



GT LID



TECHNICAL DATA SHEETS



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DIRECTORY



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Guardtech


GT LID CLEANROOM CEILINGS



Guardtech offer a range of ceiling solutions to best suit the needs of your application. Whether it's budget, lead time or performance that matters most, Guardtech provide a comprehensive choice of ceiling options to ensure your process requirements are achieved.

Whether it's a more economical ceiling tile and grid layout you prefer, a panel system or a heavy duty walk-on die-cast nodal grid, the Guardtech Group's Directors, Design Engineers and Installation team have worked together to carefully select four industry-leading ceiling options for your consideration.

Read on to discover the benefits and compromises of the different choices we have, then use this guide to make the most informed flooring choice possible.

Let Guardtech take your operation to the next level.



LID MAX

GT Lid Max is Guardtech's elite-level ceiling option – a T56N die-cast nodal grid system. This walk-on aluminium frame construction features high deflection strength and supports aluminium honeycomb panels.



LID PRO

GT Lid Pro is a high-spec, customisable, modular, fully flush controlled environment panel system featuring an intelligently engineered demountable joint with an aluminium extrusion to all sides.



LID PLUS

An intelligent insulated ceiling panel system featuring a unique castellated and symmetrical tongue-and-groove joint which achieves high thermal and structural performance.



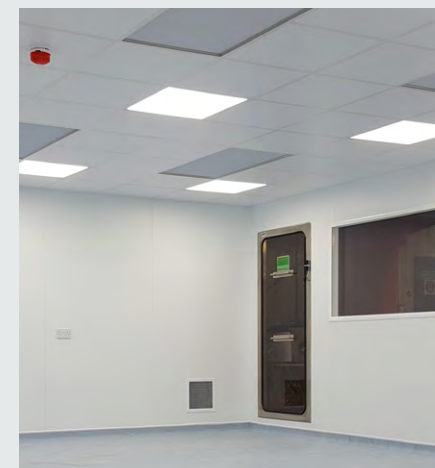
LID LITE

T50 click-fix connector grid and aluminium tiles, designed as a non-walk-on frame construction with high deflection strength, consisting of 50mm wide aluminium extrusion main and cross runners of identical shape.



LID FIRE

This product range does not currently include a Fire Rated solution. Please consult a Guardtech rep for more information on your fire safety options.





GT LID MAX

GT Lid Max is Guardtech's elite-level ceiling option – a T56N die-cast nodal grid system. This walk-on aluminium frame construction features high deflection strength and supports aluminium honeycomb panels.

GT Lid Max is Guardtech's advanced cleanroom ceiling solution, designed to meet the rigorous demands of modern controlled environments.

Built around a high-strength aluminium grid framework with precision-engineered die-cast connectors, the system delivers exceptional structural integrity, accurate alignment, and reliable long-term performance. Its walkable ceiling design supports maintenance access while accommodating integrated cleanroom services, including lighting, fan filter units (FFUs), sprinkler systems, partitions and overhead utilities.

Engineered for flexibility, GT Lid Max features a continuous fixing channel that enables secure installation of suspended equipment and infrastructure without compromising cleanliness or



performance. The lightweight yet robust construction simplifies installation and future modifications, making it ideal for evolving cleanroom facilities. GT Lid Max combines durability, functionality and compliance with

demanding industry standards. The result is a premium ceiling system that enhances operational efficiency, supports critical processes and helps maintain the highest levels of cleanroom performance.

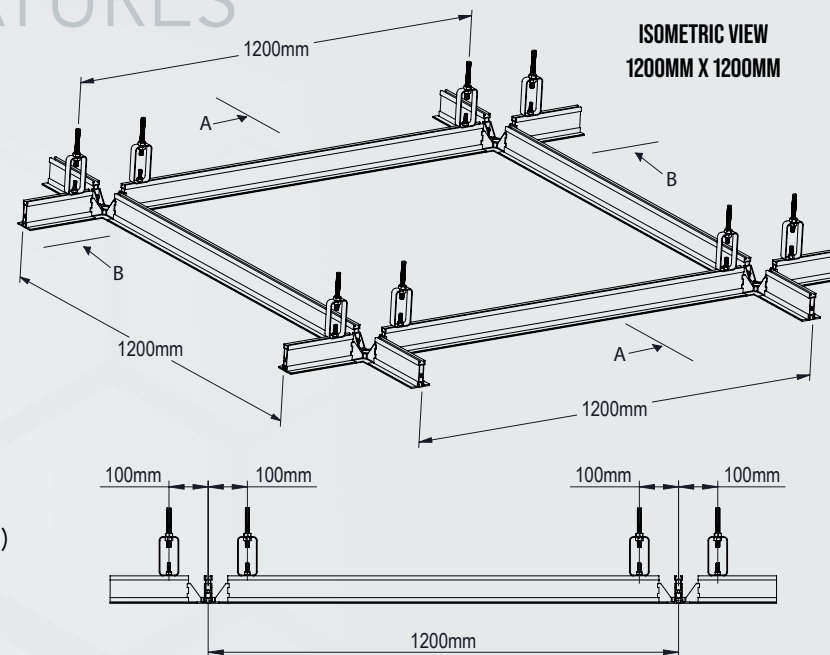
TECHNICAL FEATURES

Specification

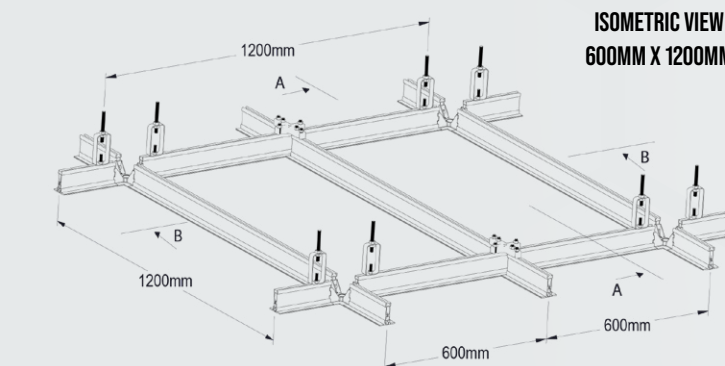
- Lightweight and strong aluminium grid systems
- Simple and flexible installation
- Precision die-cast connectors
- Provides tight seal and alignment
- Sprinkler drop connection
- Anodised finish and powder-coated options
- Reusable and relocatable system
- Compatible FFUs and lighting available

Technical Data

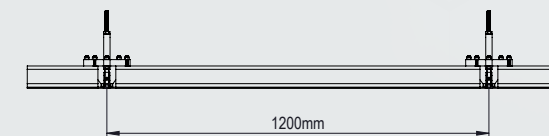
- T56N Grid: Aluminium extrusion 6063-T5
- Point load 125kg
- Uniform distributed load 200kg/m²
- FM Approvals Class 4882 certification (PR459442) for cleanroom wall and ceiling systems.
- Panel thicknesses: 6mm, 25mm, 30mm, 50mm and 70mm Aluminium Honeycomb Panels.



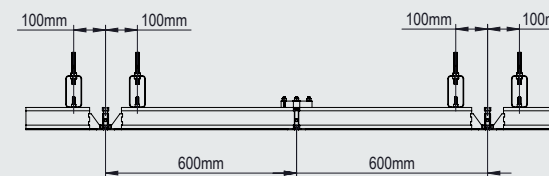
TECHNICAL DRAWINGS



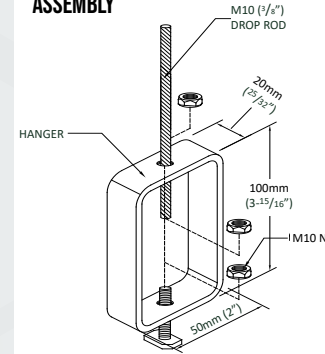
Section A-A



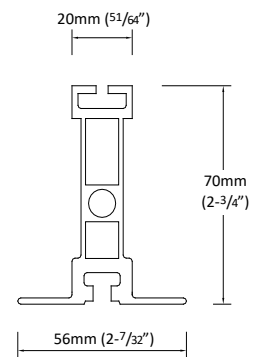
Section B-B



HANGER ASSEMBLY



T56N GRID SECTION



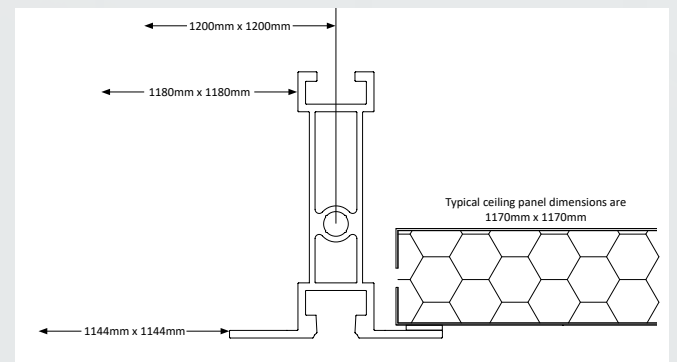
CROSS CONNECTOR



T-BOLT



CORNER CONNECTOR



BENEFITS

- Heavy-duty walk-on functionality
- High deflection strength
- Reusable and relocatable system
- Natively supports easier teardrop lighting and sprinkler installation via intelligent nodal system

COMPROMISES

- More expensive option than Lid Pro, Plus, Lite
- Potentially longer manufacturing lead times
- Longer installation time
- Expanded componentry compared to GT Lid Pro and Plus options
- Cannot support 600x600mm components

COMMON APPLICATIONS



Semiconductor



Graphene



Battery



Laser & Optical



Aerospace

GT Lid Max suits the most demanding of applications, typically where particulate needs to be controlled to extremely tight tolerances. This often includes cleanrooms with an ISO5 or 6 classification. This solution is particularly effective for applications that require the walk-on capability with high deflection strength.



GT LID PRO

GT Lid Pro is a high-spec, customisable, modular, fully flush controlled environment panel system featuring an intelligently engineered demountable joint with an aluminium extrusion to all sides.

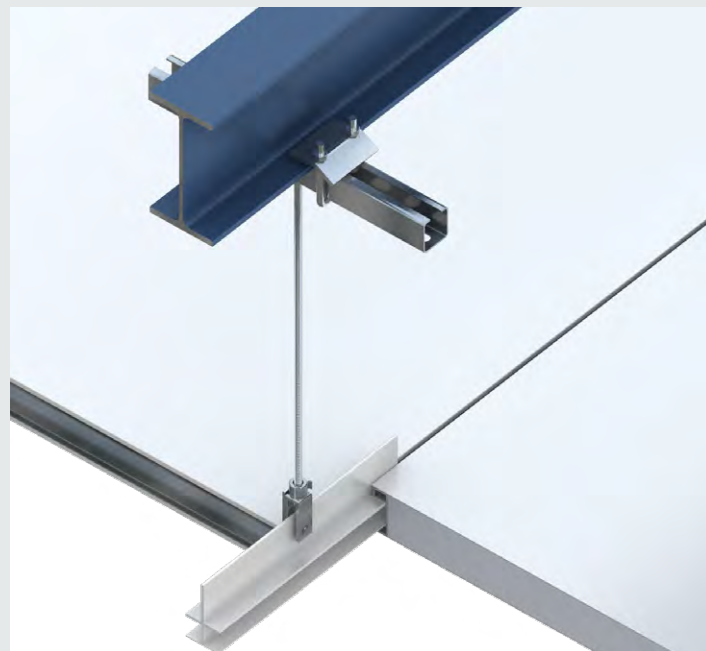
GT Lid Pro is a customisable, modular fully flush cleanroom ceiling panel system that features a demountable joint with an aluminium extrusion to all sides.

It is suitable for specialist cleanroom applications that demand specific core performance, aiding compliance to EU GMP Annex 1, ISO 14644-1 and US FS209E.

This intelligently engineered fully flush modular system for specialist

cleanroom applications comes with a choice of three core options: QuadCore, Mineral Fibre Core and Aluminium Honeycomb.

Attention to utility integration is a key part of the GT Lid Pro/GT Shell Max panel system, with specially designed raceways and conduits that are embedded within the panel system to eliminate any surface mounted wiring or pipework and containment, also facilitating flush integrated sockets.



TECHNICAL FEATURES

DIMENSIONS, WEIGHT & PERFORMANCE

OVERALL THICKNESS (MM)	60, 80
STANDARD WIDTHS* (MM)	1200
LENGTH (MM)	300-5700mm
WEIGHT (0.63 / 0.63 STEEL)	14kg/m ²

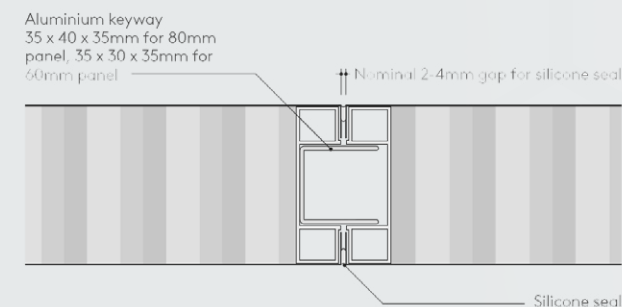
*Variable widths available as non standard, in 10mm increments. Minimum width 150mm.

PRODUCT TOLERANCES

LENGTH (MM)	+1.5	-1.5
WIDTH (MM)	+1.5	-1.5
THICKNESS (MM)	+2.0	-2.0
FLATNESS (PER METRE) (MM)	+1.0	-1.0
END SQUARENESS (MM)	+2.0	-2.0



TECHNICAL DRAWINGS



GT Shell Max Aluminium Honeycomb panels achieve airtightness of less than 0.003m³/hr/m² at 50Pa in accordance with EN 14509.



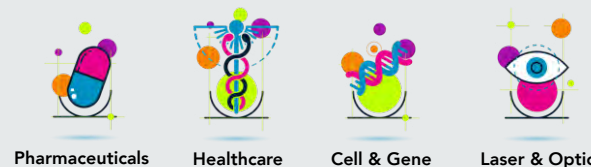
BENEFITS

- Fully-flush ceiling solution
- cGMP compliant ultra-airtight solution
- 60mm panel joint features an optional service cavity for incorporation of services
- Integrated envelope solution
- Choice of cores – QuadCore, Mineral Fibre core or Aluminium Honeycomb
- Available in 60mm and 80mm thicknesses
- Superior load bearing capacity and stability

COMPROMISES

- A more expensive option than GT Lid Plus
- Panels require modifications for lighting and Fan Filter Units – unlike GT Lid grid systems
- Less flexibility than GT Lid Max and Lite in terms of individual panel vs tile repairs
- More complex installation process

APPLICATIONS



GT Lid Pro ceiling solution suits a wide variety of applications in a diverse range of sectors. Whilst it may not boast the heavy duty walk-on appeal of GT Lid Max, this solution offers an attractive flush finish suitable for cGMP compliant environments such as those used in the Pharmaceutical sector.





GT LID PLUS

An intelligent insulated ceiling panel system featuring a unique castellated and symmetrical tongue-and-groove joint which achieves high thermal and structural performance.

GT Lid Plus is an insulated, integrated ceiling and wall panel system designed for all internal controlled environments applications including new build and refurbishment projects.

The range offers flexible, high-performance, engineered cleanroom solutions that deliver both cost and operational benefits, minimising risk and maximising return on investment.

This revolutionary hybrid cleanroom system offers a high-performance solution at a more competitive cost base than traditional methods.

A factory-engineered detail allows the inclusive wall panel system it to sit on a recessed floor track to give a



fully flush floor-to-wall detail, suitable for both vinyl and resin. Insertion of an interface profile in the panel joint to allow integration of fully flush windows, doors and service panels.



TECHNICAL FEATURES

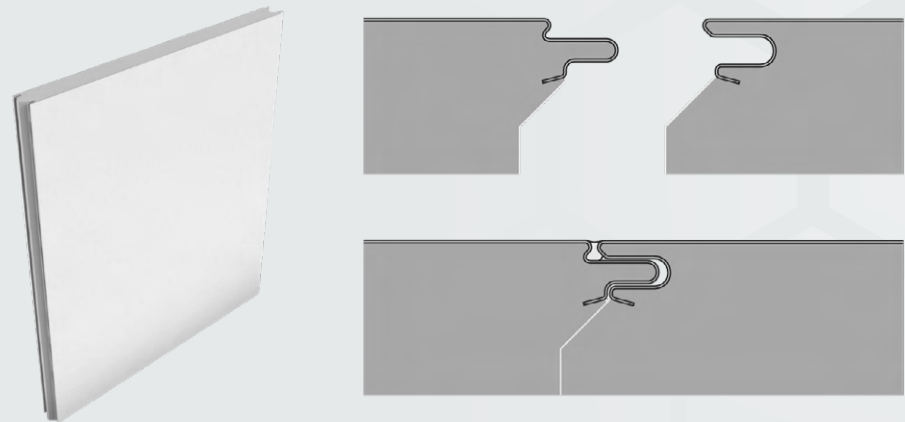
DIMENSIONS, WEIGHT & THERMAL PERFORMANCE									
CORE THICKNESS (MM)	50	60	80	100	125	150	175	200	220
U-Value (W/m ² K)	0.38	0.31	0.23	0.18	0.15	0.12	0.10	0.09	0.08
R-Value (m ² K/W)	2.63	3.23	4.35	5.560	6.67	8.33	10.00	11.11	12.50
Weight (kg/m ²)	10.1	10.5	11.2	12.0	12.9	13.9	14.8	15.8	16.5

These values are in accordance with BS EN 14509, using Finite Element Analysis, and take into account any thermal bridging through the longitudinal joint.
The U-Values have been calculated using an aged thermal conductivity value of 0.018W/mK.

ACOUSTIC (SOUND REDUCTION INDEX)								
FREQUENCY (HZ)	63	125	250	500	1000	2000	4000	8000
SRI (dB)	20	15	17	23	18	25	40	46



TECHNICAL DRAWINGS



Ceiling panel joints achieve an air tightness of 0.02m³/h.m at 50Pa in accordance with BS EN 14509 with joint sealed using gun grade sealant.

AVAILABLE LENGTHS
Standard Lengths 2.0 – 11.9 m
Longer Lengths* 11.9 – 19 m
Shorter Lengths* <2.0 m

* Non-standard lengths. Additional costs and transport restrictions may apply for non-standard lengths.



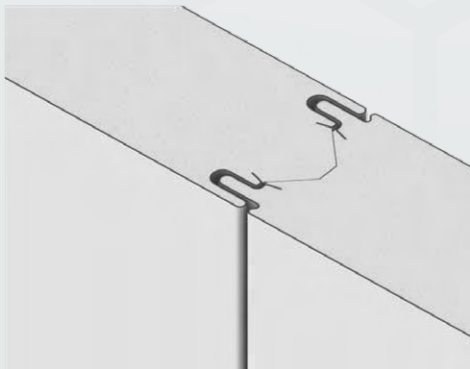
PRODUCT FEATURES

THICKNESS:
60mm or 80mm.

PANEL CORE:
Quadcore® (ks1100 ut-f is approved to Fm 4882).

PANEL COATINGS:
Cleansafe 25, 55, 120, Anti-static 25 & stainless 304 & 316l.

PANEL LENGTH:
Up to 6.3m.



BENEFITS

- More cost-effective than GT Lid Max and Pro solutions
- High thermal and structural performance
- Intelligent interlocking panel system

COMPROMISES

- Considerably reduced capacity for walk-on weight compared to GT Lid Max
- Sealant required to finish panels after construction
- Panels require modifications for lighting and Fan Filter Units – unlike GT Lid grid systems

APPLICATIONS



GT Lid Plus is a common cleanroom ceiling solution suitable for a significant number of different industries using controlled environments as part of their process. Whilst this grid system is quick to install and compatible with key components, it doesn't boast the walk-on capability and flush finish of Max and Pro.



GT LID LITE

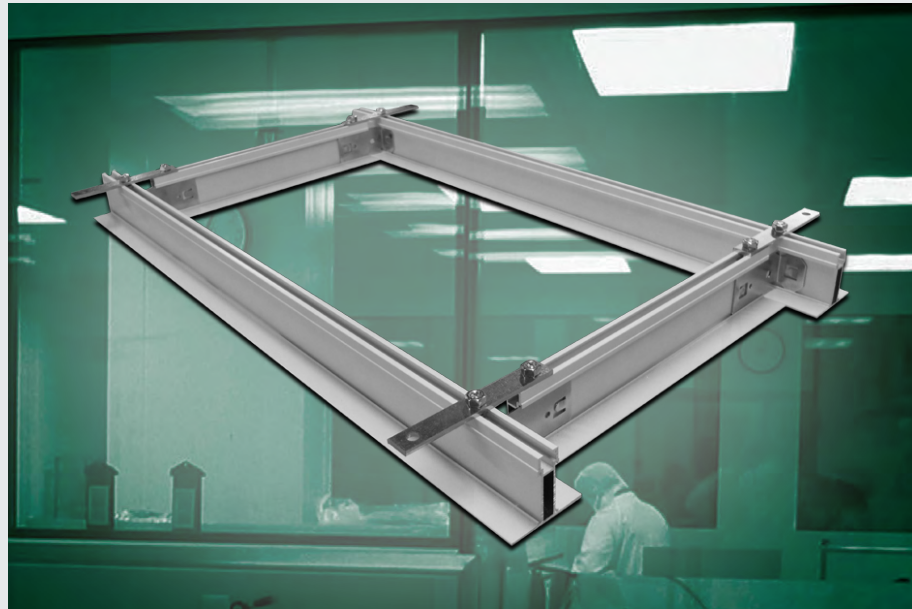
T50 click-fix connector grid and aluminium tiles, designed as a non-walk-on frame construction with high deflection strength, consisting of 50mm wide aluminium extrusion main and cross runners of identical shape.

GT Lid Lite is a T50 click-fix connector ceiling grid system developed to meet the exacting requirements of the clean-room industry and is well suited to a wide range of industries.

Designed as a non-walk-on frame construction with high deflection strength, consisting of 50mm wide aluminium extrusion main and cross runners of identical shape, GT Lid Lite utilises powder-coated aluminium composite ceiling tiles.

Installation is both quick and simple, utilising click-fix connectors to keep the installation time to a minimum.

The aluminium extrusion comes with RAL 9010 powder-coated paint finish as standard. Other paint colours and anodised finishes are available on request. The frame construction allows for standard grid modules of 600 x 1200mm and



600 x 600mm, however other grid sizes can also be provided.

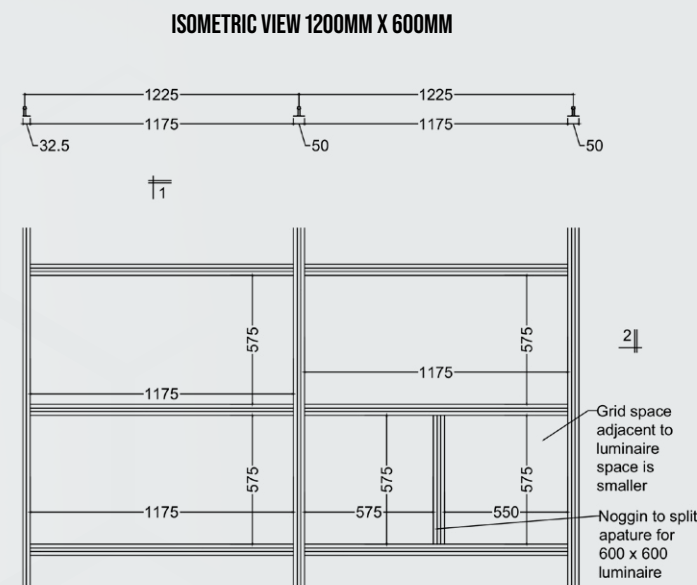
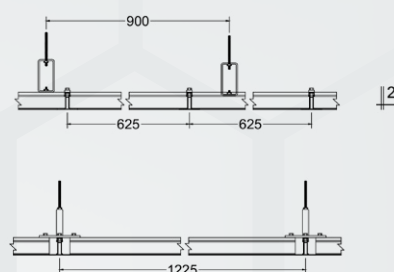
The self weight of the grid system is 12kg/m² (including 5.0kg per 1.2m

x 0.6m metal tile) with an ultimate uniformly distributed load of 45kg/m². All additional loads must be directly suspended to the secondary support structure.

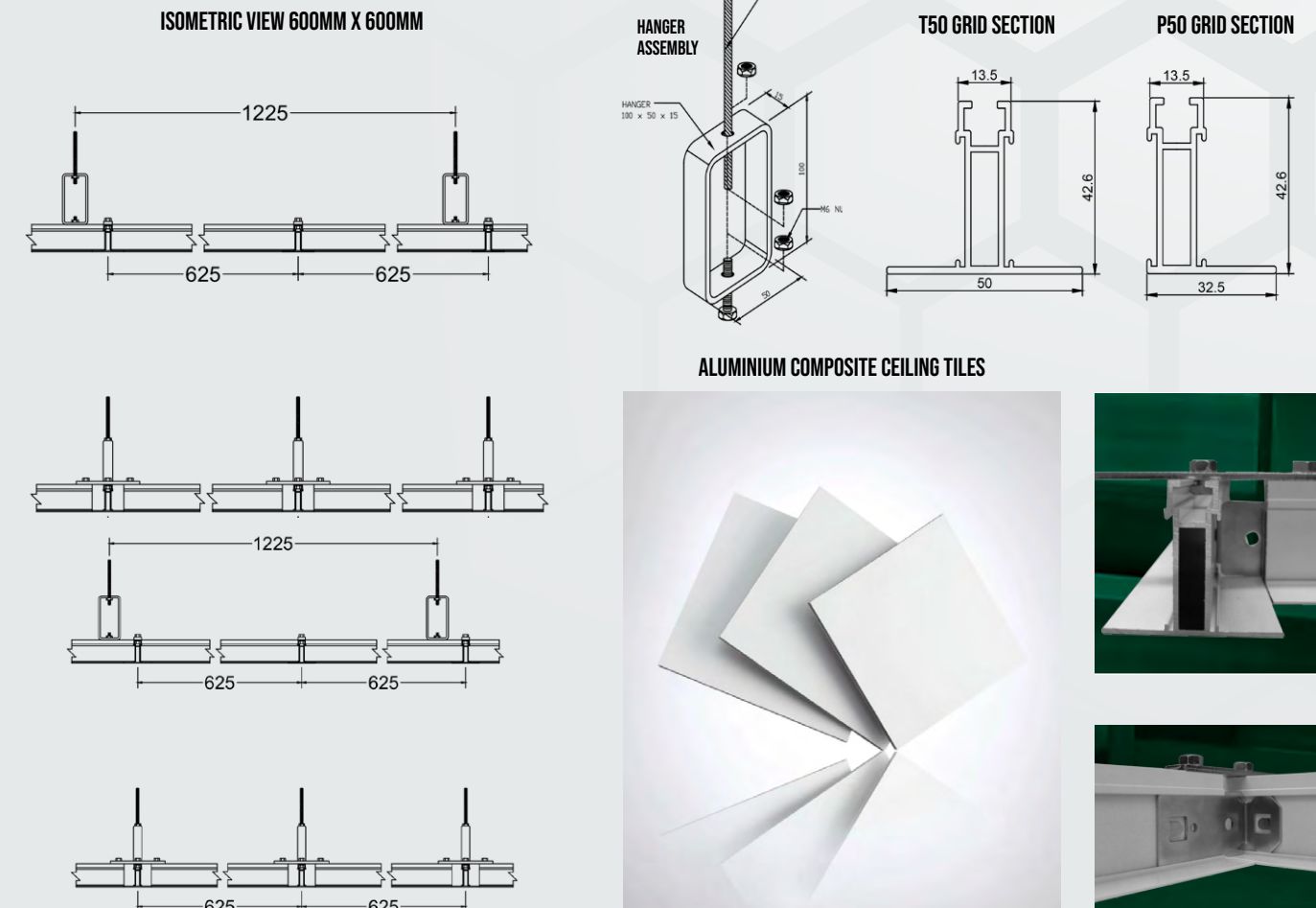
TECHNICAL FEATURES

- Lightweight and strong aluminium grid systems
- Simple and flexible installation
- Click-fix cross connectors
- Uniform distributed load 45kg/m²
- Provides tight seal and alignment
- RAL 9010 Powder coated finish and anodised finish options available

- Reusable and relocatable system
- Compatible FFUs and lighting available.



TECHNICAL DRAWINGS



BENEFITS

- High deflection strength
- T50 click-fix connector technology allows for a robust and reliable installation
- Lower price point than GT Lid Max grid system
- Compatible with a range of GT Flow and Lux range Fan Filter Unit and lighting options

COMPROMISES

- Cannot be used as a walk-on grid like GT Lid Max grid system
- Longer lead times than GT Lid Pro and Plus panel system solutions
- More complex grid installation arrangement than GT Lid Pro and Plus' intelligent interlocking ceiling panel systems

APPLICATIONS



GT Lid Lite suits the least demanding of applications – most commonly laboratories or non-classified controlled environments.



GT LID FIRE

GT Lid Fire is Guardtech’s fire-rated ceiling panel solution – a high-quality cleanroom grade panel which provides a tested fire resistance to match the performance required for internal firewalls.

GT Lid Fire offers a total internal cleanroom ceiling solution that is ideally suited for non-load bearing internal partition wall-and-ceiling configurations.

These high-quality panels provides a tested fire resistance to match the performance required for internal firewalls, protected zones, ceilings and compartmentation walls.

GT Lid Fire panels are manufactured with a stone wool core that provides built-in passive fire protection, structural strength, robustness and low environmental impact.

GT Lid Fire panels are available in a wide range of finishes including a foodsafe coating, providing a smooth, anti-static internal surface.



TECHNICAL FEATURES

FIRE RESISTANCE PERFORMANCE				
PANEL THICKNESS (MM)	FIRE RESISTANCE (MINS)		MAXIMUM UNSUPPORTED LENGTH (M)	
	Insulation	Integrity	LPS 1208	BS476 Pt22
150	240	240	7.5**	11.5**
170	240	240	7.5**	12.0**
200	240	240	7.5	12.0
240	240	240	7.5	12.0

**Panel joint stitched on both sides at 300mm centres using 3.8mm diameter x 16mm long stainless steel rivets.

Fire resistance is generally a requirement of Building Regulations but can also be used when compartmentation within buildings is required, it is measured in terms of: i) Integrity - the ability of a system to prevent the penetration of hot gases and flames.

ii) Insulation - the ability of the system to reduce the temperature rise on the unexposed side of the fire and therefore prevent fire spread through radiated heat.

TOLERANCES

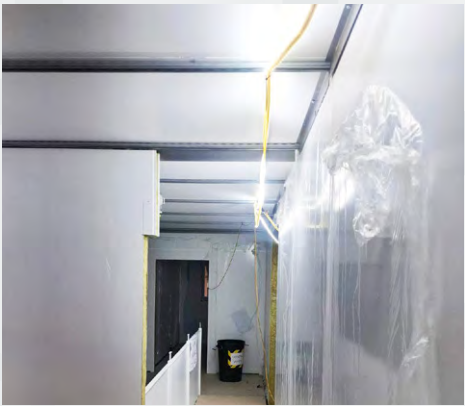
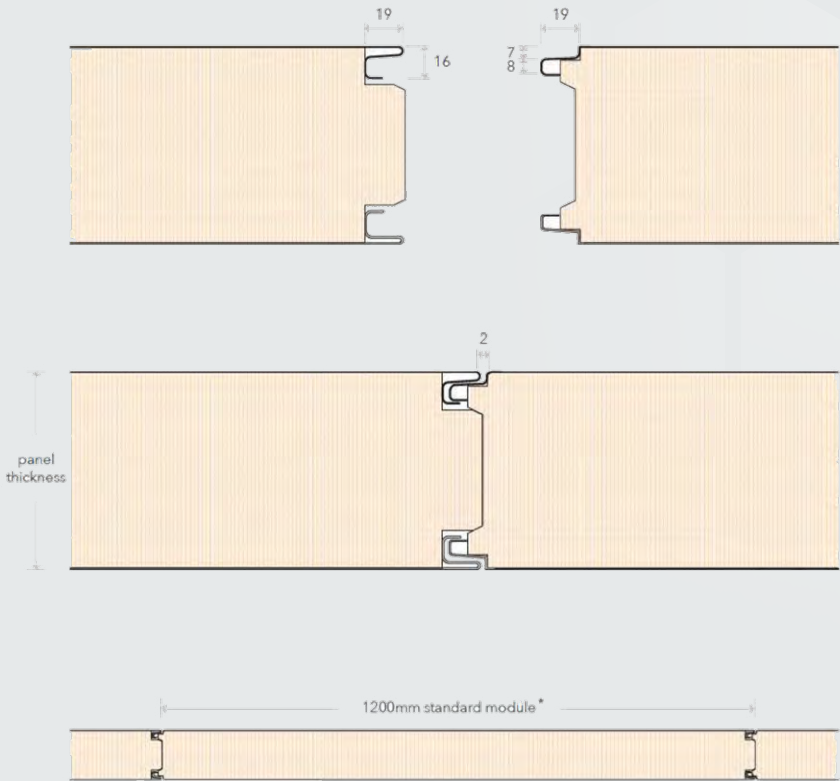
LENGTH	±10mm
WIDTH	±1mm
THICKNESS	±2mm
CORNERS (Leg length)	±3mm
FLATNESS	1.5mm (from the theoretical flat plane over a distance of 700mm)
JOINT GAP	±2mm

WEIGHTS

CORE THICKNESS	WEIGHT: LITE (kg/m2)
50	-
75	-
100	-
125	-
150	29.9
170	32.9
200	35.9
240	40.7



TECHNICAL DRAWINGS



BENEFITS

- Tested fire resistance to match the performance required for internal firewalls
- Stone wool core that provides built-in passive fire protection, structural strength, robustness and low environmental impact
- Wide range of finishes including a foodsafe coating, providing a smooth, anti-static internal surface

COMPROMISES

- Doesn't feature the elite interlocking panel arrangement that GT Pro boasts – this includes the hidden service conduits and other benefits
- Inferior overall performance compared to GT Max and Pro solution
- More expensive wall solution than GT Lite and Plus

APPLICATIONS



Medical Device



Healthcare



Oil & Gas



Cell & Gene



Battery



Laser & Optical

GT Lid Fire is a fire-rated cleanroom wall solution that can be adopted throughout a number of different sectors where there is a concerted requirement for fire safety, either from a compliance perspective or as part of a business' wider policy and expectations.



QUICK-LOOK COMPARISON GUIDE

FEATURES				
Ceiling panel arrangement				
Ceiling grid & tile arrangement				
Superior walk-on functionality				
Can be supported from below				
Intelligent interlocking system				
Supports cGMP best practice				
Fully flush				
Fully integrated sprinkler drop connection				
Pre-designed Fan Filter Unit compatibility				
Superior air tightness				
Nodal grid system				
				



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