroom specifications.

FURNITURE TYPES AVAILABLE

- Personal lockers
- Garment storage – Cabinets & Shelving
- Garment racks
- Pigeon holes – bootie racks
- Changing room / growing benches
- Worktops
- Hair net (bouffant cap) / glove / boot covers / mask / safety glasses (goggles) storage / dispensers.
- Step-over bench
- Dirty gown bins
- Waste bins – waste receptacles
- Mirrors
- Hand washing sinks
- Hand dryers
- Automatic soap dispensers

STANDARD SPECIFICATION

- All furniture can be constructed of 316L Stainless Steel
- Rounded edges.
- Machined to any curve or work top measurement with no visible joints
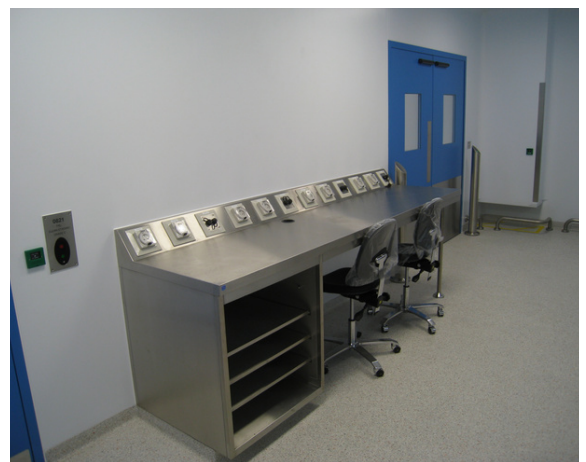
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Dry Room / Cleanroom Service Collars
Ref: DS019

In any closed environment there is a need to have services running from within the environment to outside the area. As these services are prone to vibration and even expansion and contraction, maintaining a secure airtight seal around the services at all times is vital and can be a difficult task unless the seal is capable of moving and expanding with the service. The Airtight Service Collar is the solution to this problem. The rigid components of the collar provide strength and support while the silicone inner seal is flexible enough to provide an airtight seal around the services of different sizes.

CHARACTERISTICS AND PERFORMANCE

- 316L Brushed Stainless Steel Outer Collar
- Flexible FDA approved silicone inner component
- Temperature range -60°C to 250°C
- Compatible with multiple pipe materials including stainless steel, PVC, copper etc
- The Silicone rubber inner component has an excellent resistance to ozone, oxidation, ultraviolet light, harsh cleaning chemicals, and weathering in general
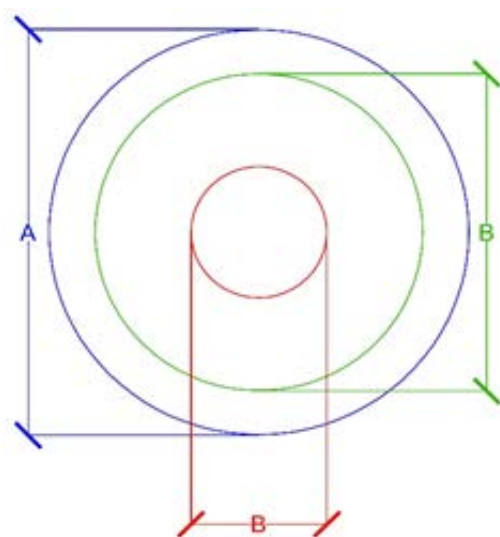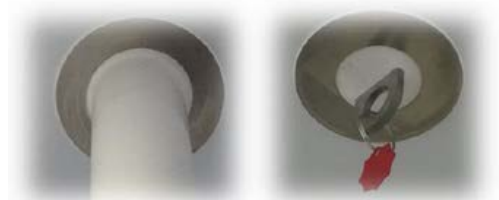
Model	Collar Diameter			Service Size
Collar A2	70mm	25mm	4mm	To Suit Pipe Diameters 5mm to 12.5mm
Collar A4	70mm	25mm	11.5mm	To Suit Pipe Diameters 12.5mm to 20mm
Collar B2	100mm	50mm	19mm	To Suit Pipe Diameters 20mm to 31mm
Collar B4	100mm	50mm	30mm	To Suit Pipe Diameters 31mm to 42.5mm
Collar C2	130mm	71mm	41.5mm	To Suit Pipe Diameters 42.5mm to 54mm
Collar C4	130mm	71mm	53mm	To Suit Pipe Diameters 54mm to 65mm
Collar D2	160mm	101mm	64mm	To Suit Pipe Diameters 65mm to 80mm
Collar D4	160mm	101mm	79mm	To Suit Pipe Diameters 80mm to 95mm
Collar E2	190mm	131mm	94mm	To Suit Pipe Diameters 95mm to 110mm
Collar E4	190mm	131mm	109mm	To Suit Pipe Diameters 110mm to 125mm
Collar F2	220mm	161mm	124mm	To Suit Pipe Diameters 125mm to 140mm
Collar F4	220mm	161mm	139mm	To Suit Pipe Diameters 140mm to 155mm

Dry Room / Cleanroom Service Pass Through Ref: DS020

Our Pass Through Is a complete cable and pipe sealing kit for bolting onto steel or sandwich walls/floors. The rectangular steel frame allows for high cable and pipe packing density. The standard sealing modules adapt to cables and pipes of different sizes. The extension frame in galvanized steel makes the transit cover the depth of a thick wall.

CHARACTERISTICS AND PERFORMANCE

- Gas-tight
- Watertight
- Dust-tight
- Rodent resistant
- Easy to maintain and inspect
- Provides built-in spare capacity

RATINGS & CERTIFICATES

Certificates are continuously added, renewed and replaced to ensure compliance.

Fire	Tightness
EI 60	Gas: 1.5 bar (catastrophic)
EI 120	Water: 3 bar (catastrophic)
UL 1479	IP 66 /67
	IP 68

INSTALLATION

Structure of Installation:

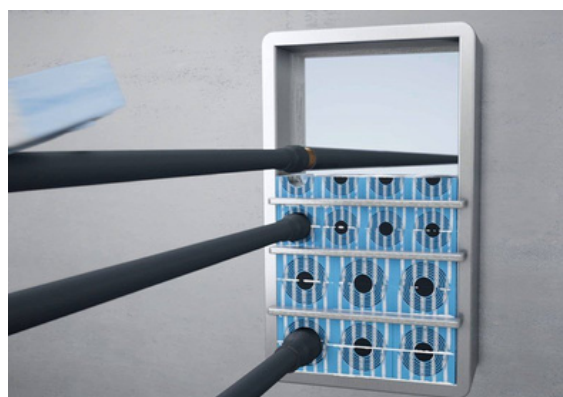Metal   Sandwich panel   Gypsum   Cabinet
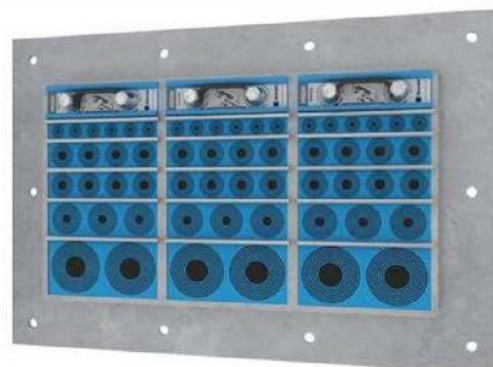
Mounting type:

Bolted

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Dry Room / Cleanroom Top Access Lighting - 2.5kN Walk-on Luminaire Ref: DS021

In Dry room and Cleanroom environments with accessible walk-on ceilings above, walk-on top access luminaires provide the ideal solution to the maintenance of the lighting and emergency lighting systems. Fully sealed from below, the fittings can be accessed and maintained without incursion into the Dry room, avoiding disruption to process , damage to equipment or possible dust ingress into the cleanroom. Furthermore maintenance at walk-on ceiling level minimise risks of falling from ladders or dropping objects. The flush wipeable diffuser can be washed/wiped clean with standard cleaning products.

SPECIFICATION

IP65 Top Access cleanroom luminaire, LED technology powered by Tridonic driver providing a long life (70,000hrs), DALI compatible, typically cool white (4000K) but alternatives available, polycarbonate or glass diffuser. 600x600mm or 1200x600mm versions. Integrated emergency strip suitable for self-test or auto test systems.

INSTALLATION

The light fitting is separated into two before clamping the ceiling panel forming a flush seal with ceiling. A silicone bead around the Dry room side edge completes the airtight seal. The fitting forms a flush (2mm) finish with the ceiling which can easily be cleaned, or walked on from above without forming a trip hazard. Suitable for ceiling depths from 50mm to 200mm. The removeable top plate provides access from the walk-on ceiling.

CHARACTERISTICS AND PERFORMANCE

- Light Source: LED
- Construction: Powder coated steel.
- Top Access
- Rated 2.5kn m² walk on capability
- IP rating: IP65
- Diffuser (options): 3mm Polycarbonate (or Toughened Glass)
- RAL Finish: 9010
- LED Plate Wattages: 31W, 42W, 54W, 62W, 70W
- Luminous Flux: ≈3600lm, 4500lm, 6400lm
- Colour Temp: 4000K (+/-200K)
- CRI (Ra): >82
- Beam Angle (0): 120°.
- Operating Life: 70,000hrs L70B10.
- Operating Temperature: +20º to -40ºC
- LED Driver: DALI / Smart options

2.5kN Walk-on Luminaire

Dry Room / Cleanroom Bottom Access Lighting - 2.5kN Walk-on Luminaire Ref: DS022

In Dry room and cleanroom environments with accessible walk-on ceilings above, walk-on top access luminaires provide the ideal solution to the maintenance of the lighting and emergency lighting systems. Fully sealed from below, the fittings can be accessed and maintained without incursion into the cleanroom, avoiding disruption to process , damage to equipment or possible dust ingress into the cleanroom. Furthermore maintenance at walk-on ceiling level minimise risks of falling from ladders or dropping objects. The flush wipeable diffuser can be washed/wiped clean with standard cleaning products.

2.5kN Walk-on Luminaire

SPECIFICATION

IP65 Bottom Access cleanroom luminaire, LED technology powered by Tridonic driver providing a long life (70,000hrs), DALI compatible, typically cool white (4000K) but alternatives available, polycarbonate or glass diffuser. 600x600mm or 1200x600mm versions. Integrated emergency strip suitable for self-test or auto test systems.

INSTALLATION

The light fitting is separated into two before clamping the ceiling panel forming a flush seal with ceiling. A silicone bead around the Dry room side edge completes the airtight seal. The fitting forms a flush (2mm) finish with the ceiling which can easily be cleaned, or walked on from above without forming a trip hazard. Suitable for ceiling depths from 50mm to 200mm. The swing down diffuser frame provides access from the front (cleanroom side).

CHARACTERISTICS AND PERFORMANCE

- Light Source: LED
- Construction: Powder coated steel.
- Bottom Access
- Rated 2.5kn m² walk on capability
- IP rating: IP65
- Diffuser (options): 3mm Polycarbonate (or Toughened Glass)
- RAL Finish: 9010
- LED Plate Wattages: 31W, 42W, 54W, 62W, 70W
- Luminous Flux: ≈3600lm, 4500lm, 6400lm
- Colour Temp: 4000K (+/-200K)
- CRI (Ra): >82
- Beam Angle (0): 120°.
- Operating Life: 70,000hrs L70B10.
- Operating Temperature: +20° to -40°C
- LED Driver: DALI / Smart options

Dry Room / Cleanroom Lighting - Surface Luminaire Ref: DS023

In Dry room environments where it is undesirable to penetrate or form opes in the ceiling, surface mounted IP65 cleanroom LED luminaires are required. The fittings are Dry room / Cleanroom grade and can be accesssed and maintained from below without removal of the fitting from the ceiling.

SPECIFICATION

IP65 Surface Mounted Dry room / Cleanroom luminaire, LED technology powered by Tridonic driver providing a long life (70,000hrs), DALI compatible, typically cool white (4000K) with alternatives available, polycarbonate or glass diffuser. 600x600mm or 1200x600mm versions available. Integrated emergency strip suitable for self-test or auto test systems.

INSTALLATION

The Surface Mounted light fitting is fixed directly onto the ceiling panel via 4NO. screws through the luminaire back plate, without fully penetrating the ceiling panel. The swing down diffuser frame provides access from the front (cleanroom side).

CHARACTERISTICS AND PERFORMANCE

- Light Source: LED
- Construction: Powder coated steel
- Mounting: Suitable for suspension of Surface Mounting
- Access: Front / Bottom
- IP rating: IP65
- Diffuser: Removable polycarbonate frame
- RAL Finish: 9010 (other options available on request)
- LED Plate Wattages: 31W, 42W, 54W, 62W, 70W
- Luminous Flux: ≈3600lm - 8400lm (600 x 600mm)
               ≈7400lm - 14,400lm (1200 x 600mm)
- Colour Temp: 4000K (+/-200K)
- CRI (Ra): >82
- Beam Angle (0): 120°.
- Operating Life: 70,000hrs L70B10.
- Operating Temperature: +20° to -40°C
- LED Driver: DALI / Smart options

Surface Luminaire

Dry Room / Cleanroom Lighting - Exit Signage Ref: DS024

In Dry room and cleanroom environments exit signage must be provided that both clearly defines the escape routes and complying with the fire certificate, while simultaneously maintaining the cleanroom standards. Exit fittings must be sealed, cleanable and easily maintained.

SPECIFICATION

IP65 Dry room and cleanroom slim surface / recessed Exit Sign, LED technology powered by Tridonic, providing a long life (70,000hrs), DALI/Autotest compatible, polycarbonate or glass diffuser. 380x180mm. Suitable for wet wipedown using standard cleaning products. Fitting can be serviced without removal from the wall

INSTALLATION

The front frame is temporarily removed, and the fitting screwed to the ceiling in four locations, passing the cable through the cable ope in the wall in the process. The front frame is then re-screwed back in position. A silicone bead around the fitting wall side edge completes the airtight seal.

CHARACTERISTICS AND PERFORMANCE

- Light Source: LED (Maintained)
- Construction: Powder coated steel.
- Dimension: 380x180mm (Min)
- Mounting: Surface and Recessed option
- Access: Front
- IP rating: IP65.
- Diffuser: Removable polycarbonate Frame
- RAL Finish: 9016
- LED Plate Wattages: 3-5W
- Luminous Flux: ≈400-600lm
- Colour Temp: 4000K (+/-200K).
- CRI (Ra): >80.
- LED Driver: Tritonic Converter LED Auto test

Surface Exit Signage

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Dry Room / Cleanroom Lighting - Teardrop Luminaire Ref: DS025

A surface mounted Teardrop-shaped linear Cleanroom LED luminaire designed specifically for installation in laminar flow ventilation air applications where minimal obstruction or disruption to air flow is essential and ceiling space for conventional recessed luminaires is limited due to air system units.

SPECIFICATION

18W, 1232x63x50mm Teardrop Cleanroom LED Luminaire, aluminium housing, polycarbonate diffuser, CCT 4000K, interconnectable to form a linear strip. The teardrop luminaire is also available in DALI and amber /(Low UV) options.

INSTALLATION

The Teardrop fitting clips into special brackets that are screwed into the ceiling bar/grid supporting the light. This easy-fit approach makes it easy to remove the lights for maintenance purposes also.

CHARACTERISTICS AND PERFORMANCE

- Light Source: LED
- Construction: Aluminium
- Dimension: 1232 x 63 x 50mm
- Mounting: Surface
- Access: Front
- IP rating: IP65
- Diffuser: Removable polycarbonate Frame
- Finish: Aluminium
- LED Plate Wattages: 18W
- Luminous Flux: ≈1800lm
- Colour Temp: 4000K (+/-200K)
- CRI (Ra): >80

Teardrop Liuminaire

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Dry Room / Cleanroom
Heavy duty polyurethane screed
Ref: DS026

Unique HD Polyurethane resin with exceptional resistance to aggressive chemicals, heavy impact and temperatures up to 80°C providing antistatic properties for use in explosion hazarded areas. It is suitable for applications in wet and dry process environments. The system offers a uniformity of surface texture with enhanced aesthetics, with a gloss or matt finish, so providing a safe and attractive working environment.

CHARACTERISTICS AND PERFORMANCE

- Complies with the requirements of BS5958, EN1081, EN61340 and DIN51953 for anti static properties.
- Extremely clean product without any volatile compounds that might effect production
- Rated A+ for VOC emissions
- Optimum slip resistance
- Floor is fully resistant to liquid spillage and discharge up to 80ºC and can be lightly steam cleaned
- Suitable for freezer temperatures down to -25°C
- Zero absorption when tested to CP.BM2/67/2
- With high mechanical strengths and a low elastic modulus, our floors are very resilient and able to withstand severe impact loads
- Available in seven standard colours: Red, Grey, Yellow, Blue, Green, Green/Brow or Orange

INSTALLATION

Substrate Quality: Concrete substrates should be visibly dry and have a minimum tensile strength of 1.5 MPa. All joints in the substrate concrete subject to movement should be reflected through the floor and sealed with a suitable sealant.

Substrate Moisture Tolerance: The Flooring is extremely tolerant to residual substrate moisture and can be installed directly onto 7 day old concrete, or onto old good quality concretes with high moisture contents without the use of special primers, provided there is a functioning DPM within the structure.

SCREED STANDARD SPECIFICATION

- Antistatic Heavy duty polyurethane screed
- Density: 2000 - 2090 kg/m³
- Compressive strength (EN13892-2): 48 - 54 MPa
- Tensile strength (BS6319 Part 7): 5 - 7 MPa
- Flexural strength (EN13892-2): 12 - 14 MPa
- Compressive modulus (BS 6319:Part 6): 3250 - 5000 MPa
- Adhesive strength to concrete (EN13892-8)
- Coefficient of thermal expansion (ASTM C531:Part 4.05): 4×10^{-5} °C^{-1}
- Fire Testing (EN13501: Part 1): BFL – S1
- Resistance to earth (EN1081): <10^6 Ohm
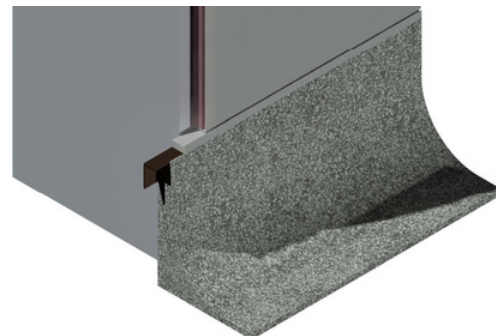
3D View

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Dry Room / Cleanroom
Heavy duty polyurethane floor finish
Ref: DS027

Unique HD Polyurethane resin floor which provides a smooth protective antistatic floor finish suitable for applications in predominantly dry environments. The flooring is dense and impervious, providing the ideal floor finish for applications in the electronics, food, pharmaceutical and manufacturing industries including cleanroom, laboratory, packing hall and warehouse applications and wherever a robust, long lived floor is required.

CHARACTERISTICS AND PERFORMANCE

- Complies with the requirements of BS5958, EN1081, DIN51953 and EN61340 for anti static properties.
- Extremely clean product without any volatile compounds that might effect production
- Rated A+ for VOC emissions
- Optimum slip resistance
- Floor is fully resistant to liquid spillage and discharge up to 80ºC and can be lightly steam cleaned
- Suitable for freezer temperatures down to -15°C
- Zero absorption when tested to CP.BM2/67/2
- With high mechanical strengths and a low elastic modulus, our floors are very resilient and able to withstand severe impact loads
- Available in eight standard colours: Red, Grey, Yellow, Blue, Green, Green/Brow, Orange or Cream

INSTALLATION

Substrate Quality: Concrete substrates should be visibly dry and have a minimum tensile strength of 1.5 MPa. All joints in the substrate concrete subject to movement should be reflected through the floor and sealed with a suitable sealant.

Substrate Moisture Tolerance: The Flooring is extremely tolerant to residual substrate moisture and can be installed directly onto 7 day old concrete, or onto old good quality concretes with high moisture contents without the use of special primers, provided there is a functioning DPM within the structure.

SCREED STANDARD SPECIFICATION

- Antistatic Heavy Duty Polyurethane Floor Finish
- Density: 1970 kg/m³
- Compressive strength (EN13892-2): 48 - 53 MPa
- Tensile strength (BS6319 Part 7): 7 - 9 MPa
- Flexural strength (EN13892-2): 18 - 21 MPa
- Compressive modulus (BS 6319:Part 6): 3250 - 4000 MPa
- Adhesive strength to concrete (EN13892-8)
- Coefficient of thermal expansion: 3.6×10^{-5} ºC^{-1}
- Fire Testing (EN13501: Part 1): BFL − S1
- Resistance to earth (EN1081): < 1 MΩ
- Resistance to earth (EN61340-4-1): < 1 GΩ
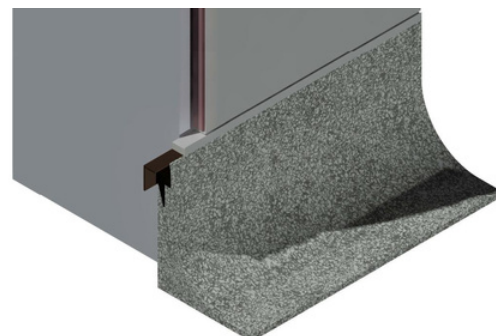
3D View
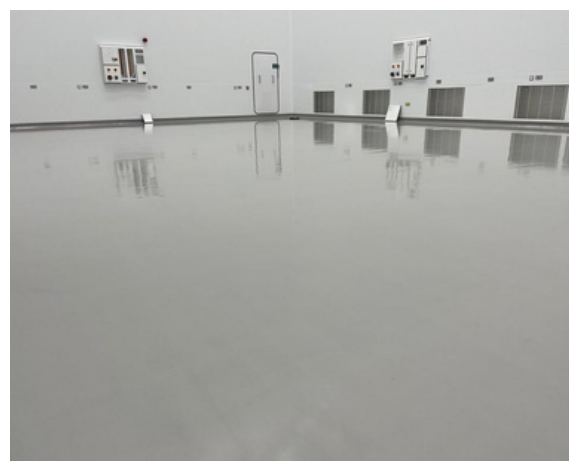
Dry Room / Cleanroom PLC Interlock Control Panel
Ref: DS028

Fully customisable controls compatible with all types of access control, door automations, HVAC, Fire Alarm Systems, Security Systems and Building Management Systems. Scalable from 2 door systems with no upper limit on the number of doors being controlled. All control panels are manufactured to the clients specific needs in our premises by our fully trained engineers.

CHARACTERISTICS AND PERFORMANCE

Interlock Control Panels can be supplied with the following options:

Enclosure:
IP65 Powder coated steel as standard, other finishes available on request.

Power Segregation:
Control Panel is available with built in transformer, or transformer can be located in separate adjoining enclosure is power segregation is required.

Interfaces:
All panels will interface with push buttons, touchless sensors, traffic lights, access control equipment, door contact switches, powered door locks and door automations as standard. Panel can also be supplied with auxiliary outputs for interfacing with other equipment such as HVAC, BMS, EMS and security systems.

Cable Termination:
Site cables are routed through IP65 compression glands and are screwed into DIN-rail mounted terminals to provide a secure and reliable connection.

Controls:
As the controller is a Siemens PLC, it can be programmed and reprogrammed to perform in any possible way. The standard software allows for user selectable normally-open and normally-locked operation, selectable using a simple connection in the control panel.

Panel Lighting:
The control panels are available with the option of internal LED lighting to assist maintenance technicians. The lighting is activated using an internal push button and automatically turns off after a period of inactivity to conserve energy.
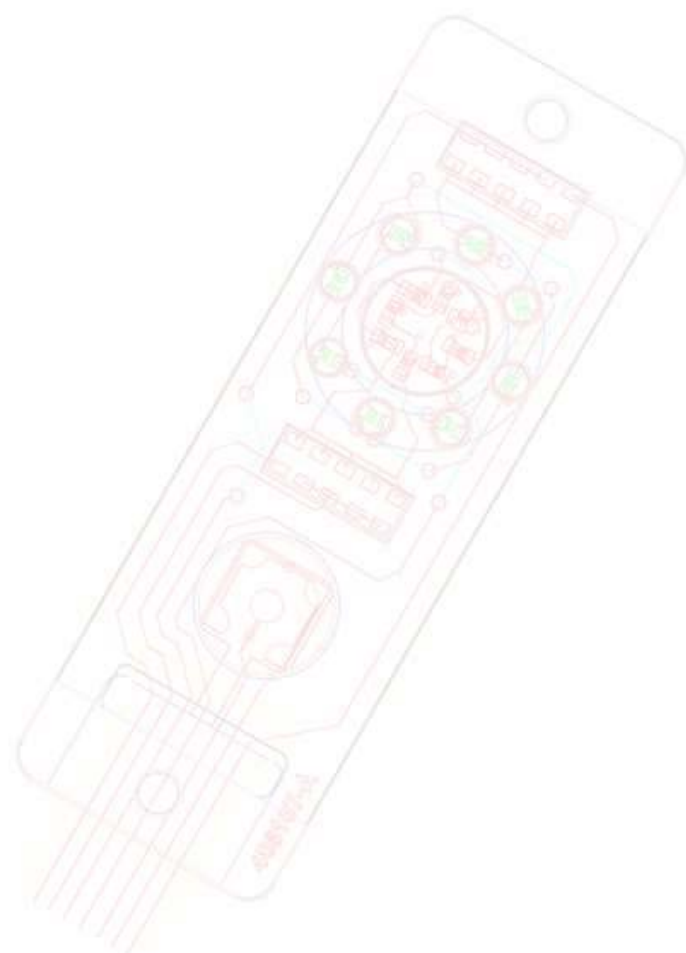
Dry Room / Cleanroom
Planned Preventative Maintenance

At Asgard Cleanroom Solutions we strive to be the most strategic, innovative and professional service partner in our industry. The safety of your workers and the undisrupted flow of goods and people is our number one priority, and we pride ourselves on our customized service solutions that ensure you have a partner that truly understands your challenges.

24/7 priority service: In the event of downtime, our local presence and fast response time ensures minimal disruption to your business.

First time & long term: Our large inventory of spare parts and trained technicians ensure first-time and long-term fixes.

Original spare parts: As the original equipment manufacturer, we always use genuine spare parts to keep your entrance solutions in perfect condition.

Technical documentation: We have defined procedures and specifications for servicing all your PPM requirements and provide you with the full overview.

Service agreements: Keep track of costs and experience true peace of mind with our service agreements - customised to suit your business.

Flexible service packages: Our variety of service packages allow for a high degree of flexibility and tailored solutions to fit your needs. All packages include safety, compliance and quality control checks.

Local compliance: Local rules and regulations vary and change over time. Our service checks and maintenance programs always follow the latest development.

Budgeting: We offer full service, which enables you to plan and budget your costs on an annual basis – with no surprises.

Training: We offer several courses and sessions at no charge to ensure your teams full functionality.

PPM Elements:

- Antistatic Heavy Duty Polyurethane Floor Finish
- Dry / Cleanroom wall / ceiling system repairs
- Manual Doors / Automatic Swing doors. Fire & non fire rated
- Automatic Doors
- Rapid Roll Doors
- Fire rated roller shutters – Fire drop test (x2 yearly)
- Airtight Doors
- Interlocking inspection / service / philosophy changes
- FFU's
- Lights – General
- Emergency Lights
- Dry room service pass through inspections / service / replacement

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