



GT CLAD



TECHNICAL DATA SHEETS



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DIRECTORY



Introduction **pg 4**



GT Clad Max **pg 6**



GT Clad Pro **pg 8**



GT Clad Plus **pg 10**



GT Clad Lite **pg 12**



Comparisons **pg 14**



GT CLAD WALL CLADDING



Guardtech offer a range of cleanroom wall cladding 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 wall options to ensure your process requirements are achieved.

Whether it's a more economical non-anti-microbial options all the way up to a sophisticated 120-micron thick, high-spec chemically inert PVC film, 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 cleanroom wall cladding choice possible.

Let Guardtech take your operation to the next level.



CLAD MAX

GT Clad Max is a homogeneous flexible vinyl sheet with coved corners that complies with EN649 and is designed to be a permanent wall and ceiling covering for a wide range of cleanroom-based applications.



CLAD PRO

GT Clad Pro is Guardtech's elite-level cleanroom wall cladding solution – a high-spec chemically inert PVC film, laminated to pre-treated metal, suitable for environments with the most stringent requirements.



CLAD PLUS

GT Clad Plus is the Guardtech Group's lower mid-level PVC wall cladding option – a hygienic, rigid system that features anti-microbial properties and delivers on both style and performance.



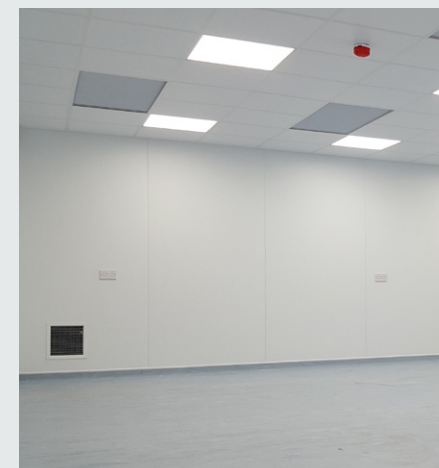
CLAD LITE

GT Clad Lite is the Guardtech Group's entry-level cleanroom wall cladding option – a durable, low maintenance solution that's easy to clean and delivers excellent chemical resistance.



CLAD 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 CLAD MAX

GT Clad Max is a homogeneous flexible vinyl sheet with coved corners that complies with EN649 and is designed to be a permanent wall and ceiling covering for a wide range of cleanroom-based applications.

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Easily hot welded to produce continuous surfaces, GT Clad Max is flexible and easy to cove, recyclable and environmentally friendly.

It is hot welded with CR40 welding rods for better hygiene. It is made of a calendared layer with colour throughout the whole thickness for a nicer aspect of the welding.

GT Clad Max benefits from a PUR surface treatment which provides good resistance to chemical products and makes maintenance easier.

Fully resistant to impact, it acts as a buffer against damage from beds, trolleys and indoor motorised vehicles and other transportation systems.



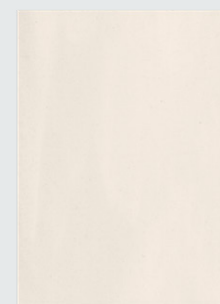
TECHNICAL FEATURES

DESCRIPTION		
Total thickness	EN 428	1.00mm
Wear layer thickness	EN 429	1.00mm
Weight	EN 430	1780g/m ²
Width of sheet	EN 426	200cm
Length of sheet	EN 426	30lm
CLASSIFICATION		
Norm / Product specification	EN 15 102	
Fire rating	EN 13 501-1	Class B- s2,d0
PERFORMANCE		
Colour fastness	EN 20 105 - B02	≥ 6 degrees
Surface treatment		PUR
Chemical products resistance	EN 423	OK
Anti-bacterial activity [E. coli - S. aureus - MRSA] *	ISO 22196	> 99% inhibits growth



MURAL CLUB

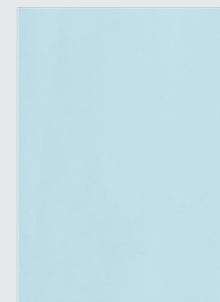
Compact sheet B-s2,d0 PUR 100% recyclable



0003 Sand



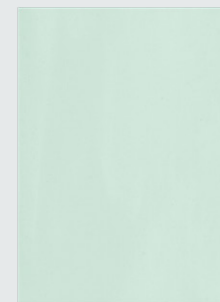
0006 Grey



0007 Blue



0001 White



0004 Green



0005 Yellow

PRODUCT FEATURES

- 1MM THICKNESS
- RESISTANT TO IMPACTS
- COVED CORNERS
- WELDABLE AND WASHABLE
- SIX SOFT COLOURS TO MATCH THE FLOOR COVERING
- 100% RECYCLABLE
- NO PARTICLE EMISSION
- INHIBITS GROWTH OF BACTERIA
- RECYCLABLE
- GOOD RESISTANCE TO STAINING
- 100% WATER TIGHTNESS

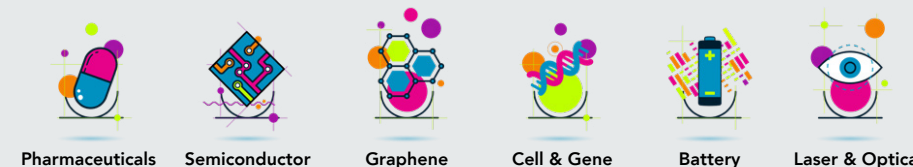
BENEFITS

- Easily hot welded to produce continuous surfaces
- Flexible and easy to cove
- Recyclable and environmentally friendly
- Fully resistant to impact
- Inhibits growth of bacteria

COMPROMISES

- More expensive solution than GT Lite and Plus options
- More ongoing maintenance required than GT Lite and Plus
- Longer lead times than GT Lite and Plus
- Less flexible option in terms of replacing damaged elements

APPLICATIONS



GT Clad 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, as well as those required to comply with cGMP conditions outlined in EU GMP Annex 1, ISO 14644-1 and US FS209E.





GT CLAD PRO

GT Clad Pro is Guardtech's elite-level cleanroom wall cladding solution – a high-spec chemically inert PVC film, laminated to pre-treated metal, suitable for environments with the most stringent requirements.



GT Clad Pro is an elite-level chemically inert PVC film, laminated to pre-treated metal, suitable for controlled environments with the most stringent requirements.

This solution features a 120-micron thick anti-bacterial coating that delivers superior performance in terms of protecting your process against unwanted ingress.

The corrosive factors of an internal environ-

ment are determined by the presence of corrosive chemicals and/or micro-organisms in the internal atmosphere and relative humidity, as well as by the frequency of cleaning, aggressiveness of the cleaners, degreasers, sanitisers and method of cleaning.

GT Clad Pro offers a level of superior performance to help you achieve all those requirements, ensuring a well-maintained controlled environment.



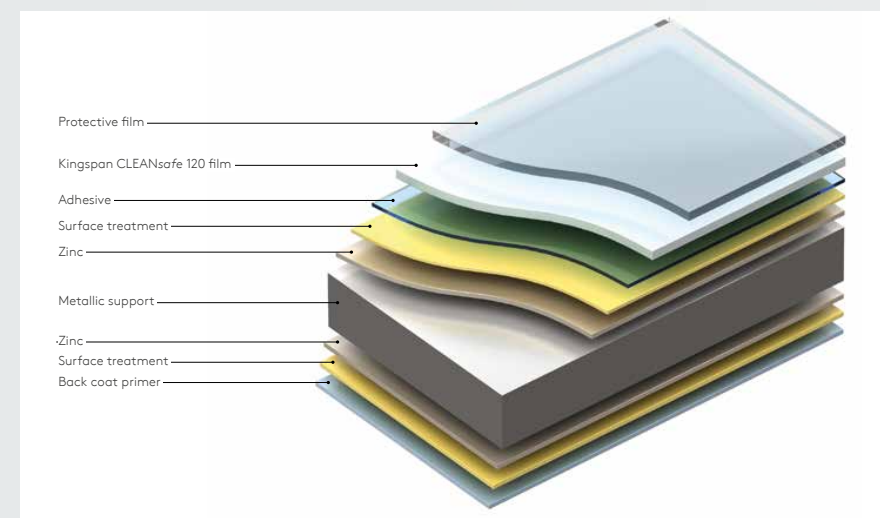
TECHNICAL FEATURES

TEST	NORM	RESULT
Coating nominal thickness	- PVC rigid film - Thickness tolerance	100 m - 200 m
Adhesion after 6mm drawing depth	ECCA T6	No film detachment
Resistance to bending	ECCA T7[1996]	1/2T
Resistance to rapid deformation	ASTM D 2794-93; (weight 2kg; height of fall 90 cm)	No detachment and breaking of film
Resistance to salt spray fog	ECCA T8:1996-ASTM B117-95 -Cold-rolled support -Hot-dip zinc support	200 hours 500 hours
Resistance to 100% relative humidity	ASTM D 2247-94	1000 hours
Pencil hardness	ECCA T4:1995 -ASTM D 3363-920	HB
Stain resistance after 16 h - Reagents	ECCA T18[1995] proc. 5.1-ASTM D 1308-87 Butter, margarine, vegetable oil, vinegar, fresh and conserved tomato, strawberries, coffee, tea, solution at 5% of NaOH, solution at 5% of surface active agents, lubricating oil and grease, solution at 10% of citric, lactic and tartaric acid, oleic acid, spinach, lemon juice, mustard, cif cream, cif liquid, lysoform liquid	Presence of marks or stains on the area in contact with fresh tomato and coffee



Brightness at 60	CCA T2[1995]-ASTM D 523-89 Finishing SA Finishing SMA Finishing GMA Finishing PVA	45 ± 5 25 ± 5 15 ± 5 30 ± 5
Artificial light fastness -temperature -lamps -cycle -reference	ASTM G53-96 55+/-3 UV-A 340 Irradiance only international blue scale	>6
Taber abrasion resistance -index of abrasion after 1000 cycles with mole type CS10, weight 500g per mole	ASTM D 2247-94	1000 hours

Note: glass value may be affected by embossing degree. The tests were carried out at the temperature of 23+/-1C, beyond what was expressly required by reference norms.



BENEFITS

- Superior anti-bacterial protection
- Most suitable option in the range for cleanrooms with the most stringent requirements
- Excellent stain resistance
- Strong resistance to 100% relative humidity
- Robust and reliable solution with superior abrasion resistance

COMPROMISES

- Potentially longer lead times than other options in the range
- More expensive solution than GT Clad Plus and Lite

APPLICATIONS



Medical Device



Healthcare



Oil & Gas



Cell & Gene



Battery



Laser & Optical

GT Clad Pro cleanroom wall solution suits a wide variety of applications in a diverse range of sectors. Whilst it may not boast the fully flush appeal of GT Clad Max, this unique tongue-and-groove system does offer many of the same benefits needed by applications with more stringent requirements.



GT CLAD PLUS

GT Clad Plus is the Guardtech Group's lower mid-level PVC wall cladding option – a hygienic, rigid system that features anti-microbial properties and delivers on both style and performance.

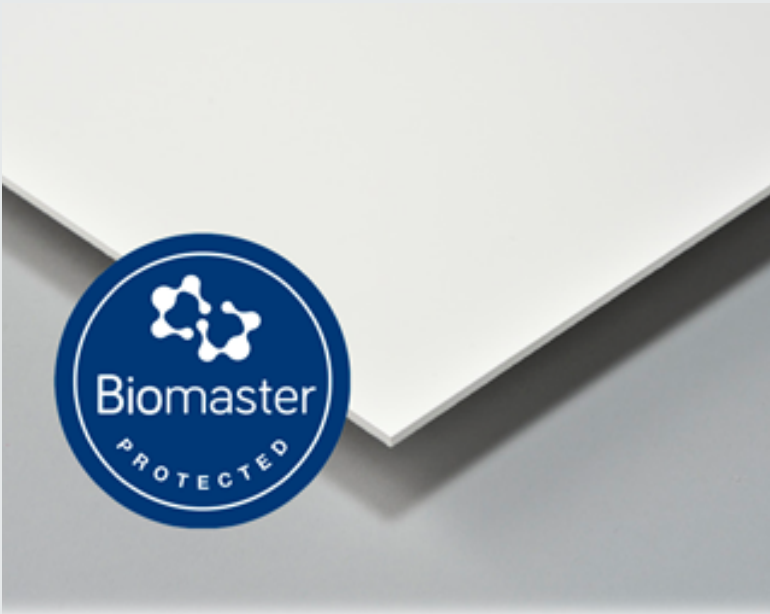


GT Clad Plus is a hygienic, rigid PVC wall cladding system using solid, extruded uPVC in a range of thicknesses, sizes, finishes and colours that boasts anti-microbial properties to enhance the level of protection for your application.

Complete with a full range of accessories and adhesives to create the perfect solution to meet all UK, EU and global hygiene, fire and building regulations.

GT Clad Plus offers a cost effective, versatile hygienic wall covering for a wide variety of environments.

Featuring built-in silver ion technology, independent tests confirm that GT Clad Plus with active anti-microbial technology effectively eliminates harmful micro-organisms within 24 hours.



TECHNICAL FEATURES	
PROPERTIES	VALUES
Specific Gravity	1.38-1.42
Vicat softening point: DIN 53460	65-68 °C
Thermal conductivity: DIN 52612	0.15 W/Mk@1mm
Thermal Expansion Coefficient: DIN 53752	0.067mm/m°C
Falling dart impact strength	93-96J
Shore hardness DIN 53505:	60
Tensile strength at yield: DIN 53455	50-55 MPa
Elongation at break: DIN 53455	130-150%
Flexural strength: DIN 53452	78-82MPa
Flexural modulus	2,600-2,800MPa
Modulus of elasticity: DIN 53457	2,800-3,000MPa
Service temperature	-10°C to +60°C
Fire Rating	Class 1 BS476: Part 7

ANTI-MICROBIAL PERFORMANCE

GT Clad Plus PVC sheets are ideal for high-care zones which must be controlled from the spread of viruses and infections and to create the ultimate hygienic food preparation areas.

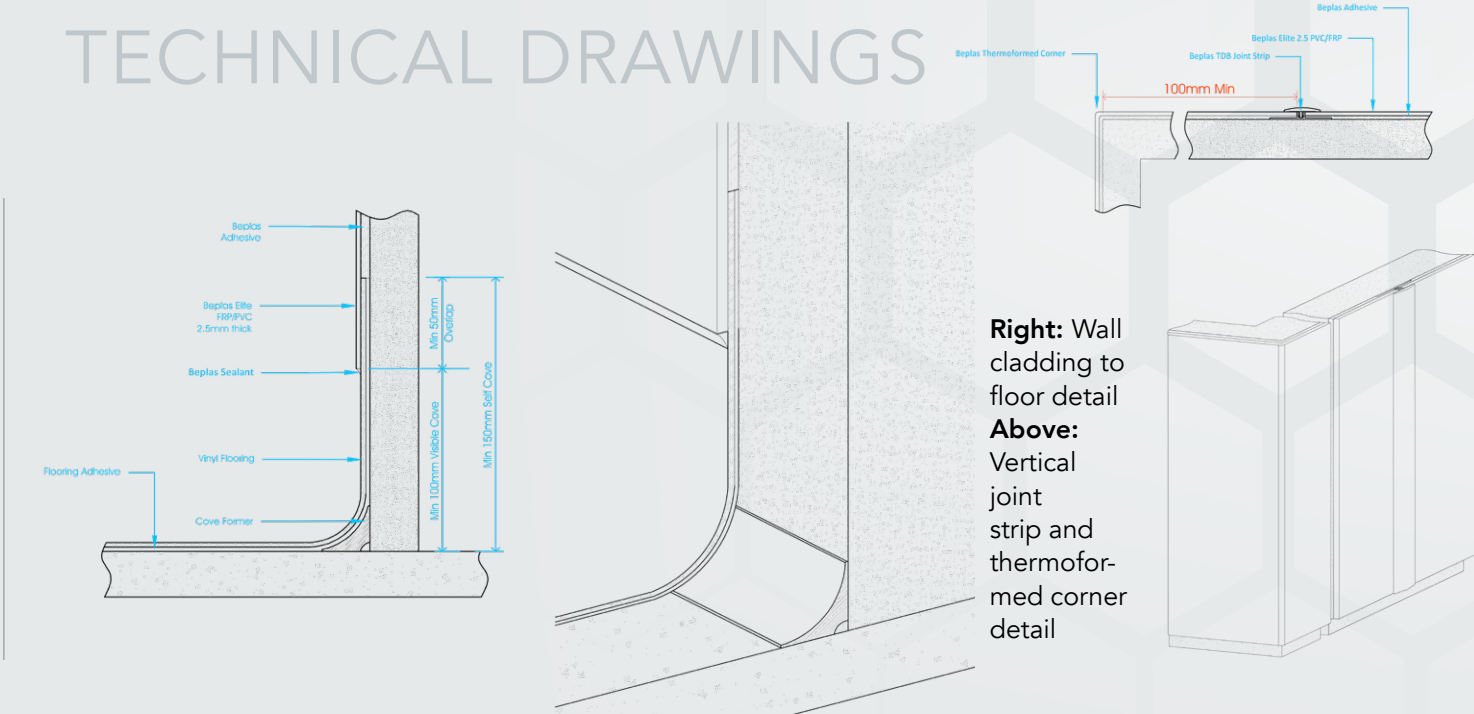
ments. Silver ions are incorporated into the bulk of the PVC mixture before the extrusion process, and improve the already existing anti-microbial activity of the rigid PVC sheets.

The active anti-microbial protection kills microbes, inhibits any growth and as a result leads to the added benefit of low maintenance requirements.

The solution now eliminates a wide variety of micro-organisms on contact – including MRSA, E. coli and Salmonella, amongst others.



TECHNICAL DRAWINGS



PROPERTIES

- SHEET SIZES:** 2440mm x 1220mm, 2750mm x 1220mm, 3050mm x 1220mm
- THICKNESS:** 2.5mm
- COLOURS:** White as standard
- FINISH:** Satin with protective film
- FIRE SAFETY:** Fire Rated to BS 476 Part 7 Class 1

KEY FEATURES

- EASY TO INSTALL & MAINTAIN**
- IMPACT RESISTANCE**
- EXCELLENT ADHESION**

BENEFITS

- Anti-microbial protection
- Non-toxic FDA approved active ingredient (food safe)
- Testing shows a 96.11% reduction in SARS-CoV-2 after six hours and 98.56% after 24 hours
- Resistance to a wide range of chemicals

COMPROMISES

- Similarly basic solution to GT Clad Lite
- Less resistant to wear and tear than some of the other options in the range
- Potentially longer lead times than GT Clad Lite
- More expensive than GT Clad Lite

APPLICATIONS



GT Clad Plus is a versatile cleanroom cladding solution suitable for a significant number of different industries using controlled environments as part of their process.



GT CLAD LITE

GT Clad Lite is the Guardtech Group’s entry-level cleanroom wall cladding option – a durable, low maintenance solution that’s easy to clean and delivers excellent chemical resistance.

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GT Clad Lite is a hygienic, rigid PVC wall cladding system using solid, extruded uPVC and is available in a range of thicknesses, sizes, finishes and colours.

This option comes with a wide range of accessories and adhesives to create the perfect solution to meet all UK, EU and global hygiene, fire and building regulations, offering a cost effective, versatile hygienic wall covering for a wide variety of controlled environments.



TECHNICAL FEATURES

MECHANICAL PROPERTIES			
PROPERTIES		UNIT	VALUES
Apparent density*	DIN 53479/ISO 1183	g/cm3	-1,43
Tensile stress at yield (tensile strength)	DIN 53455/ISO 527	MPa	≥55
Elongation at tear	DIN 53455/ISO 527	%	≥15
Flexural strength	DIN 53452/ISO 178	MPa	≥80
Compressive strength	DIN 53454/ISO 3605	MPa	≥70
Modulus of elasticity	DIN 53457/ISO 527-2/1A/50	MPa	≥3000
Notched impact strength	DIN 53453/ISO 179-lePA	KJ/m2	≥4
Impact strength	DIN 53453/ISO 179	KJ/m2	
Ball indentation hardness (358 N/30 s)	DIN 53456/ISO 2039	MPa	-100
Shore hardness	DIN 53505		82

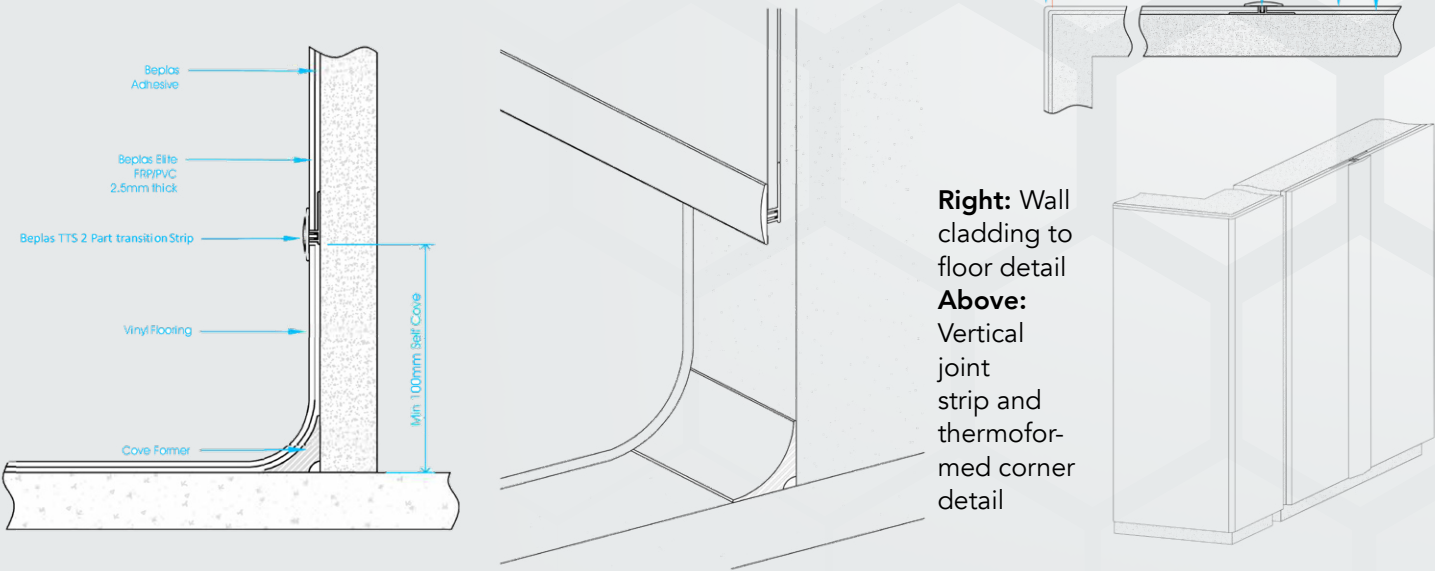
THERMAL PROPERTIES			
Vicat softening temperature	DIN 53460/ISO 306 (process B50)	°C	≥75
Deflection temperature	DIN 53461/ISO 75	°C	-68
Coefficient of linear thermal expansion from -30 °C to +50 °C	(process Ae) DIN 53752	mm/mK	0.08
Thermal conductivity from 0 °C to +60 °C	DIN 52612	W/mK	0.16

OTHER PROPERTIES			
Water absorption after 7 days	DIN 53495	%	< 0.08
Fire behaviour	DIN 4102- B 1	-	1-3 mm
	UL 94 (USA) File E100599	-	≥1mm
	BS476 Part 7 BS476 Part 6		Class 1 Class 0**

*These are standard values which apply to an average density.
**When adhered to a non-combustible substrate



TECHNICAL DRAWINGS



PROPERTIES

SHEET SIZES: 1220 x 2440mm, 2750mm*, 3050mm & 3660mm*
THICKNESS: 2.0mm, 2.5mm (other sizes & thicknesses to order)
*2.5mm only
COLOURS: White as standard
FINISH: Sheen with protective film
FIRE SAFETY: Fire Rated to BS 476 Part 7 Class 1

KEY FEATURES

20-YEAR WARRANTY
EXCELLENT CHEMICAL RESISTANCE
EASY TO THERMOFORM, DRILL AND BOND

BENEFITS

- Most cost-effective GT Clad option
- Easy to clean and durable
- Low maintenance
- Manufactured from Food Safe PVC
- Full range of fixing profiles, adhesives and silicones
- Temperature Range -10°C to +60°C
- Range of colours available

COMPROMISES

- No anti-microbial protection as standard
- The most basic option in the GT Clad range
- Not suitable for GMP environments
- Less resistant to wear and tear than some of the other options in the range

APPLICATIONS



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



QUICK-LOOK COMPARISON GUIDE

FEATURES				
More suitable for cGMP environments				
Superior anti-bacterial resistance				
Standard anti-microbial resistance				
Wide range of colour choices				
Resistant to harsh chemicals				
Resistant to abrasion/impact				
PVC construction				
100% recyclable				
Hygienic solution				
CleanSafe coating				
Vinyl construction				
				



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