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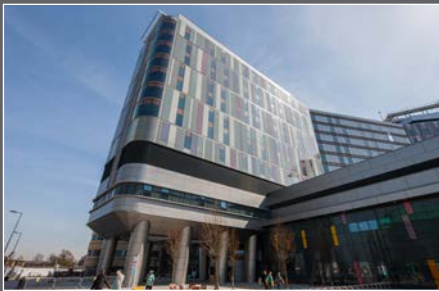
Wall Protection Systems

Accessories | wall, corner and door protection

GRADUS

GRADUS

Our products are installed in many prestigious buildings. With customers ranging from designers and architects to contractors and building owners you can trust Gradus to provide products that work.



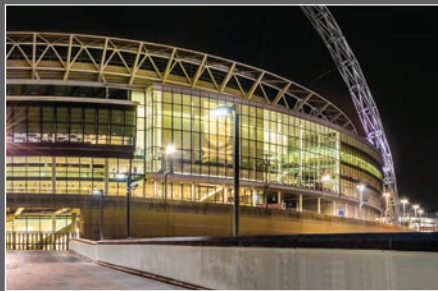
Queen Elizabeth University Hospital,
Glasgow



Liverpool Library, Liverpool



Royal Victoria Infirmary, Newcastle



Wembley Stadium, London



The Christie, Manchester



Kent Institute of Medicine & Surgery,
Maidstone

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Why Gradus

In 1998 Gradus introduced wall protection systems to complement its contract interior portfolio and since that time has demonstrated impressive growth in healthcare, education and commercial office applications.

With significant project expertise and a full installation service, Gradus is able to provide expert support and advice from design through to specification and installation.

In 2017 Gradus launched a new range of PVC-u wall protection profiles, including wall cladding, wall guards, handrails and corner guards. These new profiles, combined with the existing ranges of hygienic wall cladding, stainless steel products, heavy duty rubber and timber, offer one of the most comprehensive wall protection ranges on the market.

 Gradus is the largest UK manufacturer of wall protection profiles. Gradus controls the design of profiles from initial concept through to finished product, including specialist CAD design and the manufacture of tooling. This ensures that quality is maintained and provides customers with an efficient, flexible and fast service.





Services

The Gradus Knowledge:

CPD - Gradus offers comprehensive RIBA assessed CPD seminars covering specification, legislation, safety, performance and aesthetics.

Seminar - An informal opportunity for Gradus to bring an exhibition of products directly to you. Flexible and informative, they can be arranged at a date and time to suit you.

Website

Visit www.gradus.com to access all products and services and to access downloads such as AutoCAD drawings, NBS Specifications, BIM Objects, maintenance and installation instructions.

Project Management

Gradus Contracts works closely with a wide range of end users and main contractors to provide a professional, expert service to its clients. The contracts team will manage the project from survey and specification through to installation and hand over, removing risk and saving time for the customer.

A full supply and installation service is offered for all Gradus protection systems.

Samples

Call Gradus or build a design board online and get all the samples you need within 24 hours.

Tel: 01625 428922
or email: imail@gradus.com

An introduction to wall protection

Wall protection products are designed to protect interior building surfaces from damage caused by the general flow of wheeled and pedestrian traffic.

Specifying wall protection can help to reduce the levels of everyday damage to building interiors, minimise the need for on-going repair and maintenance, reduce life cycle costs, improve building accessibility and enhance the long term appearance of building interiors.

Why use Gradus wall protection systems?

Gradus wall protection systems comprise a range of complementary products designed to reduce damage to surfaces by absorbing and deflecting impact. Within a typical commercial building, a combination of products is often necessary to effectively protect interiors from damage which can occur through a multitude of sources including pedestrians, wheelchairs, beds, chairs, trolleys, luggage and other mobile equipment.

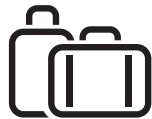
Benefits of specifying Gradus wall protection include:

- Reduced maintenance, repair and refurbishment costs through prevention of damage to wall coverings, paintwork, plasterwork, woodwork and doors.
- Improved aesthetics and design can be achieved by utilising products that are designed to offer protection in colours and finishes that complement practically any design scheme.
- All colours within the range have been measured for Light Reflectance Values to assist with ensuring visual contrast is achieved where necessary.
- Full supply and installation service offer through our experienced contracts department.
- Products are designed to help meet specification guidelines including Building Regulations 2010 - Approved Document M and Approved Document K; BS 8300-2:2018, HBN 00-09 and HBN 00-03 (see page 75 for details).

Typical Causes of Damage



Trolleys



Luggage



Wheelchairs



Beds

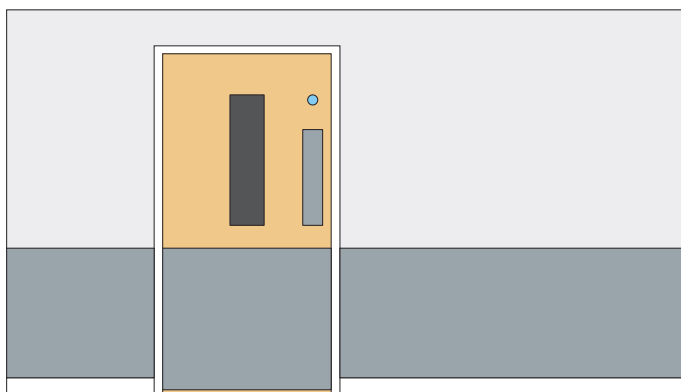


Pedestrians



Vehicles

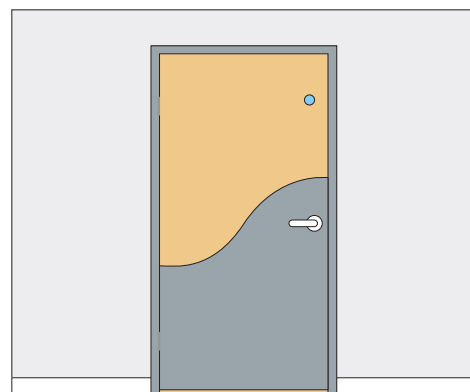
Gradus Product Guide



Wall Cladding Systems

Gradus wall cladding systems are available in a range of sizes, colours, finishes and textures to accommodate specification requirements. Bespoke cutting and design options available. Finishing options include thermoforming, a range of trims, colour matched silicone sealant and weld rod.

See Section 1 - page 24.



Door Protection

Doors and door frames are vulnerable to damage due to the constant flow of pedestrian and wheeled traffic. Gradus offers a variety of door protection solutions to prevent damage, conceal existing damage and coordinate or contrast with other elements of the building.

See Section 5 - page 66.



Wall Guards & Wall Strips

Gradus wall guards and wall strips are available in various styles and sizes to correspond to the needs of different environments. Wall guards are robust in design and used in areas where frequent levels of impact occur. Wall strips are a cost effective alternative to protect surfaces from scuffs and scrapes.

See Section 2 - page 40.



Bed Head Protectors

Gradus bed head protectors provide maximum protection against damage caused by frequently moved beds. They are designed to help prevent damage to walls and wall mounted equipment from beds that are continuously moved up and down as well as in and out of busy hospitals and nursing homes.

See Section 2 - page 46.



Handrails & Combination Rails

Gradus handrails & combination rails are designed to offer pedestrian guidance and support, in addition to a degree of surface protection against damage caused by wheeled traffic.

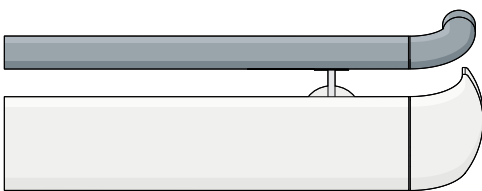
See Section 3 - page 50.



Corner Protection

Corners are one of the most vulnerable areas of a building and when left exposed are often damaged from everyday wheeled and pedestrian traffic. Gradus corner guards are available in a variety of material types, styles and heights and are ideal for reducing maintenance costs and maintaining interior appearances.

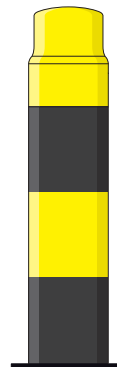
See Section 4 - page 60.



Dual-Rail

The Gradus Dual-Rail combines a handrail and wall guard linked together with a specialist bracket to provide an ideal solution for environments where pedestrian support is required in addition to protection against impact.

See Section 3 - page 56.



Floor Mounted Protection

Gradus provide a range of floor rails, posts and bollards to protect building interiors and equipment from potential damage in both front and back-of-house applications. These products provide both a visual and physical barrier to impact and also help to minimise damage when impact does occur.

See Section 6 - page 71.

Selecting the right product

This section demonstrates typical applications of wall protection products within commercial building environments and uses illustrative examples of how wall protection can be specified in various zones within a building. These examples can be adjusted to coordinate with the requirements of specific environments or design themes in a range of market sectors including healthcare, education, hospitality, care home, commercial office and retail.

Building Zones

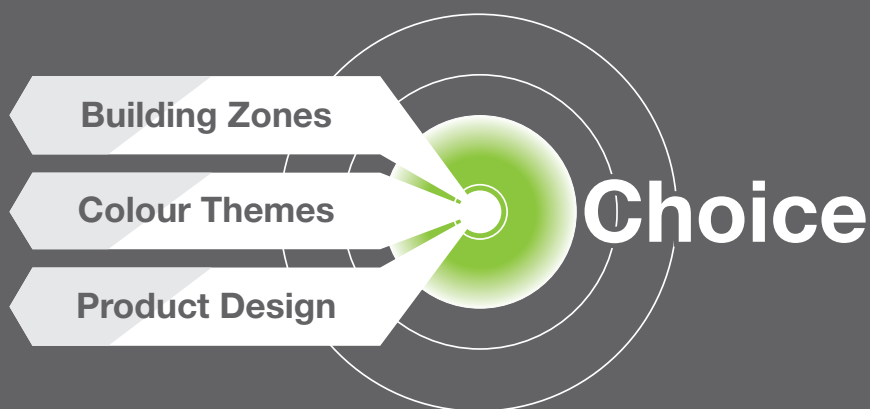
- Receptions & Entrances
- Corridors & Circulation Areas
- Hospital Accommodation
- Clinical Areas
- Commercial Kitchens
- Accommodation
- Offices & Classrooms
- Manufacturing
- Service Areas

Colour Themes

Gradus wall protection products are available in an extensive range of colour, material and design options.

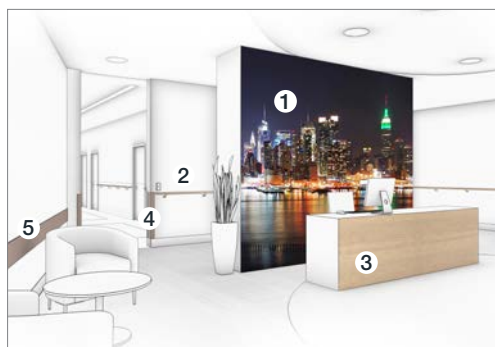
Product Design

A full range of product options designed to provide functional and aesthetic solutions for working environments.



Receptions & Entrances

The design and accessibility of a main entrance is essential in helping to create positive impressions as visitors enter a building. In addition to aesthetics, building entrances also need to be practical in design to facilitate building access and manage the flow of staff, visitors and deliveries.



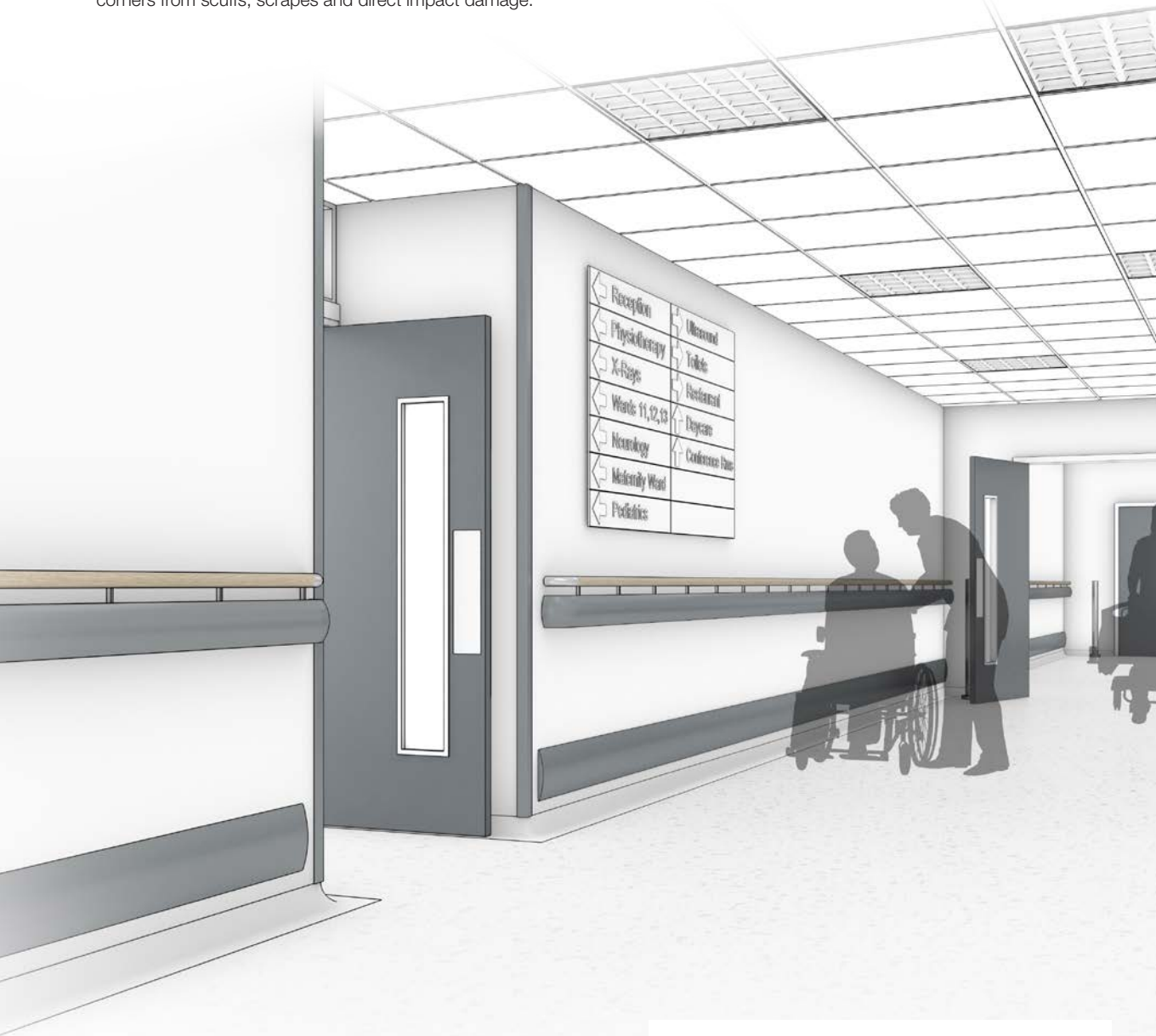
Example: Reception Area

Waiting areas are often subject to scuffs and scrapes from tables, chairs and other movable objects. Corners and edges are also vulnerable to damage from deliveries and other wheeled traffic entering the building.

1. SureProtect Design® Wall Cladding (print option) - p.31
2. Timber Handrail - p.54
3. SureProtect Design® Wall Cladding (wood effect) - p.28
4. Standard PVC-u Corner Guard - p.62
5. Wall Strip - p.43

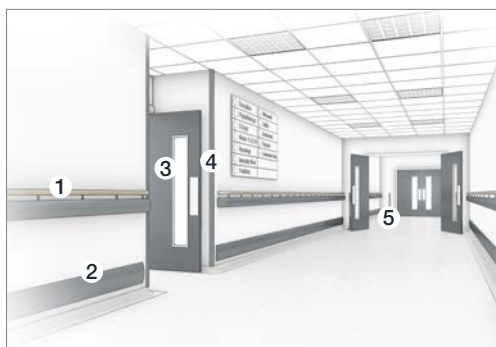
Corridors & Circulation Areas

Corridors and circulation areas are amongst the busiest parts of a building and often have to deal with a heavy flow of both pedestrian and wheeled traffic, which then filters into other parts of the building. This high level of activity often requires a robust protection system in place to protect vulnerable walls and corners from scuffs, scrapes and direct impact damage.



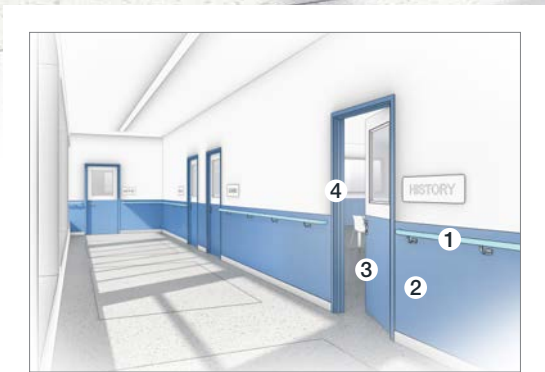
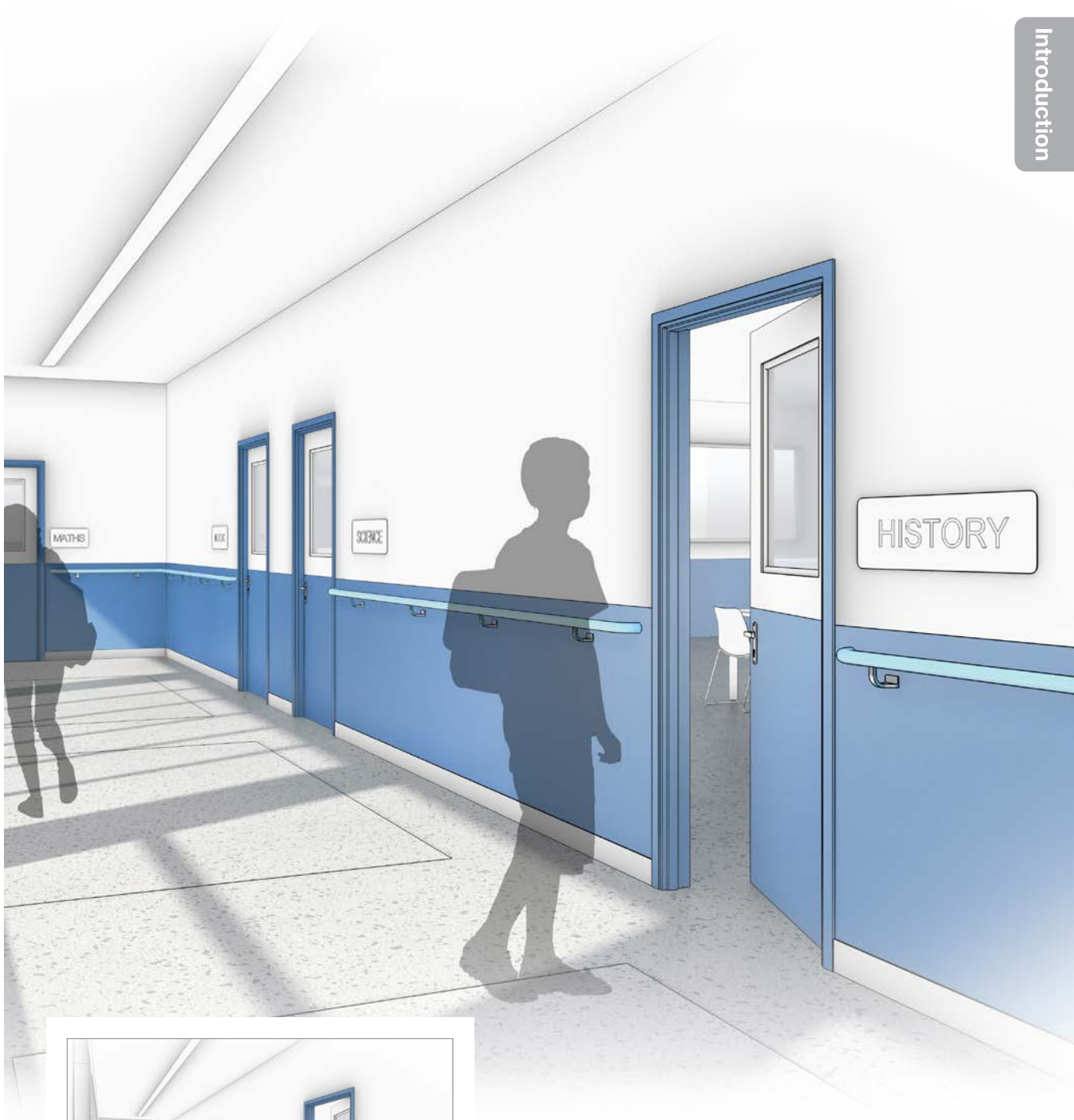
Example: Hospital Corridor

Pedestrian foot traffic including patients, visitors and staff; and wheeled traffic including wheelchairs and other mobility assistance devices, beds, trolleys, laundry carts and mobile equipment are all potential causes of damage in hospital corridors.



- 1. Dual Rail - p.56
- 2. Wall Guard - p.40
- 3. Door Face Protection - p.66
- 4. High Impact PVC-u Corner Guard - p.61
- 5. Stainless Steel Bollard - p.73

Corridors & Circulation Areas



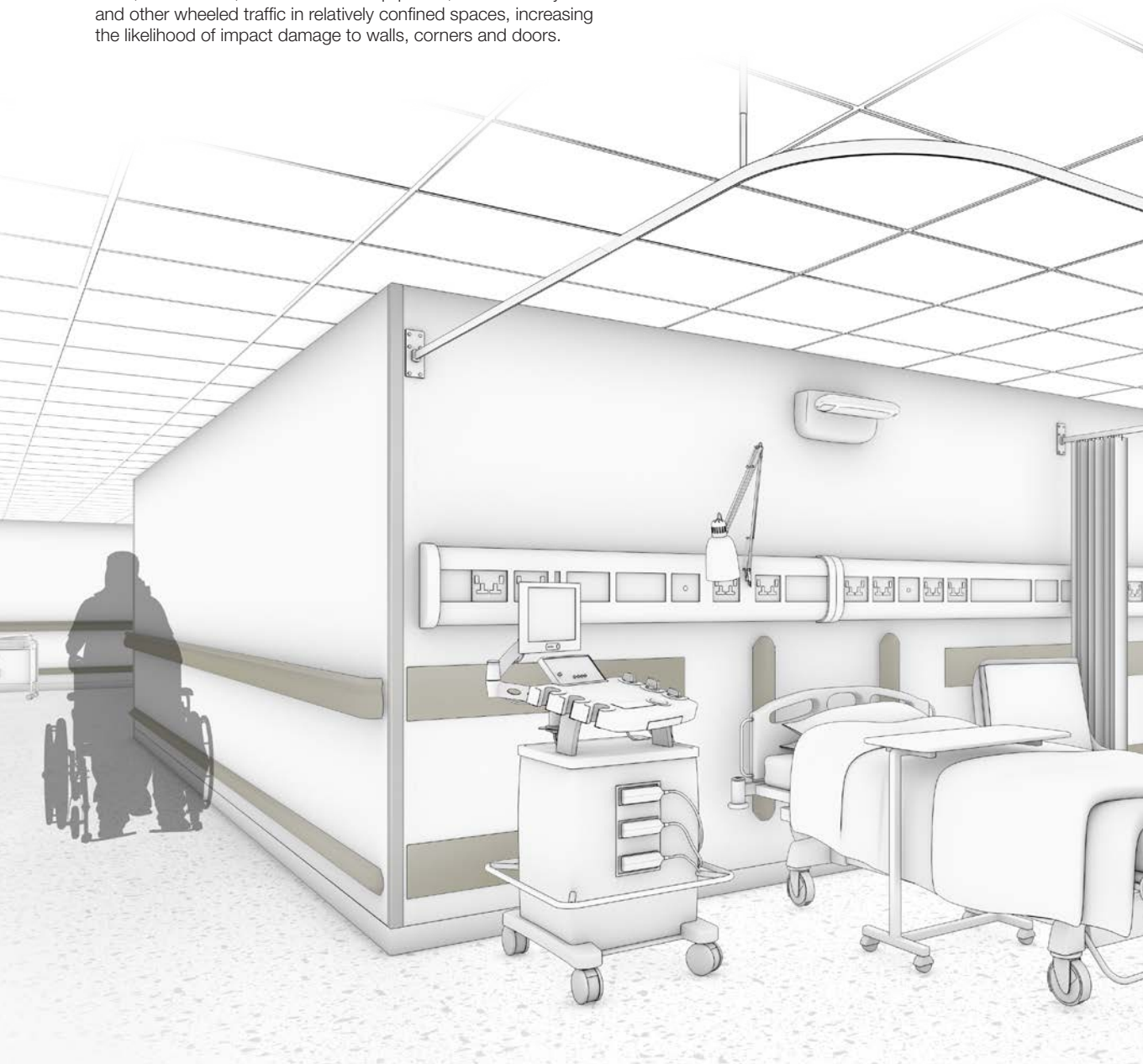
Example: School Corridor

Scuffs and scrapes from students with school bags leaning against walls and generally navigating throughout the building are common causes of damage in school corridors.

- 1. Handrail - p.50
- 2. SureProtect Endure® Wall Cladding - p.26
- 3. Door Face Protection - p.66
- 4. Door Frame Protection - p.70

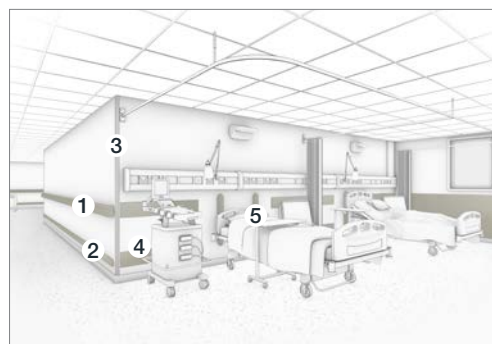
Hospital Accommodation

Ward and hospital accommodation is subject to high volumes of activity. Hospital staff are regularly tasked with manoeuvring beds, wheelchairs, mobile medical equipment, service trolleys and other wheeled traffic in relatively confined spaces, increasing the likelihood of impact damage to walls, corners and doors.



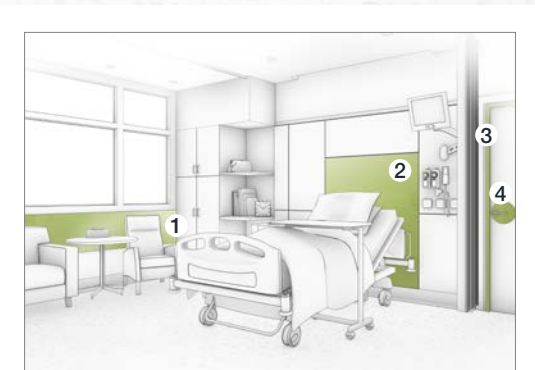
Example: Ward

Hospital patients are regularly wheeled in and out of wards in wheelchairs and mobile beds which risk gouging wall surfaces if a collision were to occur. Other typical causes of damage include mobile medical equipment and service trolleys.



- 1. Combination Rail - p.58
- 2. Wall Guard - p.40
- 3. High Impact PVC-u Corner Guard - p.61
- 4. Wall Strip - p.43
- 5. Bed Head Protectors - p.46

Hospital Accommodation



Example: Hospital Room

Typical causes of damage: hospital beds are frequently moved and adjusted to accommodate patients which can cause scuffs and scrapes, whilst other movable objects such as visitor chairs and tables can cause similar damage.

1. SureProtect Endure® Wall Cladding (rubrail) - p.30
2. SureProtect Endure® Wall Cladding - p.26
3. Door Frame Protection - p.70
4. Door Face Protection - p.68

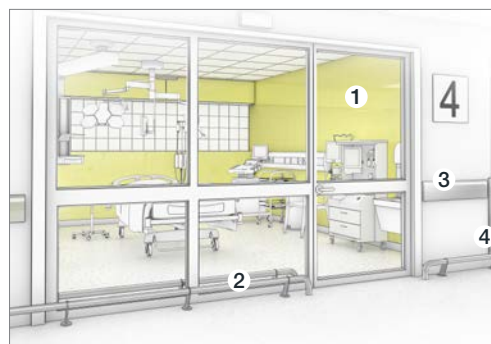
Clinical Areas

Clinical environments require impervious surfaces that are smooth and easy-to-clean, with a resistance to impact damage. A further consideration when specifying building materials in clinical environments are that they will not be physically affected by cleaning chemicals.



Example: Intensive Care Unit

Strict hygiene standards in intensive healthcare environments require robust building materials that can withstand intensive cleaning. Mobile medical equipment is frequently moved around in ICU areas, increasing the potential for damage.



1. SureProtect Pure® Wall Cladding - p.32
2. Stainless Steel Floor Rail - p.72
3. Stainless Steel Wall Guard - p.44
4. Stainless Steel Corner Guard - p.64

Commercial Kitchens

Commercial kitchens and food preparation areas require frequent and thorough cleaning to maintain food hygiene standards. Smooth and impervious surfaces are recommended for kitchen walls as an alternative to traditional ceramic tiles and grouting that can harbour bacteria and crack under impact.



Example: Commercial Kitchen

Busy kitchens and canteens are routinely exposed to bacteria and therefore require rigorous cleaning schedules. Movable equipment and catering trolleys are also a potential cause of damage.

1. SureProtect Pure® Wall Cladding - p.32
2. Stainless Steel Wall Guard - p.44
3. Stainless Steel Door Face Protection (pushplate) - p.67
4. Stainless Steel Door Face Protection (kickplate) - p.67
5. Stainless Steel Corner Guard - p.64
6. Stainless Steel Cladding - p.36

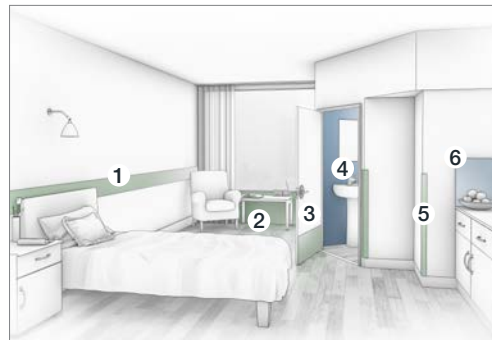
Accommodation

Wall, door and corner protection specified for bedroom accommodation is often required to integrate with the design theme of the room whilst protecting the interior from everyday wear and superficial damage. It is important to find a balance between functionality and aesthetics.



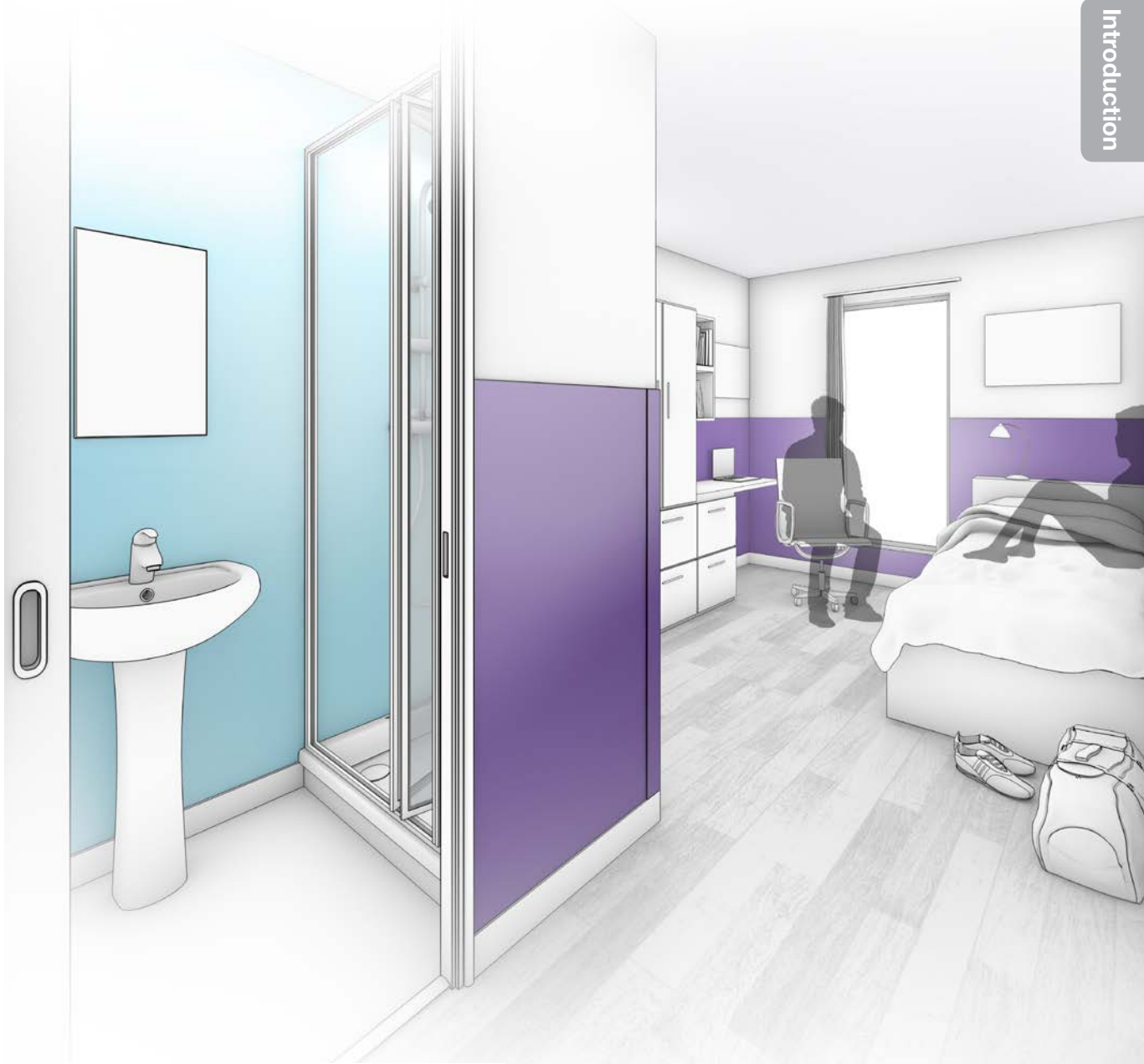
Example: Care Home Bedroom

Furniture, wheelchairs and other mobility assisting equipment as well as trolleys and equipment used by staff can all be causes of damage.



1. SureProtect Endure® Wall Cladding (rubrail) - p.30
2. SureProtect Endure® Wall Cladding - p.26
3. Door Face Protection - p.66
4. SureProtect Pure® Wall Cladding wet room - p.32
5. Standard Corner Guard - p.62
6. SureProtect Pure® Wall Cladding (splashback) - p.32

Accommodation



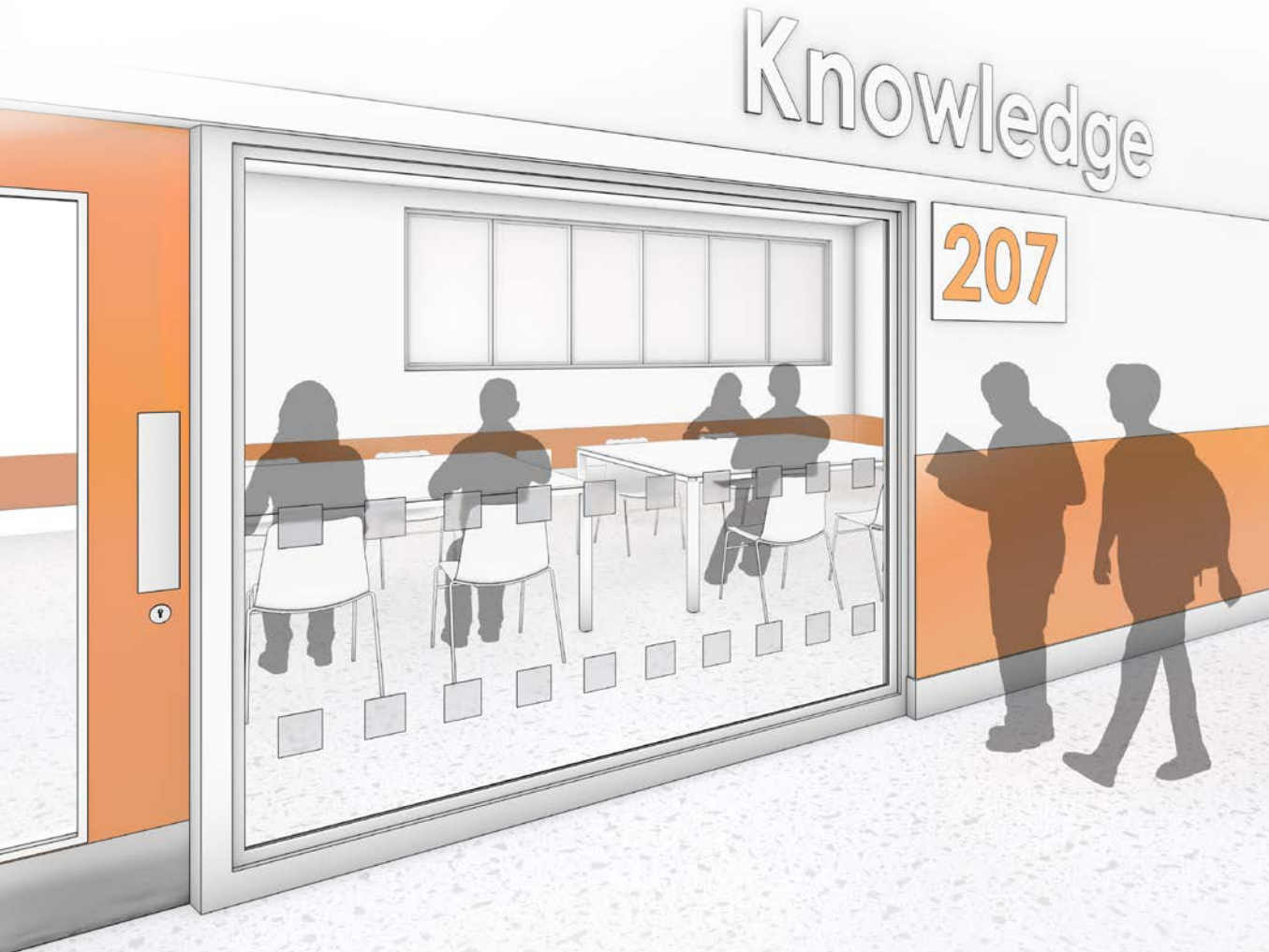
Example: Accommodation

Typical causes of damage include general wear from movable objects such as luggage and furniture scuffing lower sections of wall space.

- 1. SureProtect Pure® Wall Cladding - p.32
- 2. SureProtect Endure® Wall Cladding - p.26
- 3. Standard Corner Guard - p.62

Offices & Classrooms

Offices, classrooms, meeting rooms and other working environments are typically required to be practical in design and offer a level of protection from everyday scuffs and scrapes. Wall protection products can be utilised to encourage engagement and improve morale by creating stimulating and vibrant spaces using contemporary design themes.



Example: Classroom

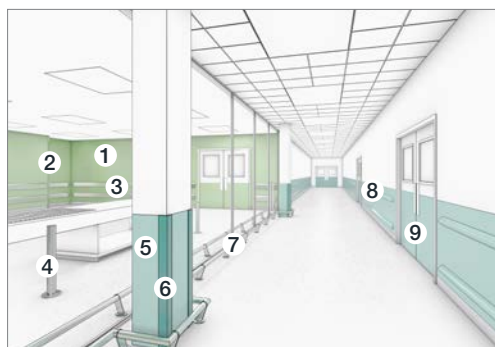
Walls and corners are often subject to localised damage caused by students leaning or pushing chairs and tables against walls. Damage is generally limited to scuffs and scrapes from everyday pedestrian traffic and movable objects within the room.



1. Door Face Protection - p.66
2. Stainless Steel Door Face Protection (pushplate) - p.67
3. Stainless Steel Door Face Protection (kickplate) - p.67
4. SureProtect Endure® Wall Cladding - p.26

Manufacturing

Manufacturing plants require high performance Wall Protection systems to protect walls from abrasion and damage caused by wheeled traffic and general wear and tear. High Impact corner guards will also help to protect the most vulnerable parts of the building.



Example: Food and Pharmaceutical Manufacturing

Strict hygiene standards in food and pharmaceutical manufacturing units require robust building materials that can withstand extensive cleaning. Mobile equipment like trolleys are frequently moved around increasing the potential of damage to walls and corners.

1. SureProtect Pure® Wall Cladding - p.32
2. Stainless Steel Corner Guard - p.64
3. Stainless Steel Wall Guard - p.44
4. Stainless Steel Bollard - p.73
5. SureProtect Endure® Wall Cladding - p.26
6. PVC-u Corner Guard - p.62
7. Stainless Steel Floor Rail - p.72
8. PVC-u Wall Guard - p.40 / SureProtect Endure® Wall Cladding - p.26
9. SureProtect Endure® Door Face Protection - p.67

Service Area

Back-of-house environments including service corridors, loading bays and underground car parks, can be at risk of extensive damage caused by wheeled and vehicular traffic. This level of traffic often requires a robust solution to protect buildings and equipment from damage whilst also helping to improve pedestrian safety.



Example: Service Area

Wheeled traffic such as industrial bins and carts are capable of causing significant damage when accidental collisions occur. Motorised traffic including delivery vans and motorised trolleys are also potential hazards in service areas, where vehicles are operating in confined areas.



1. Rubber Corner Guard - p.65
2. Rubber Wall Guard - p.45
3. Handrail System (contact Gradus for information)
4. Steel Core Protection Post - p.74
5. Aluminium Chequer Plate - p.36



Tonal Contrast Guide

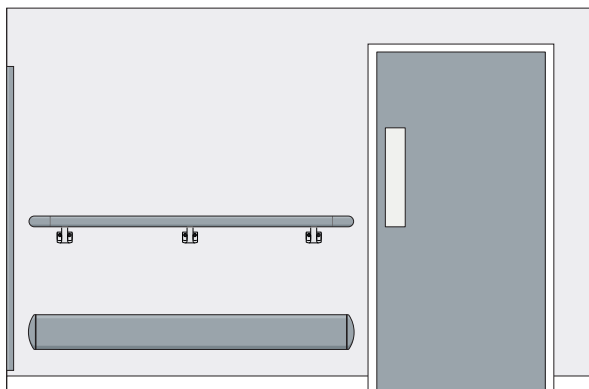
Light Reflective Values

Products can be selected to either visually contrast with surrounding wall surfaces or to blend in with the décor. The type of building, the standards and the type of products being used will influence the selection of colour.

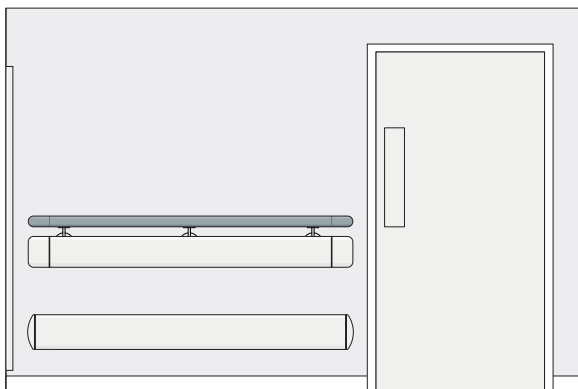
All relevant Gradus Wall Protection colours have been measured to provide Light Reflective Values (LRV's). Colours selected should have an LRV that is 30 points different from the surrounding surface.

Improving access to buildings for all users in line with the Equality Act 2010 is fundamental to ensure that buildings are designed or refurbished to create an inclusive environment. (See Specification Guidelines page 75)

Contrast



Blend



- **Handrails/Dual-Rail/Combination Rails** – need to be easily identified and located for support and wayfinding. Particularly important in healthcare or elderly care environments where there is generally a higher percentage of users with visual impairments.
- **Corner guards** – can be used to highlight corners and building elements such as pillars that project into walkways in order to create safe navigation.
- **Wall guards** – contrasting colours can be used as navigation aids or to denote different departments within a building.
- **Wall cladding** – wall surfaces should visually contrast with both floor and ceiling colours in order that the size and shape of the room can be accurately interpreted by users with visual impairments.
- **Door & frame protection** – colour can be used to make doors stand out for access and navigation.
- **Wall guards** – colours that match the wall provide a less institutional feel, reduce visual interference and avoid confusion in people with visual impairments.
- **Corner guards** – can provide protection without detracting from the interior décor.
- **Door & frame protection** – blending colours can be selected to disguise building elements e.g. blend doors into the background in hospital environments where doors are usually locked or are for staff use only, so as not to attract patients or building users.
- **Dual-Rail** – allows the handrail element to be selected to contrast with the background whilst the wall guard can be blended with the background.

Colour Contrast and Dementia Inclusive Environment

Colour and contrast can both be used to enable people with sight loss and dementia to identify different rooms and key features inside and outside of their homes. Good use of colour and contrast can facilitate independent living, for example, by supporting people to find their way around and to use fixtures and facilities unassisted.



The Dementia Services Development Centre at the University of Stirling have undertaken a review of the Gradus Wall Protection products and have rated its design in relation to dementia design principles and its usability within a dementia-inclusive environment.

Wall Protection Colour Availability

Colour	Page	SureProtect Cladding				Handrails, Dual Rail & Combination Rail										Wall Guards & Strips		Corner Guards		BHP	
		SureProtect Pure® (Hygienic)	SureProtect Endure® SPE20 Kickplates & Rubrails	SureProtect Endure® SPE15 Kickplates & Rubrails	SureProtect Design®	Handrail SHR40P	Handrail SHR40W	Handrail SHR40S	Handrail SSHR42	Handrail THR450	Dual Rail D200P	Dual Rail D200T	Dual Rail D200W	Dual Rail D200S	Combination Rail CHR160	WGS200, WGA100	WGS125 WST150, WST200	CGH5090, CGH7590 & CGH75135	CGS2590, CGS5090 & CGS7590	Adjustable-angle	Bed Head Protector BHPA100
038 Polar				•																	
001 Chalk			•	•						•	•	•	•	•	•	•	•	•	•	•	•
031 Alum			•																		
032 Flint			•	•																	
004 Granite			•	•																	
011 Pebble			•	•																	
002 Gravel			•	•																	
035 Hessian			•	•																	
003 Clay			•	•																	
014 Cinnamon			•																		
009 Sienna			•																		
010 Bark			•																		
005 Shale			•	•																	
006 Ivory			•	•																	
007 Wicker			•																		
008 Sand			•																		
013 Greige			•																		
033 Slate			•																		
036 Black			•	•																	
021 Straw			•																		
022 Apricot			•																		
027 Melon			•																		
028 Poppy			•																		
034 Rose Quartz			•																		
015 Lavender Grey			•																		
030 Iris			•																		
029 Garnet			•																		
016 Glacier			•																		
018 Azure			•																		
017 Bluebell			•																		
020 Denim			•																		
024 Bamboo			•																		
023 Meadow			•																		
025 Emerald			•																		
019 Ultramarine			•																		
White			•																		
Platinum			•																		
Champagne			•																		
Peppermint			•																		
Iceberg			•																		
Duck Egg			•																		
Porcelain			•																		
Putty			•																		
Cotton			•																		
Aqua			•																		
Pearl			•																		
Blueberry			•																		
Iron			•																		
Sorbet			•																		
Olive			•																		
Sage			•																		
Onyx			•																		
Fuchsia			•																		
Spice			•																		
Chilli			•																		
Plum			•																		
060 Maple					•																
061 Beech					•																
062 Light Oak					•																
065 Stripped Pine					•																
067 Wenge					•																
068 Smoky Cedar					•																
069 Brown Cedar					•																
080 Silver					•																
081 Copper					•																
082 Gold					•																
401 Ash										•											
402 Oak										•											
403 Maple										•											
406 Sapele										•											
Silver Anodised																					
Stainless Steel																					

Colour Availability - PVC-u Profiles & SureProtect Endure®

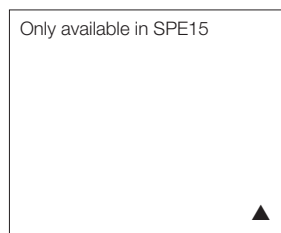
Standard Colours

35 standard colours provide a colour choice to suit virtually any design scheme, from healthcare and education environments through to leisure and commercial office applications. Refer to the colour chart on page 21 for details of specific product availability.

SPE20 sheet size 3.0m x 1.3m x 2.0mm Thickness. **Available in all colours**

▲ **SPE15** available in sheet size 2.44m x 1.22m x 1.5mm Thickness

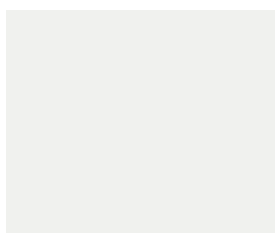
Natural



⊕ 038 Polar LRV: 80.14 NCS: 1002-B ▲



⊕ 001 Chalk LRV: 87.51 NCS: 0500-N ▲



031 Alum LRV: 71.91 NCS: 1000-N



032 Flint LRV: 43.70 NCS: 3000-N ▲



004 Granite LRV: 24.07 NCS: 5502-B ▲



011 Pebble LRV: 59.08 NCS: 2005-R80B ▲



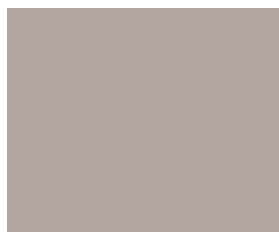
002 Gravel LRV: 53.71 NCS: 2502-Y ▲



035 Hessian LRV: 35.79 NCS: 4010-Y30R ▲



⊕ 003 Clay LRV: 33.86 NCS: 4000-N ▲



014 Cinnamon LRV: 42.30 NCS: 3005-Y80R



009 Sienna LRV: 26.67 NCS: 4010-Y70R / 4005-Y70R



010 Bark LRV: 16.61 NCS: 6005-Y80R



⊕ 005 Shale LRV: 17.88 NCS: 6500-N / 6502-Y ▲



⊕ 006 Ivory LRV: 81.98 NCS: 0505-Y30R ▲



007 Wicker LRV: 70.36 NCS: 0510-Y30R



008 Sand LRV: 52.26 NCS: 2010-Y30R



013 Greige LRV: 38.97 NCS: 3005-Y20R



033 Slate LRV: 7.03 NCS: 8005-R80B

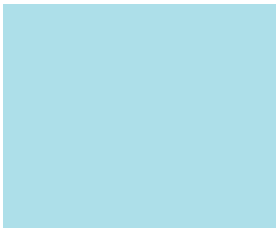


036 Black LRV: 5.08 NCS: 8502-B ▲

⊕ Popular colours stocked in depth

NB: Polar available in standard corner guards see pages 21 & 62 and high impact corner guards see pages 21 & 61

Colour

			
021 Straw LRV: 75.21 NCS: 0530-Y / 0530-Y10R	022 Apricot LRV: 60.68 NCS: 0550-Y20R	027 Melon LRV: 38.00 NCS: 1060-Y50R	028 Poppy LRV: 16.31 NCS: 1080-R
			
034 Rose Quartz LRV: 52.08 NCS: 1515-R20B	015 Lavender Grey LRV: 37.18 NCS: 3010-R60B	030 Iris LRV: 18.61 NCS: 4040-R50B	029 Garnet LRV: 10.43 NCS: 4040-R20B
			
016 Glacier LRV: 59.27 NCS: 1020-B	018 Azure LRV: 45.14 NCS: 1040-R90B	017 Bluebell LRV: 36.50 NCS: 2030-R70B	020 Denim LRV: 16.91 NCS: 4040-R20B
			
024 Bamboo LRV: 54.74 NCS: 1040-G50Y	023 Meadow LRV: 54.63 NCS: 1030-G20Y	025 Emerald LRV: 29.53 NCS: 3030-B90G / 3030-B70G	019 Ultramarine LRV: 27.39 NCS: 3040-B20G

Textured Finish

Textured and through coloured to conceal the effects of impact and abrasion.

Colour Matching

Important note: Due to the limitations of the printing process, colours within this catalogue should not be relied upon for colour matching. An accurate colour match can only be achieved by requesting the relevant product sample(s).

Light Reflectance Values

All Gradus wall protection colours have been measured for Light Reflectance and the Value (LRV) is detailed below each colour (values have been measured using the CIE Y value in accordance with BS 8493:2008+A1:2010). LRVs allow tonal contrast to be achieved between different surfaces to highlight features (e.g. handrails or door furniture), identify hazards or provide wayfinding.

NCS Colour References

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Section 1

Wall Cladding Systems

Information on a full range of protective cladding systems covering hygienic, decorative and heavy duty options.

Introduction

Wall cladding provides a durable and defensive layer designed to protect large surfaces from scuffs and scrapes, generally caused by pedestrians and movable objects such as chairs, trolleys and tables.

Gradus offers a choice of wall cladding in a range of materials, colour options and finishes to coordinate with most interior design schemes and can be used in a range of applications.

Bespoke cutting and designs

Selected wall cladding can be cut or formed into rubrails, kickplates & pushplates, door protection, corner protection and other bespoke solutions which enables functionality to be combined with aesthetics (see individual product pages for details). For lead times and quotations for bespoke cutting and forming, contact Gradus Technical Support on 01625 428922.

Benefits of wall cladding

Durability – provides high resistance to impact damage. Selecting products with an embossed finish helps to conceal the effects of impact and abrasion. Recommended products - SureProtect Endure® and Aluminium Chequer Plate.

Hygiene – creates an impermeable barrier to moisture and bacteria. Inert materials minimise the growth of bacteria. A smooth, seamless finish is recommended for critical clean areas. Recommended product - SureProtect Pure®.

Aesthetics – enhances the appearance of building interiors. Choose to blend or enhance buildings with a variety of materials, colour options, patterns and styles. Contemporary designs included in the range help to create attractive and stylish interiors. Recommended product - SureProtect Design®.

Product options

Gradus offers a selection of high performance wall cladding systems, offering excellent surface protection and suitable for a wide range of applications.

SureProtect Endure®



- Durable PVC-u solution designed to work as a stand-alone product or can be combined with other Gradus wall protection products to create a more comprehensive wall protection system.
- Through coloured and textured to conceal the effects of impact and abrasion.
- Ideal for busy environments such as corridors and circulation areas, canteens, classrooms and waiting areas.

SureProtect Design®



- PVC-u sheet featuring modern, stylish designs to enhance building interiors whilst still offering excellent surface protection.
- Ideal for applications where aesthetics are important such as reception areas, leisure facilities, hotel lobbies, retirement homes and university campuses.

SureProtect Design® Bespoke Print Option



- Custom wall cladding solution by digitally printing your photograph/graphic onto the back of the panel.
- The image is printed to the back of a clear textured sheet so is fully protected from scuffs and scrapes offering design flexibility and a robust, easy to clean durable Wall Protection system.
- Prints can be applied to multiple sheets as a continuous image.

SureProtect Pure®



- Comprehensive, hygienic PVC-u cladding system.
- Smooth, easy to clean surface creates an impermeable barrier to moisture and bacteria whilst also offering excellent resistance to impact damage.
- Ideal for: operating theatres, healthcare environments, commercial kitchens, sport and leisure facilities, food and pharmaceutical manufacturing facilities, laboratories, dentist practices, veterinary surgeries and bathrooms.

Stainless Steel Sheet



- Robust, durable hygienic material.
- Heat resistant.
- Ideally suited for clinical areas, splashbacks and areas exposed to heat.

Aluminium Chequer Plate



- Robust, durable material featuring embossed chequer pattern to conceal the effects of any surface damage caused by wheeled traffic. Suitable for both interior and exterior environments.
- Ideally suited for use in areas subject to frequent, heavy wheeled traffic e.g. service corridors, loading areas and car parks.

SureProtect Endure® Wall Cladding



SureProtect Endure® PVC-u sheet is through coloured and textured to conceal the effects of impact and abrasion. It can be specified as a stand-alone product or be combined with other Gradus wall protection products to create a comprehensive protection system.

Specifying SureProtect Endure® helps to reduce the need to repair and re-paint wall surfaces and with minimal maintenance, optimises the appearance retention of the building interior. It is commonly specified in environments exposed to high levels of pedestrian traffic such as corridors and circulation areas, canteens, classrooms and waiting areas.

Information

- Supplied in sheet form with the option of finishing trims, silicone sealant and thermoforming
- Option to cut or form into rubrails, kickplates and pushplates, door protection, corner protection and other bespoke solutions
- Reaction to fire classification: B-s3, d0
- Resistance to cleaning chemicals
- Textured PVC-u sheet available in a choice of 35 colours. See pages 22 - 23

SureProtect Endure® sheet dimensions

SPE20 Sheet

- Thickness – 2mm
- Sheet sizes – 3.0m x 1.3m
- Bespoke sizes and shapes also available – contact Gradus for more information

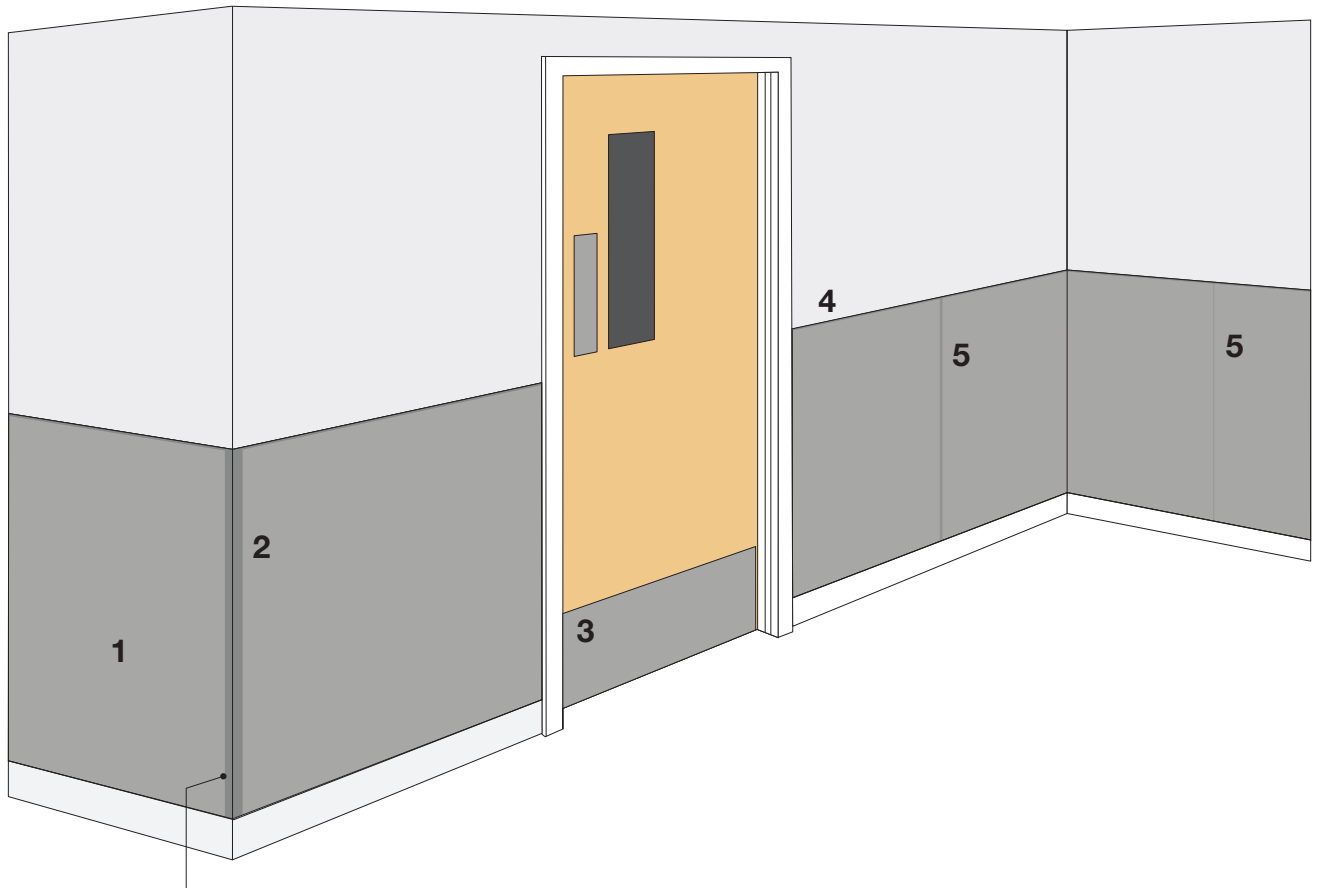
SureProtect Endure® sheet dimensions

SPE15 Sheet

- Thickness – 1.5mm
- Sheet sizes – 2.44m x 1.22m
- Bespoke sizes and shapes also available – contact Gradus for more information

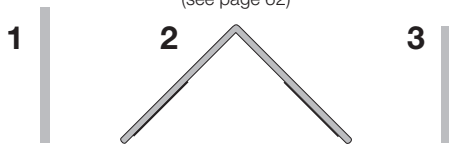


Installation example

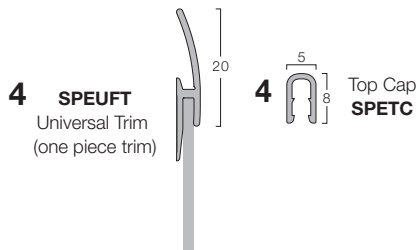


As an alternative to corner guards, SureProtect Endure® can also be thermoformed to provide a flush, seamless finish.

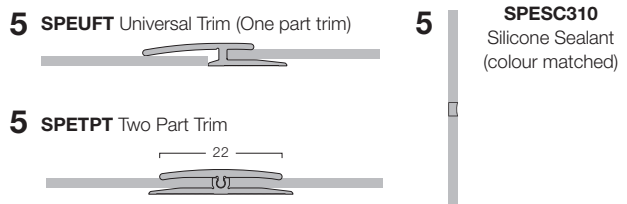
SPE15/SPE20 SureProtect Endure **Standard Corner Guard** (see page 62) **K2 Kickplate** SureProtect Endure



Finishing Options



Joining Options



Available all colours in 3.0m lengths

Joining and finishing options fits both thicknesses for SPE15 & SPE20 Wall Cladding Sheets

Bespoke cutting options

- R2 Rubrails (see page 30)
 - bevelled top and bottom, available in 3.0m lengths
- K2 Kickplates and Pushplates
 - bevelled on all edges, variable width and height options (see page 67)
- Thermoformed corner/angle
- Bespoke designs (see page 30)
- Door protection (see page 67)

SureProtect Design® Wall Cladding



Wood effects, metal and bespoke print

Modern and stylish in appearance, SureProtect Design® highlights building interiors whilst still offering excellent surface protection. Finishes include wood effects, metals and bespoke prints to accommodate any interior design theme.

Ideal for applications where aesthetics is important such as reception areas, leisure facilities, hotel lobbies, retirement homes and university campuses.

Information

- Supplied in sheet form with the option of silicone sealant and thermoforming
- Reaction to fire classification: B-s3, d0

Sheet dimensions: Woods & Metals

- Thickness – 2mm
- Sheet sizes – 3.0m x 1.3m
- Bespoke sizes also available – contact Gradus for more information

Cutting and forming

SureProtect Design® offers flexibility through the versatility of cutting and forming into bespoke designs or profiles, allowing functionality to be combined with aesthetics and offering an endless range of design possibilities.



SureProtect Design® - Colour Availability

SureProtect Design® Finishes

This range comprises a choice of wood, metal and print effects. These contemporary finishes help to create modern interiors and are an ideal choice for design-led environments such as hospitality, leisure and commercial office.

Woods - SPD20W



060 Maple LRV: 50.0
NCS: 2020-Y30R



061 Beech LRV: 40.3
NCS: 3030-Y30R



062 Light Oak LRV: 35.4
NCS: 3020-Y30R



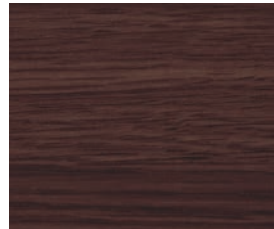
065 Stripped Pine LRV: 37.0
NCS: 4005-Y20R



069 Brown Cedar LRV: 18.4
NCS: 6005-Y50R
** Not available for handrails*

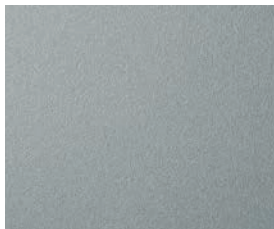


068 Smoky Cedar LRV: 10.5
NCS: 7502-B
** Not available for handrails*



067 Wenge LRV: 6.6
NCS: 8010-Y50R

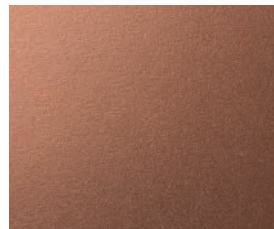
Metals - SPD20M



080 Silver LRV: 42.4
NCS: 3502-B



082 Gold LRV: 27.3
NCS: 2030-Y20R



081 Copper LRV: 20.9
NCS: 5020-Y60R

Textured Finish

Textured and through coloured to conceal the effects of impact and abrasion.

Colour Matching

Important note: Due to the limitations of the printing process, colours within this catalogue should not be relied upon for colour matching. An accurate colour match can only be achieved by requesting the relevant product sample(s).

Light Reflectance Values

All Gradus wall protection colours have been measured for Light Reflectance and the Value (LRV) is detailed below each colour (values have been measured using the CIE Y value in accordance with BS 8493:2008+A1:2010). LRVs allow tonal contrast to be achieved between different surfaces to highlight features (e.g. handrails or door furniture), identify hazards or provide wayfinding.

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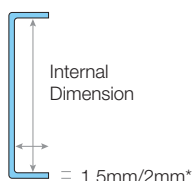
SureProtect Endure® Wall Cladding Bespoke Solutions



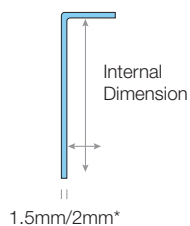
Information

SureProtect Endure® offers excellent flexibility through the versatility of cutting or forming into bespoke designs or profiles, allowing functionality to be combined with aesthetics and offering an endless range of design possibilities.

'U' shaped profiles



'L' shaped profiles



* Available in both SPE15 & SPE20

Cutting and forming

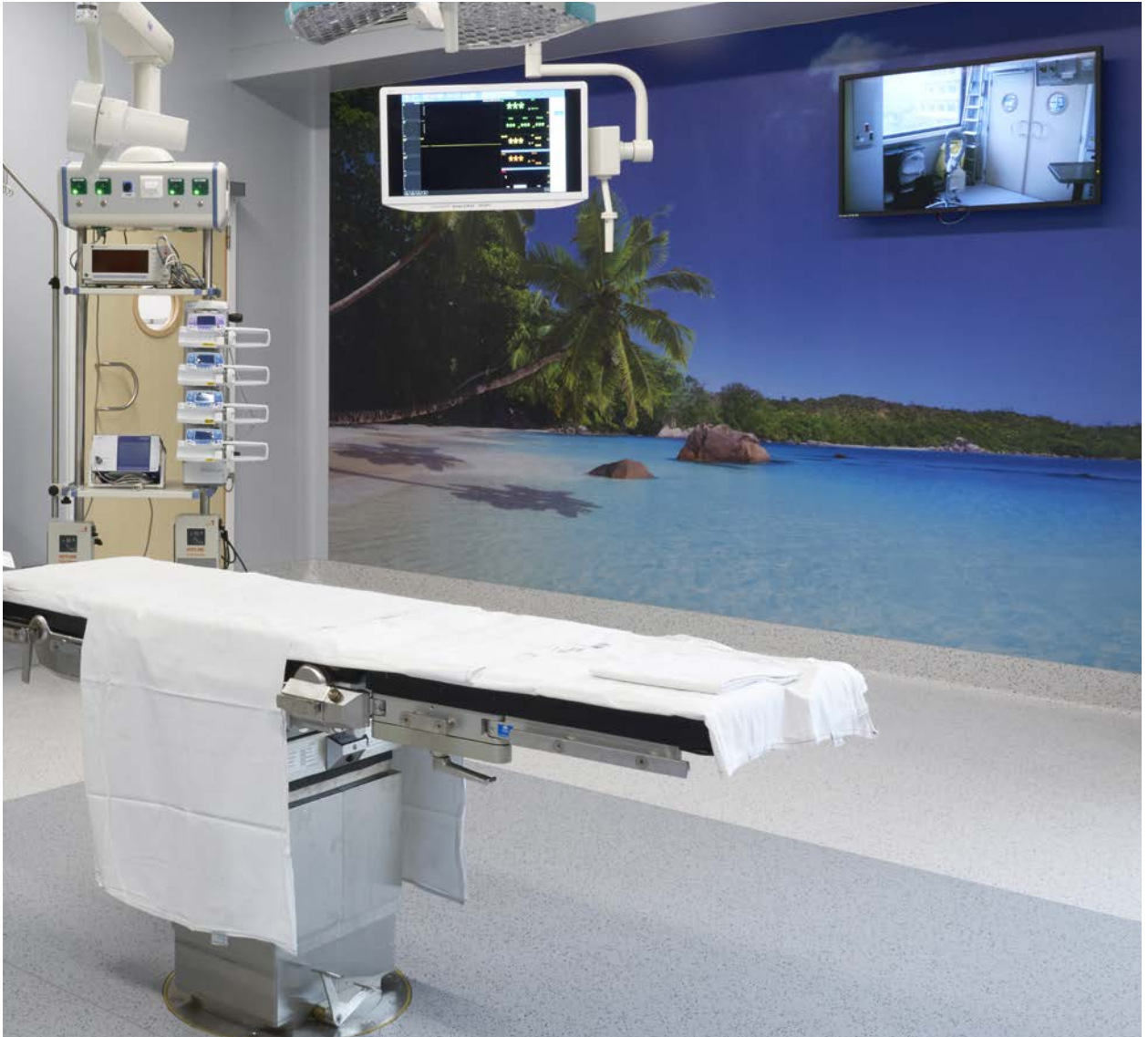
- The extensive colour palette allows SureProtect Endure® to be cut to create a wide variety of effects, from corporate logos in reception areas to themed Rubrails for hotels, classroom walls and decorative signage
- SureProtect Endure® can be formed into a variety of profiles e.g. 'L' and 'U' shapes
 - 'L' profiles can be used as bespoke corner guards, door edge and door frame protectors (see page 67)
 - 'U' profiles are often used for column protectors or to protect nib end walls
- For lead time for bespoke cutting and forming, contact Gradus

SureProtect Endure® Rubrails

SureProtect Endure® Rubrails are cut from sheet material and are bevelled on the top and bottom edges for a smooth, neat finish. Rubrails offer a cost-effective solution to protecting walls along their length at a point where impact and abrasion is likely to occur

- Available in 3.0m lengths in standard heights of 100mm to 1200mm in 50mm increments (special heights available on request)
- Rubrails can also be produced to bespoke designs

SureProtect Design® Wall Cladding - Digital Printing



Information

- Gradus can provide a bespoke cladding solution by digitally printing your photograph/graphic onto the back of a clear textured sheet
- Prints can be applied to multiple sheets as a continuous image
- Reaction to fire classification: B-s3, d0



2.9m

1.2m 1.2m 1.2m 1.2m 1.2m

Printing Requirements

- Accepted file formats –
Vector: Adobe Illustrator AI or EPS
Raster: Adobe Photoshop PSD, TIF, JPEG or PNG
Portable Document Format: Adobe Acrobat PDF
- Provide details of finished trimmed size in mm (width x height x thickness) with 3mm bleed & tick marks for trimming
- Picture resolution must be between 600dpi & 1200dpi.
PDF files to be provided in high resolution – PDF/X-1a:2001
- Files must be provided in CMYK, Pantone colours must be specified
- Photos or graphics supplied via “image libraries” must show copyright traceability and proof of purchase

Sheet dimensions SPD20P

- Made to measure with maximum dimensions of 1.2m x 2.9m
- Thickness – 2mm (1mm option available)

SureProtect Pure® Wall Cladding



Specifically developed for areas where cleanliness is a priority, SureProtect Pure® creates an impermeable barrier to moisture and bacteria. The smooth, easy to clean surface is an excellent hygienic alternative to ceramic tiles, removing the need for grout which can harbour bacteria. SureProtect Pure® is manufactured from PVC-u material that has been extensively tested to ensure suitability in hygienic environments.

The product adheres to guidance set out in The Health Building Note 00-09 and the Food Standards Agency Building Note 00-09, making it the perfect solution for healthcare environments and commercial kitchens. It is also ideal for sport and leisure facilities, food manufacturing environments, pharmaceutical laboratories, dentist practices, veterinary surgeries and bathrooms.

Information

- Smooth PVC-u sheet material in a choice of 21 diverse colour options
- Tested for suitability in a wide range of environments
- Range of trimming and jointing solutions
- Gradus Grip adhesive solutions (see page 35)
- Reaction to fire classification: B-s3, d0
- Complies with ISO 22196:2011 and HBN 00-09

Sheet dimensions

- Thickness - 2.5mm
- Sheet sizes - 2.44m x 1.22m, 3.048m x 1.22m & 2.50m x 1.22m (for full size details see page 34)
- Bespoke sizes also available – contact Gradus for more information



SureProtect Pure® - Colour Availability

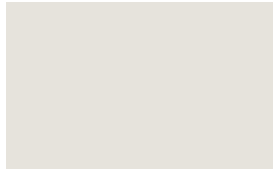
White - Satin Finish



White

LRV: 90.87
NCS: S 0300-N

Pastels - Satin Finish



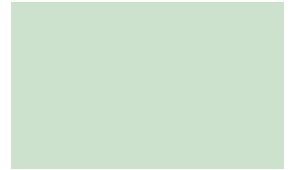
Platinum

LRV: 58.81
NCS: S 2002-Y



Champagne

LRV: 72.74
NCS: S 1005-Y20R



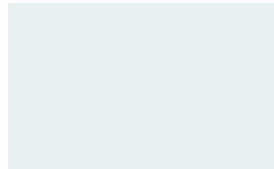
Peppermint

LRV: 75.20
NCS: S 0515-G



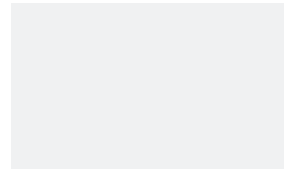
Iceberg

LRV: 65.96
NCS: S 1020-B



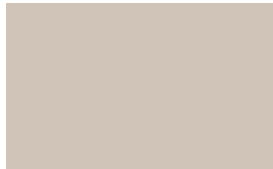
Duckegg

LRV: 80.32
NCS: S 0804-B50G



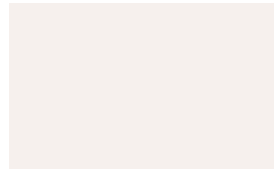
Porcelain

LRV: 73.28
NCS: S 0804-R70B



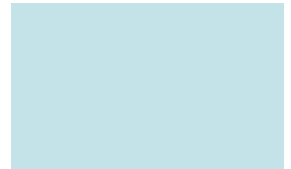
Putty

LRV: 41.58
NCS: S 3005-Y50R



Cotton

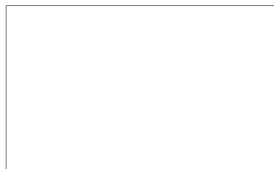
LRV: 82.91
NCS: S 0502-Y50R



Aqua

LRV: 63.26
NCS: S 1015-B20G

Brights - Gloss Finish



Pearl

LRV: 89.28
NCS: S 0500-N



Sorbet

LRV: 64.08
NCS: S 0570-G60Y



Olive

LRV: 47.52
NCS: S 2030-G60Y



Sage

LRV: 41.05
NCS: S 3010-G40Y



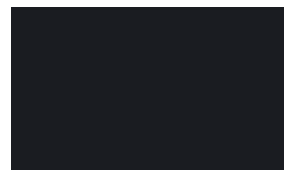
Blueberry

LRV: 34.37
NCS: S 3030-R90B



Iron

LRV: 14.63
NCS: S 7000-N



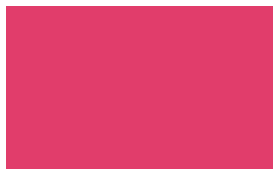
Onyx

LRV: 4.96
NCS: S 9000-N



Spice

LRV: 19.76
NCS: S 2075-Y60R



Fuchsia

LRV: 21.51
NCS: S 1070-R20B



Chilli

LRV: 11.83
NCS: S 2070-R



Plum

LRV: 9.26
NCS: S 4050-R30B

Colour Matching

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Light Reflectance Values

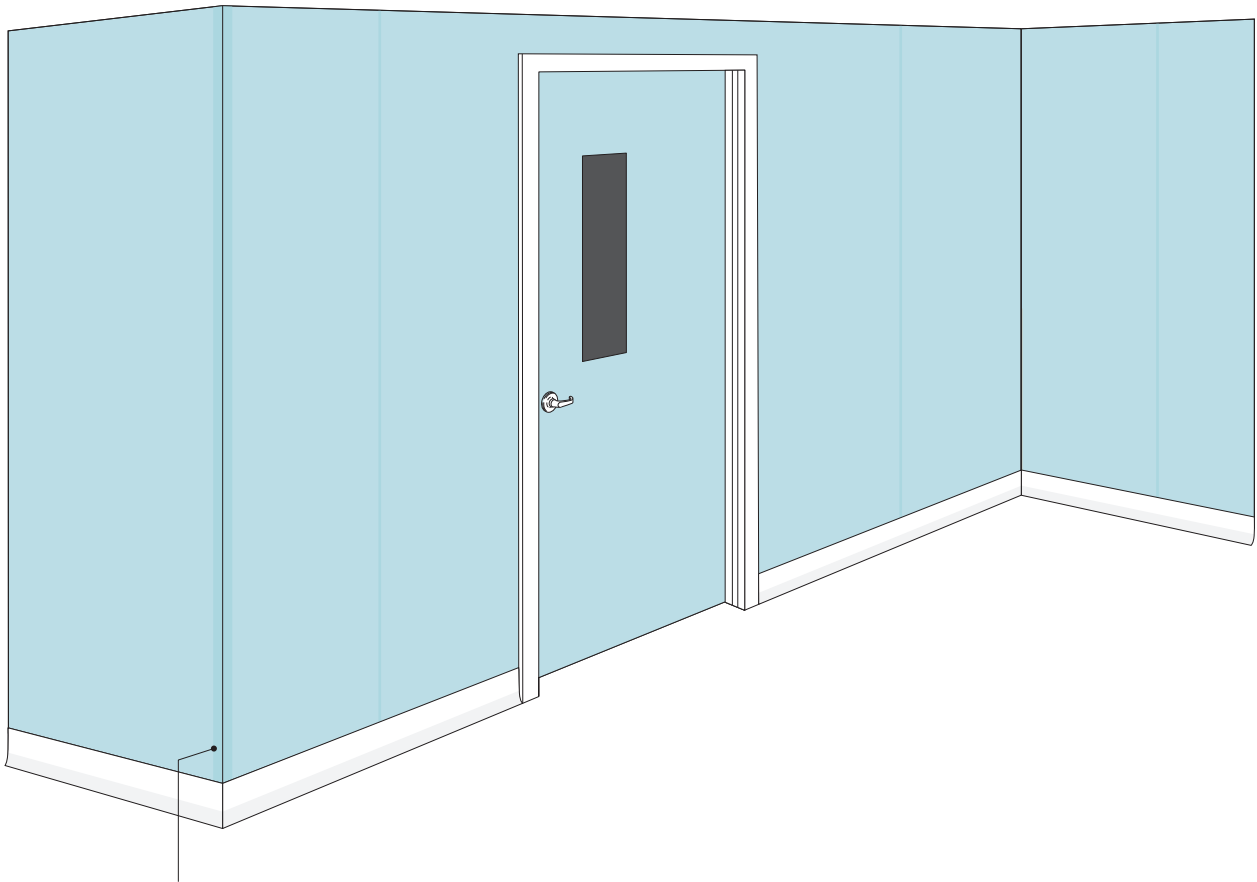
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SureProtect Pure® - Technical Information

Installation example



SureProtect Pure® can also be thermoformed on-site during installation.

SureProtect Pure® PVC-u Sheet

Sheet available in the following sizes.

Code	Colour Availability	Length	Width	Thickness
SPP25W/2440	White	2440mm	1220mm	2.5mm
SPP25W/3048	White	3048mm	1220mm	2.5mm
SPP25P/2440	Pastels	2440mm	1220mm	2.5mm
SPP25P/3048	Pastels	3048mm	1220mm	2.5mm
SPP25B/2500	Brights	2500mm	1220mm	2.5mm
SPP25B/3048	Brights	3048mm	1220mm	2.5mm

Performance

SureProtect Pure® has been extensively tested to the following standards to ensure suitability in hygienic applications.

Maximum Temperature

Should not exceed temperatures of 60°C.

Test	Description
Bacterial	Tested according to ISO 22196:2011
Food Contact	Meets EU Commission Regulation 10/2011 with regard to food contact
Fire	Tested for reaction to fire according to EN 13501-1 achieving Class B-s3, d0
Impact	Tested to BS EN 438-2 that comparatively measures the impact absorption of SureProtect Pure® against standard ceramic tile. The test demonstrates that SureProtect Pure® PVC-u sheet can withstand significantly higher impact without damage occurring. Tested to ISO 6603-1:2000 Determination of puncture test.

Joining & Corner options - White (Length 2440mm & 3048mm)

1 Part Joiner SPP/1PJ
Dimensions: 22.6, 46.5, 7

2 Part Transition SPP/2PT
Dimensions: 19.5, 22.5, 6

Internal Corner - Small SPP/ICS
Dimensions: 18.9, 14.9, 14, 16.5

External Corner SPP/EC
Dimensions: 16.6, 17, 24

2 Part Joiner SPP/2PJ
Dimensions: 19.5, 48.8, 6

2 Part Capper SPP/2PC
Dimensions: 13.6, 22.5, 7

1 Part Capper SPP/1PC
Dimensions: 14.5, 28.5, 6.8, 1.5

50mm Internal Angle SPP/IA50
Dimensions: 50, 50, 98°

50mm External Angle SPP/EA50
Dimensions: 50, 50, 92°

WR80 Weld Rod

Or Silicone Sealant **SC310**

Joining options - Pastels and Brights (Length 2500mm & 3050mm)

2 Part Transition SPP/2PT
Dimensions: 19.5, 22.5, 6

2 Part Capper SPP/2PC
Dimensions: 13.6, 22.5, 7

2 Part Joiner SPP/2PJ
Dimensions: 19.5, 48.8, 6

WR80 Weld Rod

Or Silicone Sealant **SC310**

WR50 Weld Rod

Or Silicone Sealant **SC310**

Sealant & Fixings

Silicone Sealant	Weld Rod	Double Sided Tape	Gradus Grip Adhesive
SC310 - Available in all colours	WR80 - Available for White plus all Pastel colours (See page 33 for reference) WR50 - Available for all Brights plus all Pastel finishes (See page 33 for reference)	NOVAF302RF - 3mm thickness (50mm x 25m) NOVAF200RF - 2mm thickness (50mm x 40m)	WGP65 2-part polyurethane (6.5kg tub) WGA120 1-part acrylic (12kg tub)

Stainless Steel Corner Guards are also available see page 64

Aluminium Chequer Plate



Aluminium chequer plate wall and door panels are strong and durable, ideal for use in areas subject to frequent, heavy wheeled traffic e.g. service corridors, loading areas and car parks.

Profile

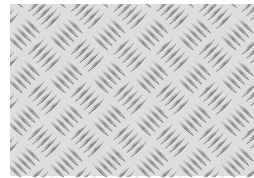
- Panels are light-weight and are both easy to install and keep clean
- Aluminium chequer plate sheets reduce maintenance costs by eliminating the need to repair and repaint wall surfaces. The embossed chequer pattern conceals the effects of any surface damage caused by wheeled traffic
- Suitable for both interior and exterior environments.
- Supplied undrilled
- Note: an exact pattern match cannot be guaranteed.

Sheet dimensions

- Thickness - 2mm
- Sheet sizes - 2500mm x 1250mm

Bespoke options

- Cutting, drilling and custom fabrications



Aluminium Chequer Plate Corner Guard also available see page 64

Code: **CPA2/2500/1250**

Stainless Steel Sheet



Stainless steel is a robust, durable, heat resistant hygienic material ideally suited for clinical areas, splashbacks and areas exposed to heat.

Profile

- 304 grade Stainless Steel with Satin finish (other grades available)
- Robust, durable hygienic material
- Suitable for Hygienic environments e.g. food preparation, areas and laboratories
- Cut to individual size requirements
- Suitable for both interior and exterior
- Stainless Steel Corner Guards also available see page 64

Sheet dimensions

- Thickness - 1.5mm
- Sheet sizes - 2500mm x 1250mm

Bespoke options

- Cut to individual size requirements



Code: **K130/SPEC**

Section 2

Wall Guards, Wall Strips & Bed Head Protectors

Information on protection products designed to offer impact protection against damage caused by wheeled and pedestrian traffic. Includes PVC-u, stainless steel and rubber profiles.

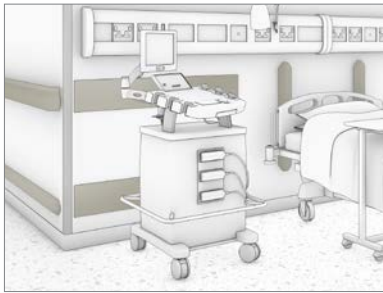
Wall Guards & Wall Strips

Wall guards and wall strips are designed to offer impact protection against damage caused from both pedestrian and wheeled traffic, such as trolleys, wheelchairs, hospital beds, carts and other mobile equipment.

They help reduce maintenance costs and improve the overall aesthetics of a building and are ideal for use in a wide range of environments including education, healthcare, commercial, retail, hospitality and leisure environments.

Product Options

Gradus offers a wide range of wall guards that can be used individually to combat specific types and levels of damage or can be combined for a more comprehensive protection system.



PVC-u Modular Wall Guards & Bed Head Protectors

- Modular in construction. Covers and accessories are replaceable and are through coloured and textured to conceal the effects of impact and abrasion
- Suitable for use in busy working environments such as hospital circulation areas, wards and corridors to protect against damage from pedestrian and wheeled traffic



Wall Strips

- Cost effective alternative to wall guards to protect against damage
- Designed to protect against rubs and scuffs in areas such as waiting rooms, accommodation, classrooms and canteens which is typically caused by chairs, tables and other movable objects



Rubber Wall Guards

- Robust protection against damage caused by wheeled traffic such as trolleys and carts
- Ideal for use in both interior and exterior environments such as manufacturing, warehousing, loading bays and service corridors



Stainless Steel Wall Guards

- Modern, high-tech finish to enhance interior designs
- Hygienic nature of the profiles makes them ideal for use in environments such as healthcare, food and pharmaceutical preparation and manufacturing facilities

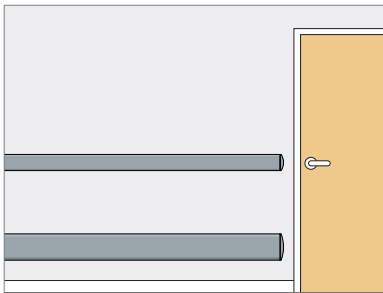
Selecting the correct wall guard

The type and number of wall guards required will be determined by two aspects:

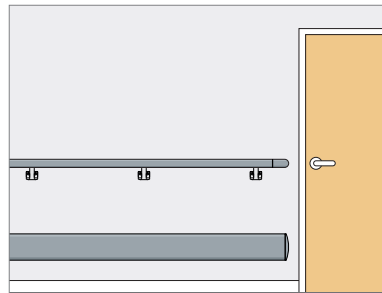
1. The application and environment
2. The level and type of traffic

The damage occurring on walls can vary dramatically from scuffs, scratches and scrapes caused by pedestrian traffic through to gouges and holes caused by heavier, wheeled traffic.

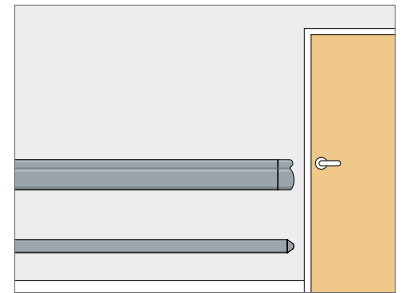
Example Applications



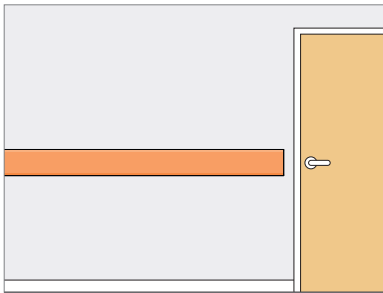
Twin PVC-u Wall Guards
Multi-level direct impact protection
Top: WGS125 - Bottom: WGS200



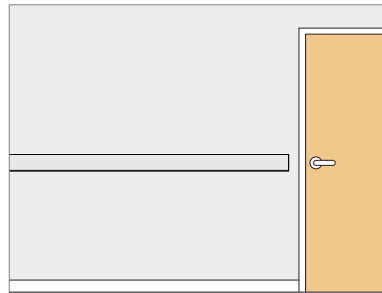
Single WGS200 PVC-u Wall Guard
Localised impact protection
shown with SHR40P Handrail



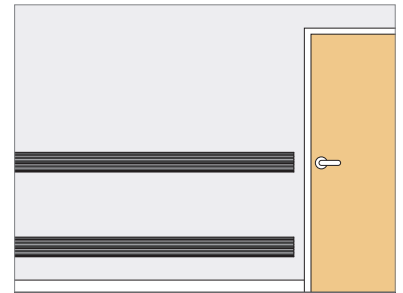
Single WGA100 PVC-u Wall Guard
Indirect impact protection
shown with CHR160 Combination Rail



Single WST200 Wall Strip
Protects against rubs and scuffs



Single SSWG1 Stainless Steel Wall Guard
Offers protection and enhances design



Twin WGR150E Rubber Wall Guards
Robust protection against wheeled traffic

Direct or Indirect Protection

Direct:

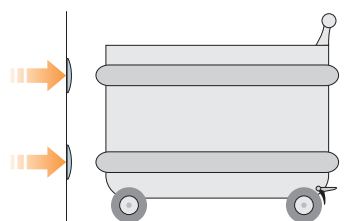
- Points of impact easily identifiable
- Damage is obvious and occurs in predictable patterns
- Commonly specified in existing buildings
- Suitable solution for refurbishment projects where the damaged areas are known

Indirect:

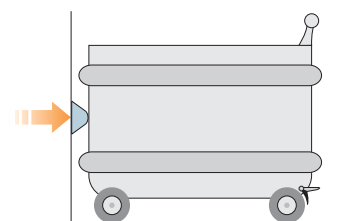
- Damage is difficult to predict
- Types and levels of traffic are unknown
- Commonly specified in new buildings
- Suitable for new build where damage is less easier to predict



Direct Protection



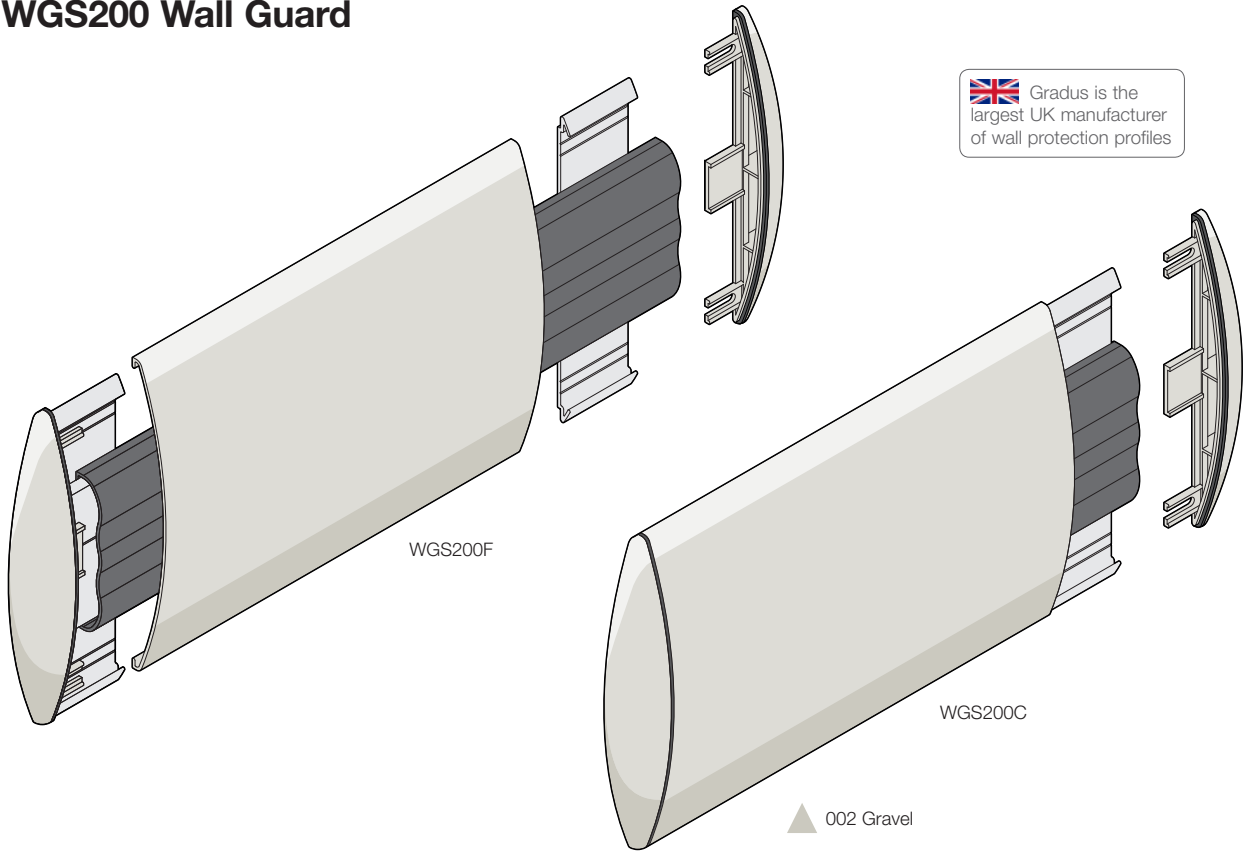
Direct Protection



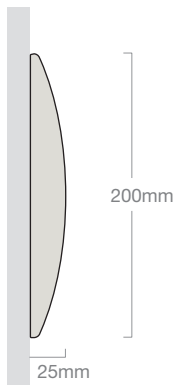
Indirect Protection

WGS200 Wall Guard

 Gradus is the largest UK manufacturer of wall protection profiles

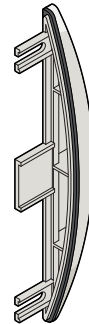


Features



- Modular system comprising PVC-u covers, aluminium retainers and PVC-u accessories
- Replaceable, through coloured, easy-to-clean covers - textured to conceal the effects of impact and abrasion
- Features an internal bumper for additional strength and to absorb and dissipate impact
- Choice of retainers include continuous or aluminium fixing clips (see below)
- Design ensures a tight fit to wall – minimal dust/dirt trap
- Reveals provide tight, neat joints and contain an anti-microbial agent to inhibit the growth of bacteria
- Colour: Available in 33 colour options – see pages 21 - 23 for colours and availability
- Size: Supplied in 4.0m lengths
- Material: PVC-u, Aluminium

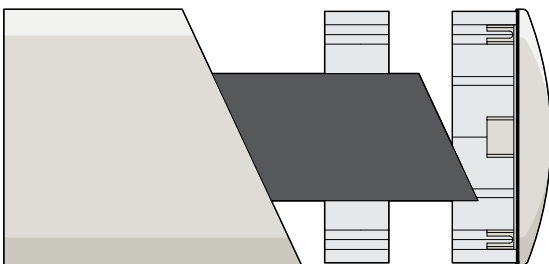
Components



WGS2001
universal end cap
(including reveal)

Profile options

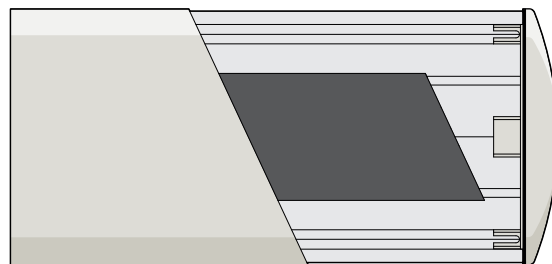
WGS200F



Fixing clip retainer:

- Easy to install – ideal for one person
- Cost effective solution
- Suitable for gently undulating substrates

WGS200C

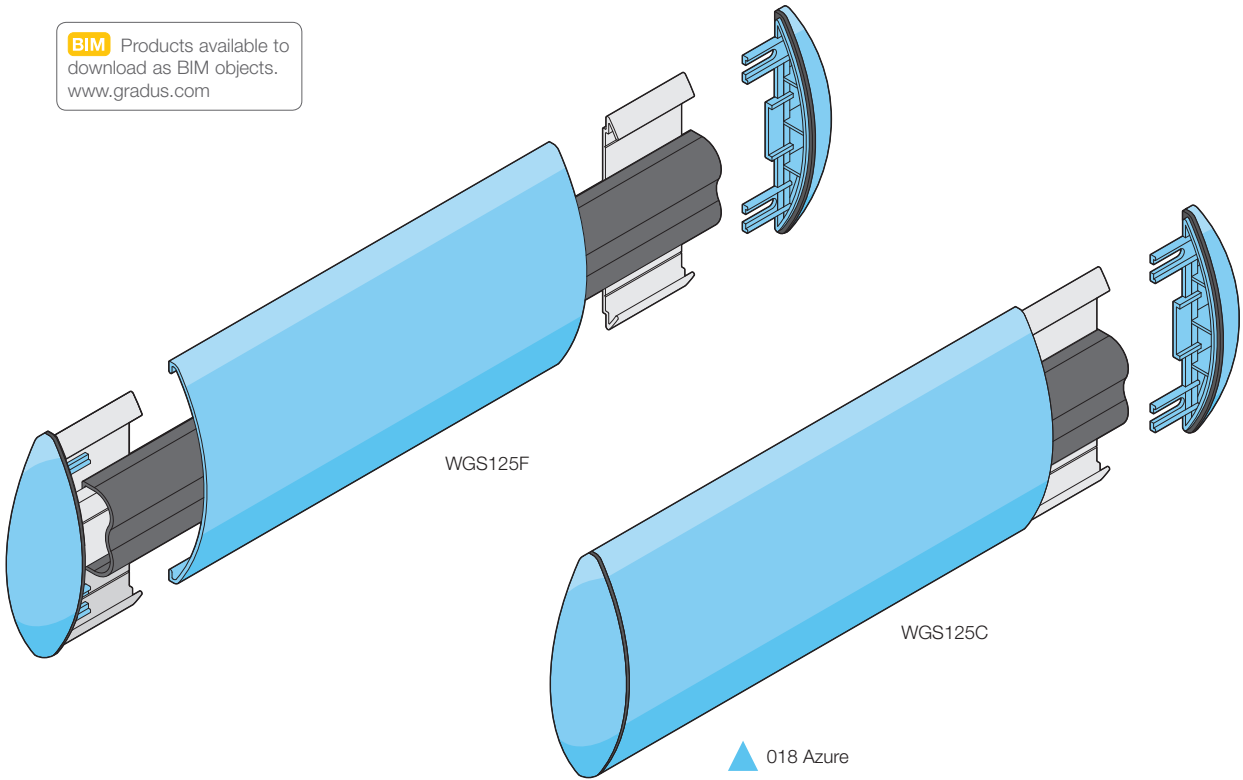


Continuous retainer:

- Provides rigid support for weaker substrates
- Ideal for bridging short gaps, recesses and voids

WGS125 Wall Guard

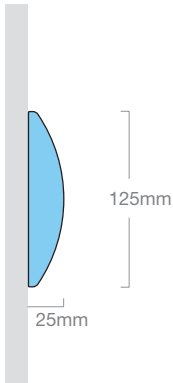
BIM Products available to download as BIM objects. www.gradus.com



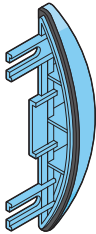
Section 2

Features

Components

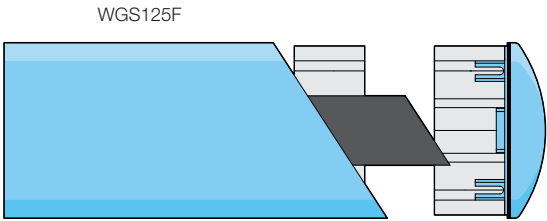


- Modular system comprising PVC-u covers, aluminium retainers and PVC-u accessories
- Replaceable, through coloured, easy-to-clean covers - textured to conceal the effects of impact and abrasion
- Features an internal bumper for additional strength and to absorb and dissipate impact
- Choice of retainers include continuous or aluminium fixing clips (see below)
- Design ensures a tight fit to wall – minimal dust/dirt trap
- Reveals provide tight, neat joints and contain an anti-microbial agent to inhibit the growth of bacteria
- Colour: Available in 32 colour options – see pages 21 - 23 for colours and availability
- Size: Supplied in 4.0m lengths
- Material: PVC-u, Aluminium

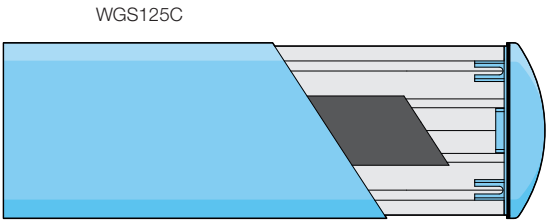


WGS1251 universal end cap (including reveal)

Profile options



WGS125F



WGS125C

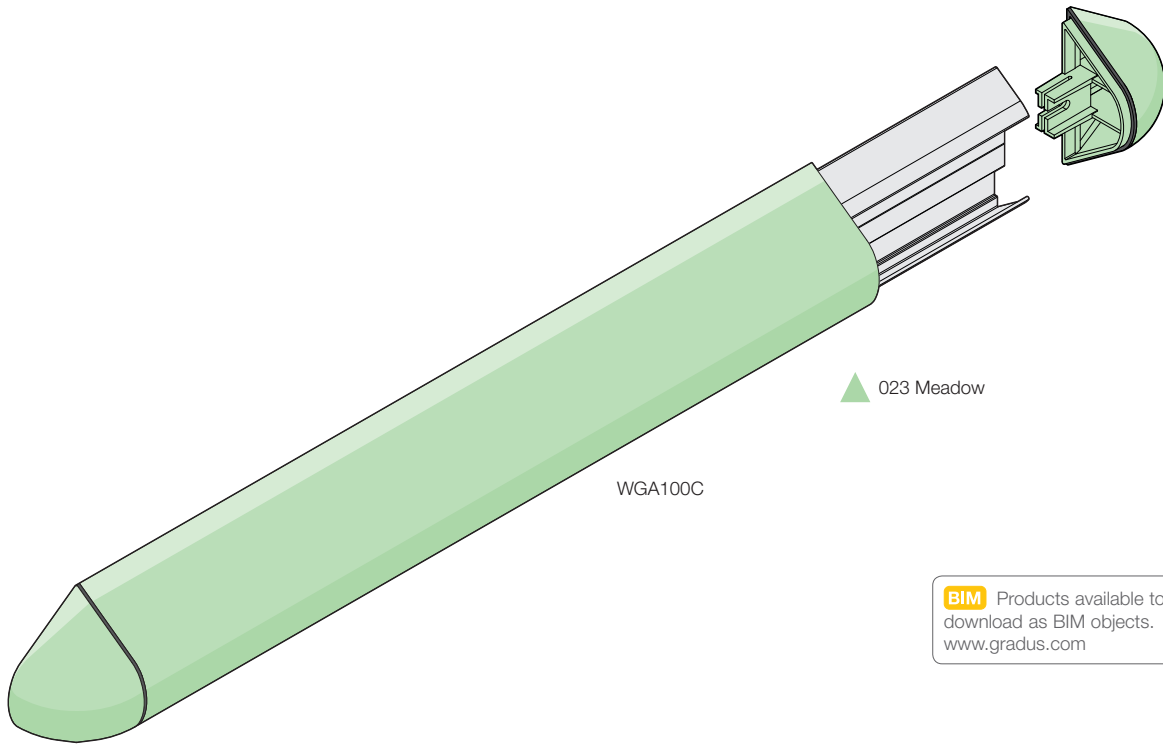
Fixing clip retainer:

- Easy to install – ideal for one person
- Cost effective solution
- Suitable for gently undulating substrates

Continuous retainer:

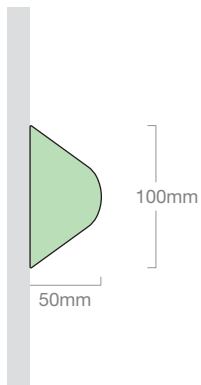
- Provides rigid support for weaker substrates
- Ideal for bridging short gaps, recesses and voids

WGA100 Wall Guard



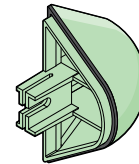
BIM Products available to download as BIM objects. www.gradus.com

Features



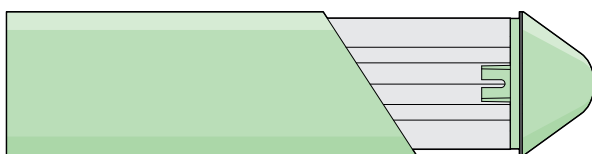
- Modular system comprising PVC-u covers, aluminium retainers and PVC-u accessories
- Replaceable, through coloured, easy-to-clean covers - textured to conceal the effects of impact and abrasion
- Angular design provides an extended depth of protection against damage
- Reveals provide tight, neat joints and contain an anti-microbial agent to inhibit the growth of bacteria
- Colour: Available in 33 colour options – see pages 21 - 23 for colours and availability
- Size: Supplied in 4.0m lengths
- Material: PVC-u, Aluminium

Components



WGA1001
universal end cap
(including reveal)

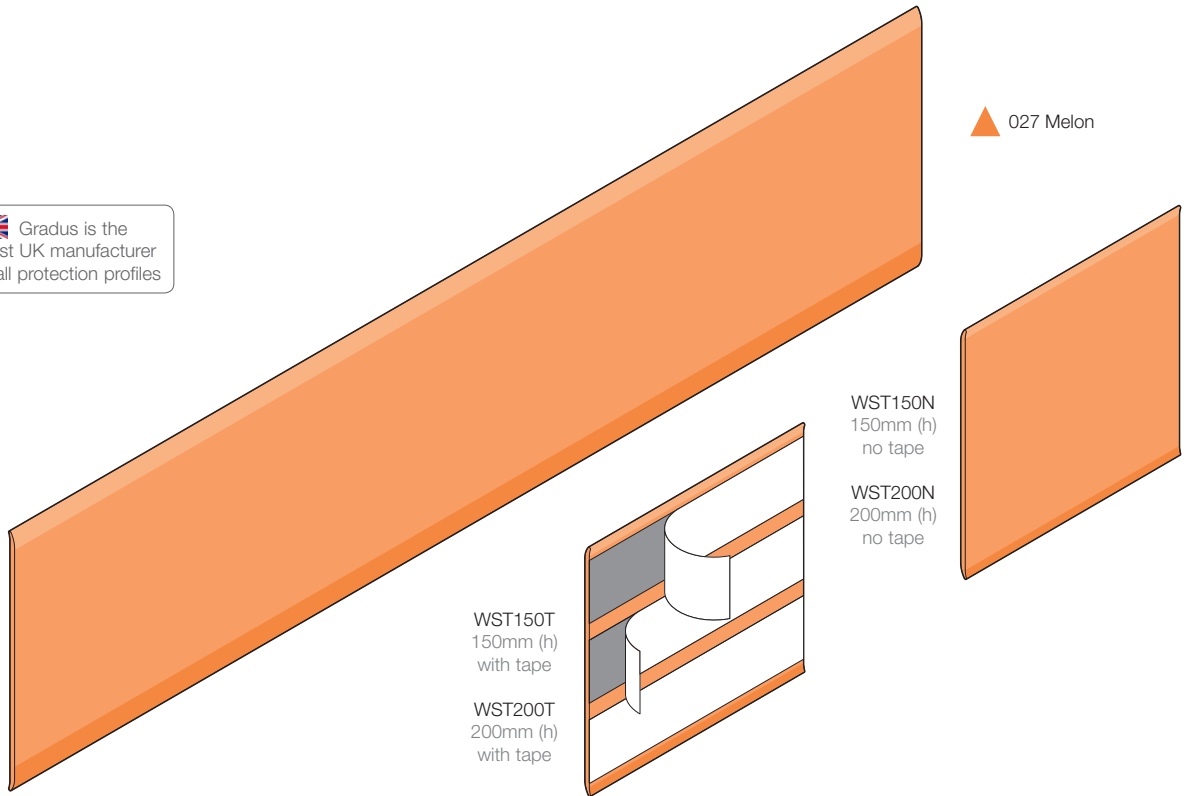
Profile



Continuous retainer provides rigid support whilst allowing the cover to flex, absorbing the effects of an impact.

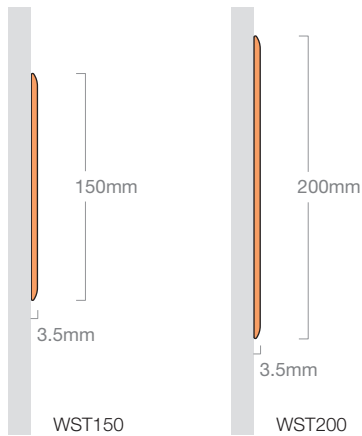
WST150 & WST200 Wall Strips

 Gradus is the largest UK manufacturer of wall protection profiles



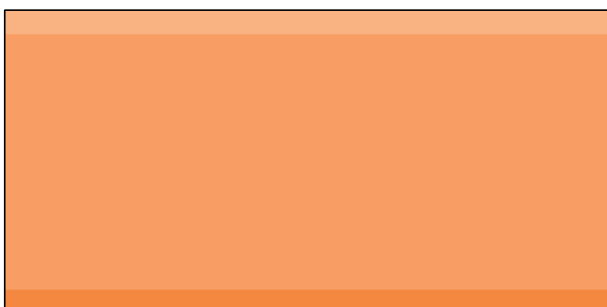
Section 2

Features



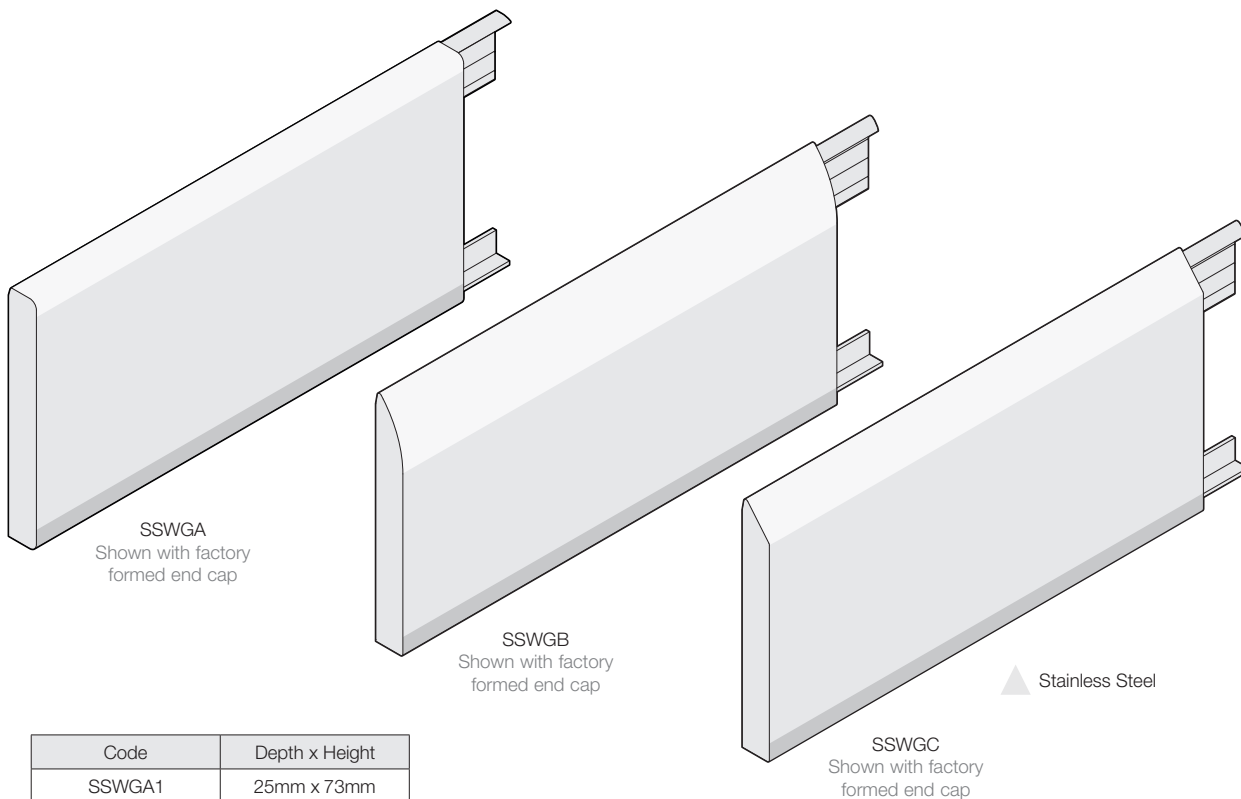
- Scratch and stain resistant PVC-u is through coloured and textured to conceal the effects of impact and abrasion
- Can be used along the entire length of a wall or cut down into kickplates or pushplates
- Ideal for protecting walls against scuffs, scratches and abrasion caused by chairs, tables, trolleys and other moveable objects
- Available with tape for quick and easy installation, or without tape for installing with a suitable adhesive
- Colour: Available in 34 colour options – see pages 21 - 23 for colour offer and availability
- Size: Supplied in 4.0m lengths
- Material: PVC-u

Profile



As an alternative SureProtect Endure® PVC-u sheet can also be cut into rubrails (see pages 27 & 30)

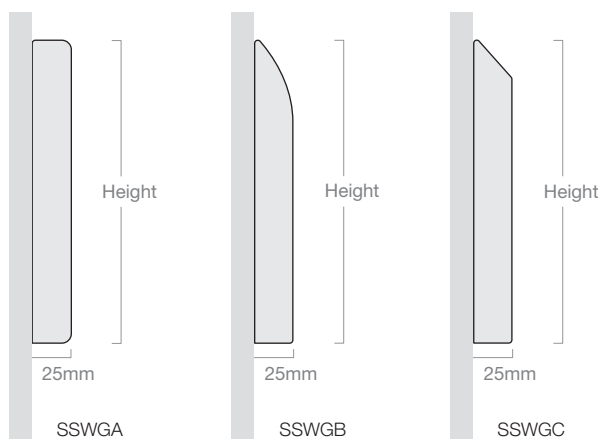
SSWG Stainless Steel Wall Guards



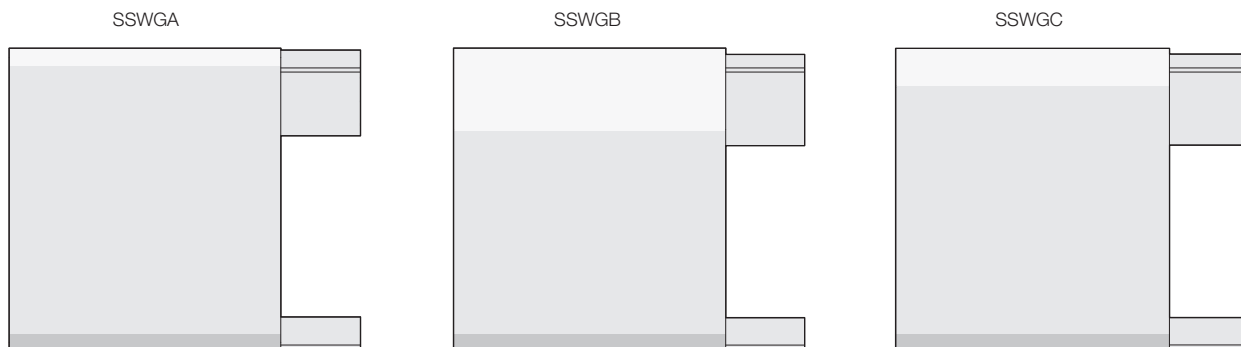
Code	Depth x Height
SSWGA1	25mm x 73mm
SSWGA2	25mm x 101mm
SSWGA3	25mm x 152mm
SSWGA4	25mm x 195mm
SSWGB1	25mm x 125mm
SSWGB2	25mm x 200mm
SSWGC1	25mm x 150mm
SSWGC2	25mm x 200mm

Features

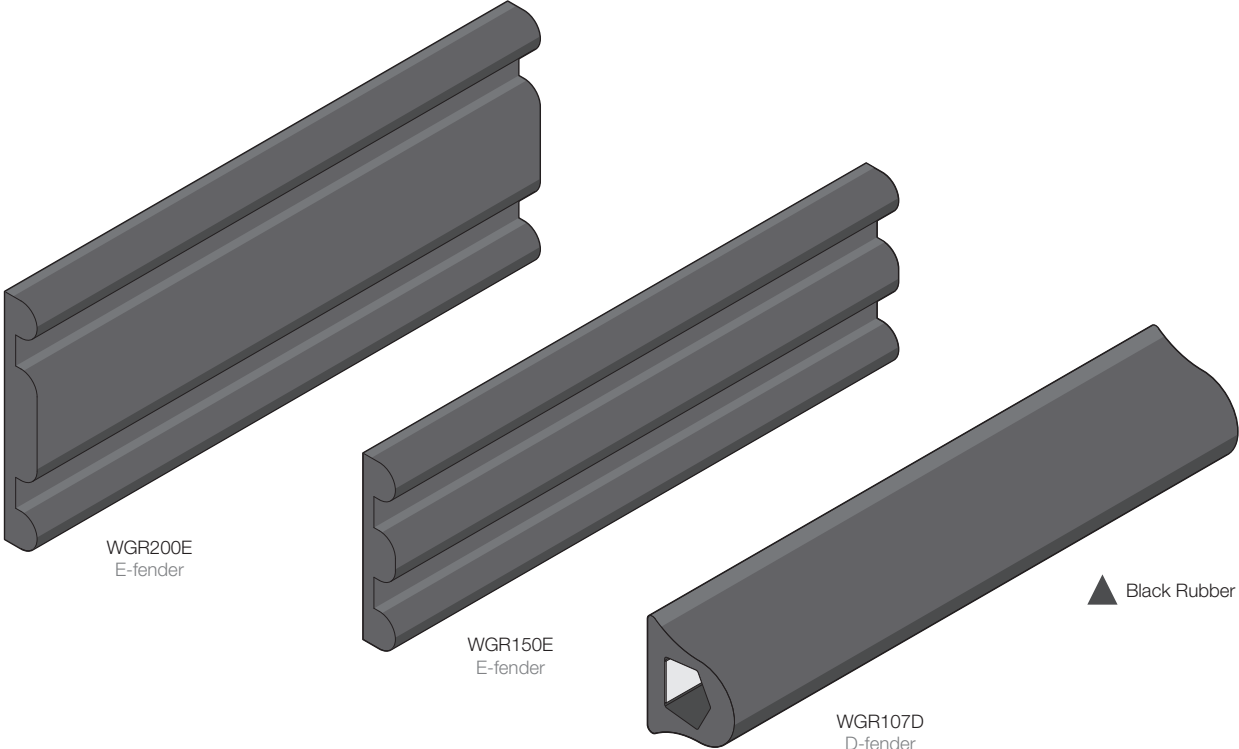
- Continuous stainless steel covers with aluminium fixing retainers
- 3 profile designs intended for interior use
- Hygienic nature of stainless steel makes the wall guards ideal for use in environments such as food and pharmaceutical preparation and manufacturing facilities
- End caps are formed during manufacture
- Colour: Satin finish
- Size: Supplied cut to size to a maximum length of 2.95m (longer runs should be butt jointed on-site)
- Material: 304 grade stainless steel



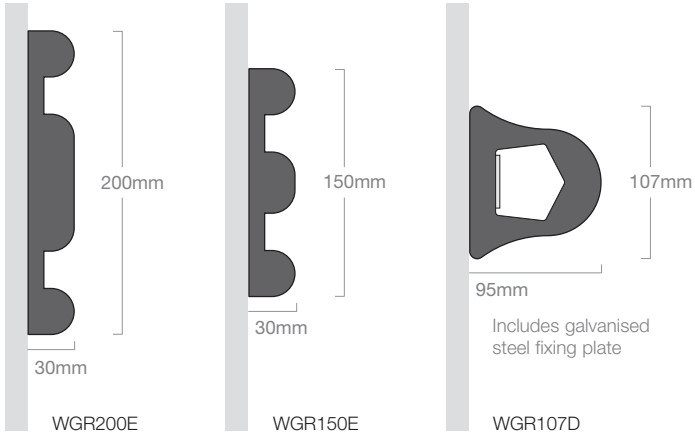
Profiles



WGR Rubber Wall Guards



Features



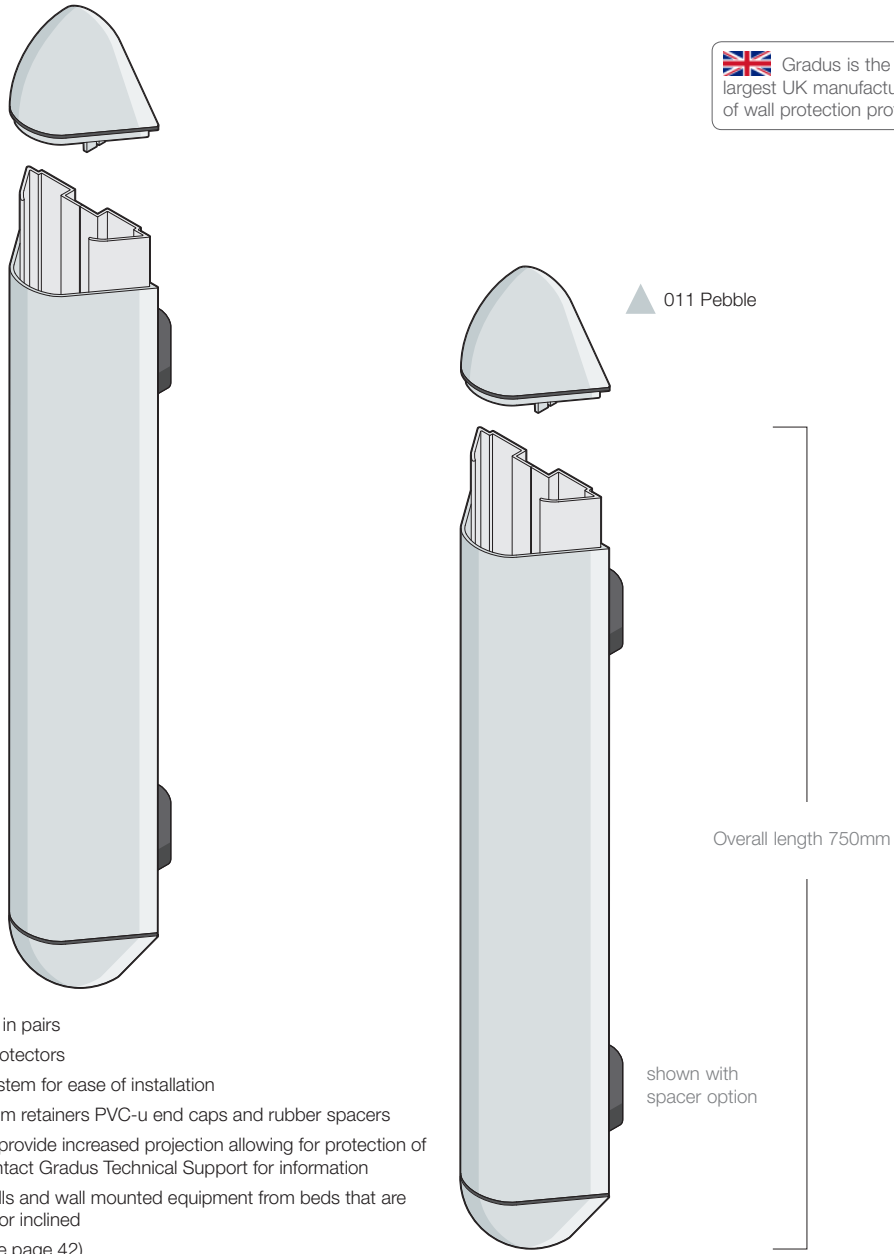
- Black rubber minimises the appearance of scuffs and scrapes
- Profiles absorb the effects of impact, minimising the extent of the damage
- Suitable for both interior & exterior environments. Can be fixed to practically any substrate, including concrete, brickwork and blockwork
- Internal and external corners are created through on-site mitring
- Ideal for use in manufacturing, warehousing and loading bays, back of house retail, hospital service corridors and car parks
- Colour: Black only
- Size: Supplied in 3.0m lengths
- Material: Rubber

Profiles



BHPA100 Bed Head Protectors

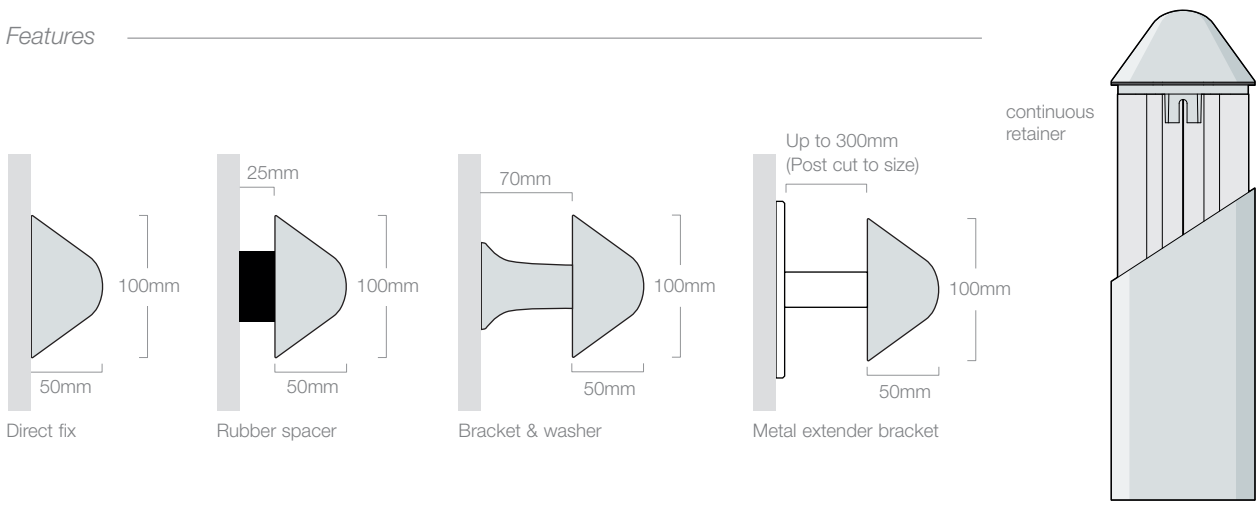
 Gradus is the largest UK manufacturer of wall protection profiles



- Generally fixed vertically on to walls in pairs
- Can be used individually as chair protectors
- Supplied as a pre-cut packaged system for ease of installation
- Comprising PVC-u covers, aluminium retainers PVC-u end caps and rubber spacers
- 3 Extender options are available to provide increased projection allowing for protection of medical services and trunking – contact Gradus Technical Support for information
- Designed to prevent damage to walls and wall mounted equipment from beds that are frequently moved around, elevated or inclined
- Utilises the WGA100 wall guard (see page 42)
- Supplied as part of a kit 750mm long
- Colour: Available in 33 colour options - see pages 21 - 23 for colours and availability
- Size: Supplied in kit format - 2 units - 750mm (including end caps)
- Material: PVC-u, Aluminium

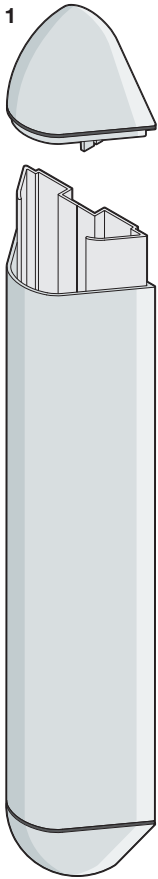
Profile

Features



BHPA100 Bed Head Protectors Options

Option 1

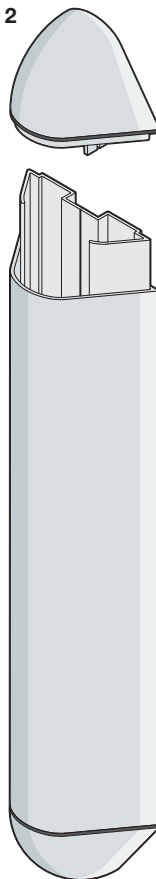


BHPA1001

▲ 011 Pebble

Aluminium retainer fixed directly to the wall

Option 2

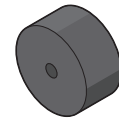


BHPA1002

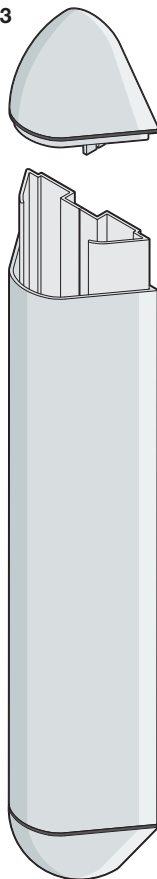


WGRS25
Spacer

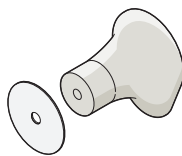
Retainer standing off the wall using rubber spacers (WGRS25)



Option 3

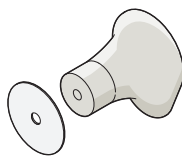


BHPA1003



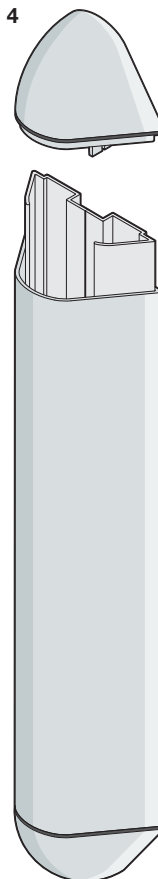
BHPA1003/BRKT
Bracket

Retainer standing off the wall using PVC-u extender brackets (BHPA1003/BRKT)

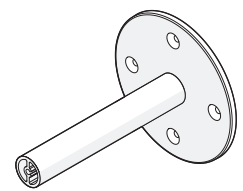


Ø50 Penny
Washer

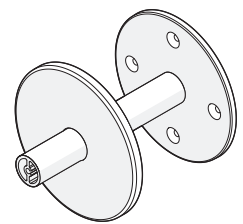
Option 4



BHPA1004



BLXB2
Extender bracket



Option of a
cover rose BLXBCP2



Section 3

Handrails, Dual Rail & Combination Rail

Information on handrail solutions for pedestrian support and guidance in addition to surface protection. Includes PVC-u, timber, stainless steel and aluminium options.

Handrails, Dual Rails & Combination Rail

Gradus handrails, Dual Rails and combination rail are designed to offer pedestrian guidance and support in addition to a level of surface protection.

Designed for use in interior, horizontal circulation areas, they are suitable for use in a wide range of environments including education, healthcare, commercial office and transport.

The style of profile selected will depend on the types and levels of both pedestrian and wheeled traffic.

Handrails can also be combined with other profiles from the range to provide a complete protection solution.

Product Options



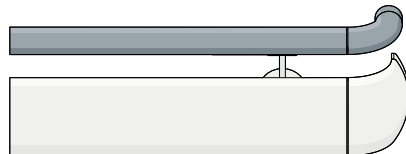
Handrail

- Traditional handrail design available in a range of materials and finishes including PVC-u, aluminium, timber and stainless steel
- Offers a comfortable, smooth, continuous grip
- Meets the guidance for dimensions in relation to grip diameter, distance from the wall and bracket clearance
- Primarily designed to offer pedestrian support with a small element of wall protection
- Meets the guidance set out in Health Building Notes 00-04 and 00-10 (Department of Health Estates & Facilities)



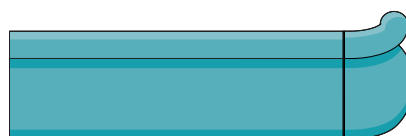
Dual Rail

- Combines a choice of traditional handrail with a PVC-u wall guard linked together with a choice of specialist brackets
- Designed to meet the specific needs in healthcare environments where pedestrian support is required in addition to protection against impact from wheeled traffic
- Meets the guidance set out in Health Building Notes 00-04 and 00-10 (Department of Health Estates & Facilities)

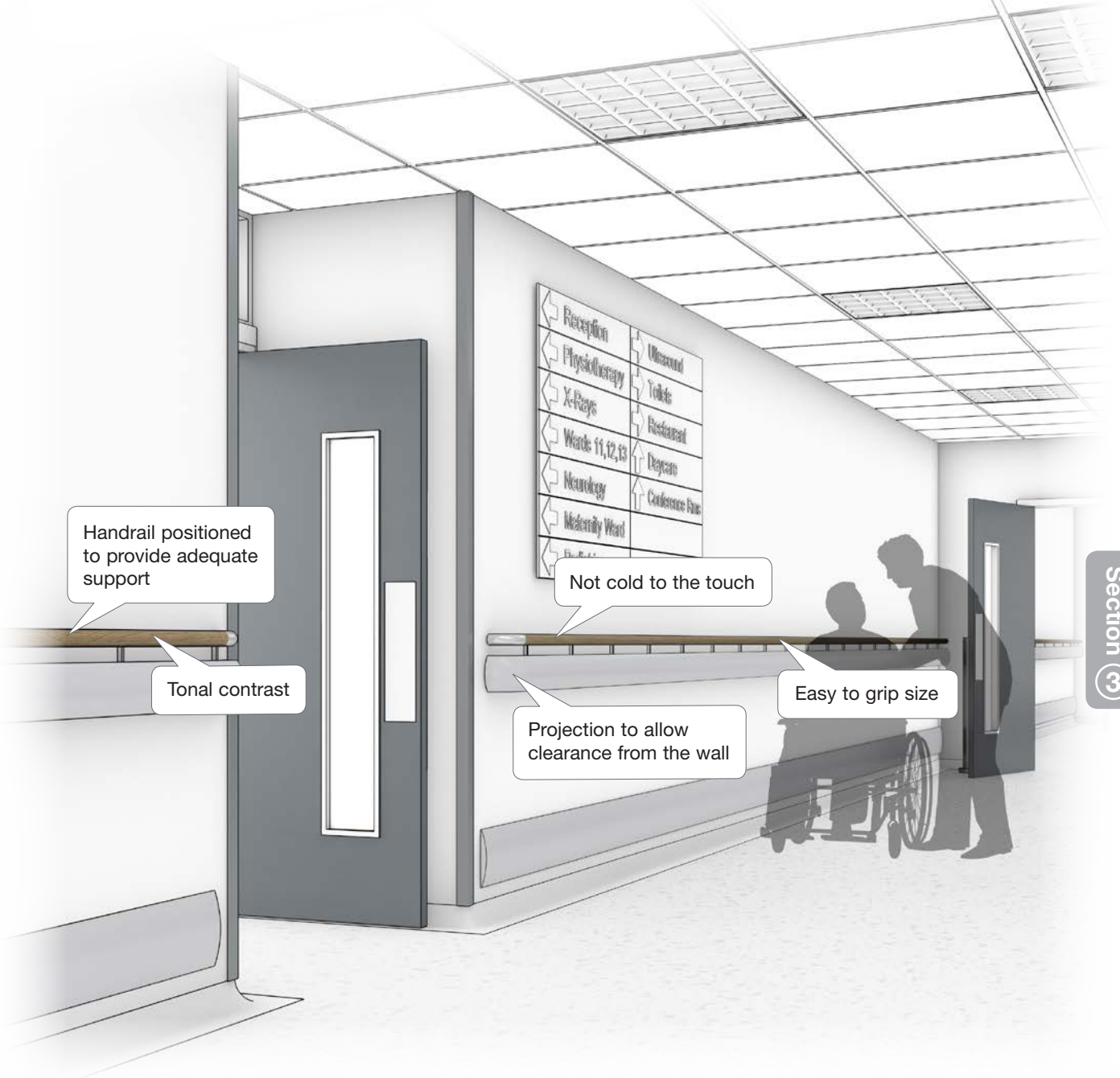


Combination Rail

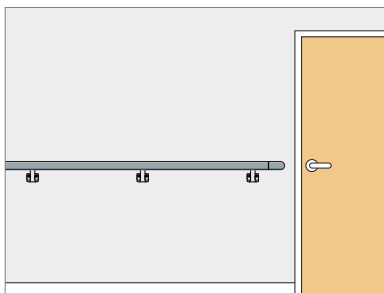
- Features a handrail and wall guard element combined as a single profile
- Offers both direct and indirect protection against impact from wheeled traffic
- Features a comfortable grip and thumb groove to provide reassuring pedestrian support and guidance



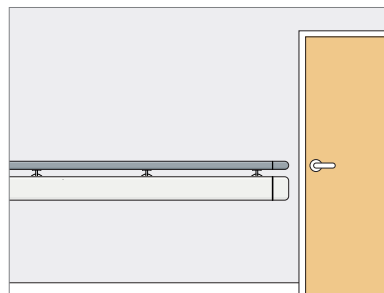
Handrails, Dual Rails & Combination Rail



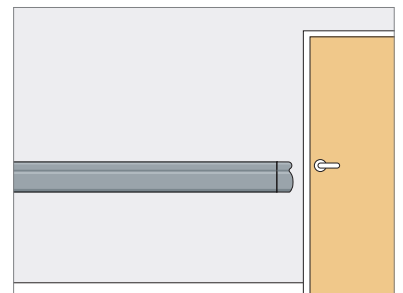
Meets the requirements of Approved Document M & K refer to standards on page 77



SHR40 Handrail
pedestrian guidance

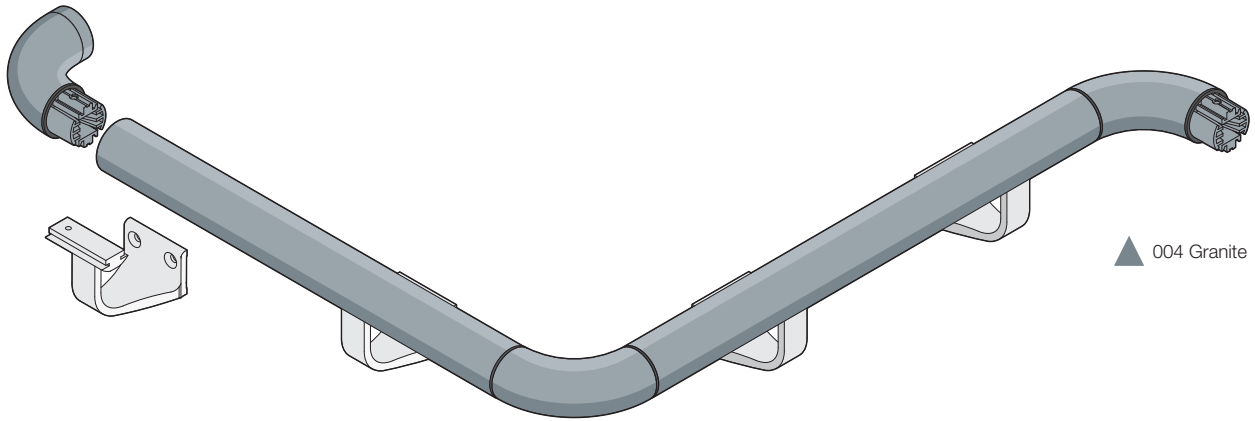


D200 Dual Rail
pedestrian guidance and impact protection



CHR160 Combination Rail
pedestrian guidance and impact protection

SHR40 Handrail



BIM Products available to download as BIM objects. www.gradus.com

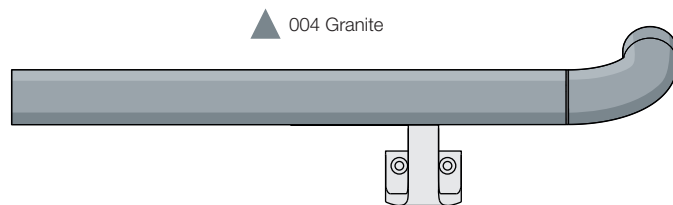
- SHR40 handrails are designed to offer pedestrian guidance and support in addition to a level of surface protection
- Available in 3 options: SHR40P PVC-u cover, SHR40W wood effect aluminium and SHR40S silver anodised aluminium
- Suitable for use in a wide range of environments including healthcare, education and transport
- Handrails feature a smooth finish in line with HBN 00-04
- Reveals provide tight, neat joints and contain an anti-microbial agent to inhibit the growth of bacteria
- All options are designed to meet guidelines in HBN 00-10, HBN 00-04, BS 8300-2:2018 and Approved Documents K and M of The Building Regulations 2010
- Size: Supplied in 4.0m lengths
- Material: PVC-u, Aluminium

Features

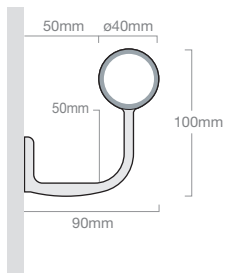
SHR40P - Aluminium retainer with PVC-u covers and matching PVC-u accessories (see opposite)

- Colour: available in 32 colours - see pages 21 - 23 for colours and availability
- Accessories include reveal(s)

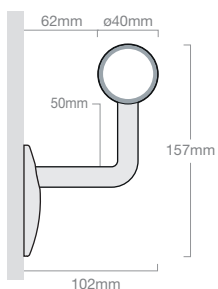
Components



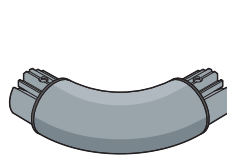
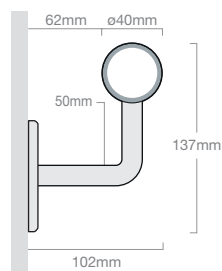
Standard bracket
SHR403



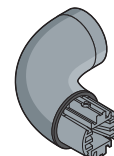
Stainless Steel bracket with cover
SA951



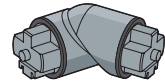
Stainless Steel bracket
SA959



SHR402P
universal corner



SHR404P
universal return



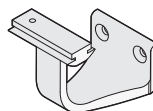
SHR408P
variable angle



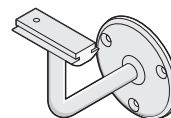
SHR407
jointing splice



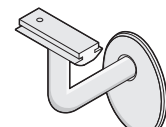
SHR406P
end stop



SHR403
mounting bracket
(anodised aluminium)



SA959
mounting bracket
(stainless steel)



SA951
mounting bracket
(stainless steel)

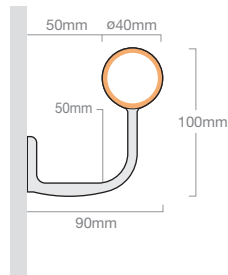
SHR40 Handrail

Features

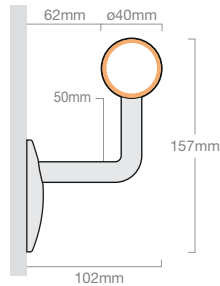
SHR40W - Aluminium handrail with wood effect finish with PVC-u accessories

- Colour: Handrail colour available in 5 wood effects see page 21 for availability and page 29 for larger colour swatches
- Accessories are available in 32 colours, see page 21 for colours and availability
- Recommended PVC-u accessories colour - Flint 032, Pebble 011 or Granite 004
- Accessories include reveal(s)

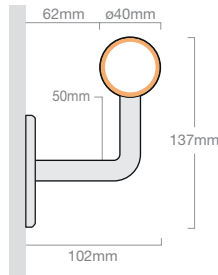
Standard bracket
SHR403



Stainless Steel bracket with cover
SA959

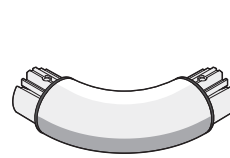
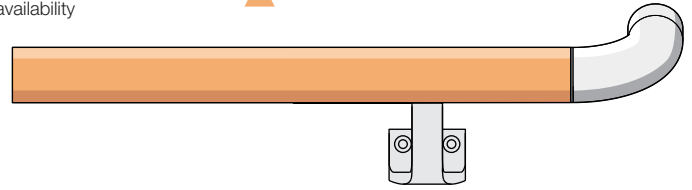


Stainless Steel bracket
SA951

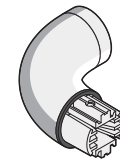


Components

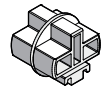
▲ 061 Beech



SHR402P
universal corner



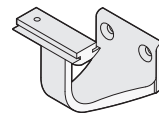
SHR404P
universal return



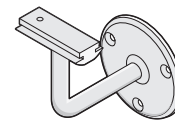
SHR407
jointing splice



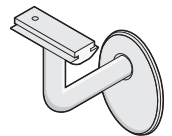
SHR406P
end stop



SHR403
mounting bracket
(anodised aluminium)



SA959
mounting bracket
(stainless steel)



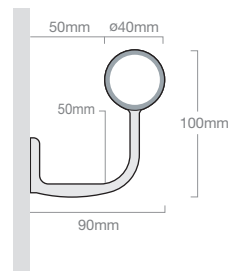
SA951
mounting bracket
(stainless steel)

Features

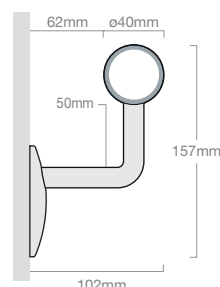
SHR40S - Silver anodised handrail with PVC-u accessories

- Colour: Handrail available in Silver Anodised finish
- Accessories are available in 32 colours, see page 21 for colours and availability
- Recommended PVC-u accessories colour - Flint 032
- Accessories include reveal(s)

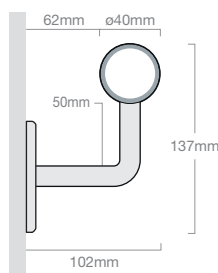
Standard bracket
SHR403



Stainless Steel bracket with cover
SA959

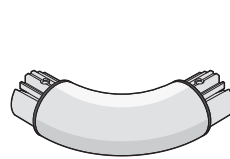
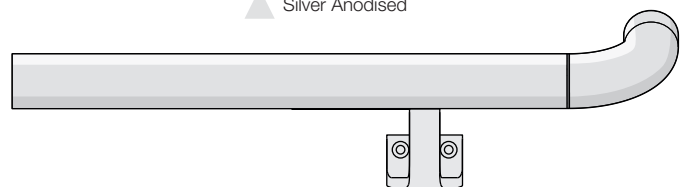


Stainless Steel bracket
SA951

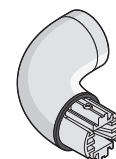


Components

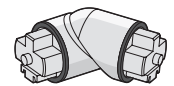
▲ Silver Anodised



SHR402P
universal corner



SHR404P
universal return



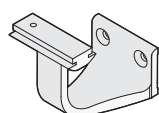
SHR408P
variable angle



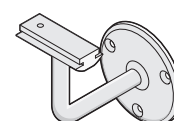
SHR407
jointing splice



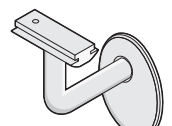
SHR406P
end stop



SHR403
mounting bracket
(anodised aluminium)

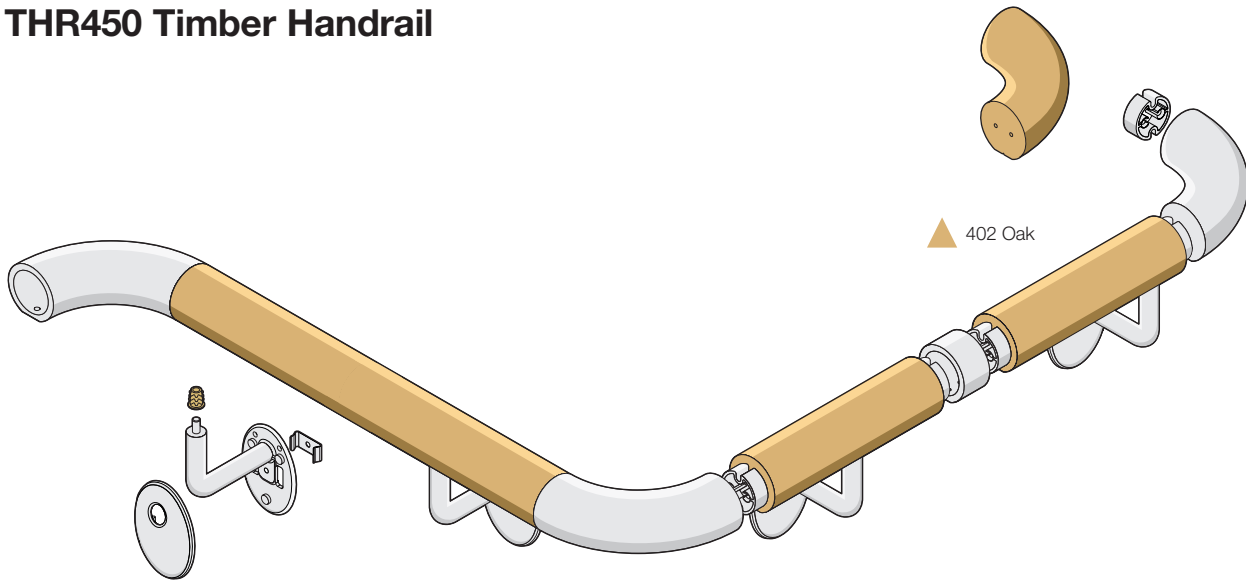


SA959
mounting bracket
(stainless steel)



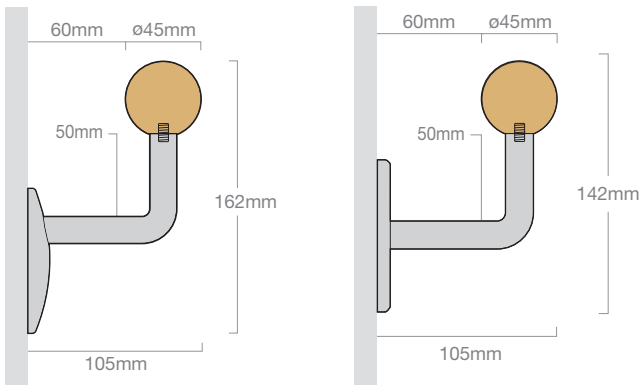
SA951
mounting bracket
(stainless steel)

THR450 Timber Handrail

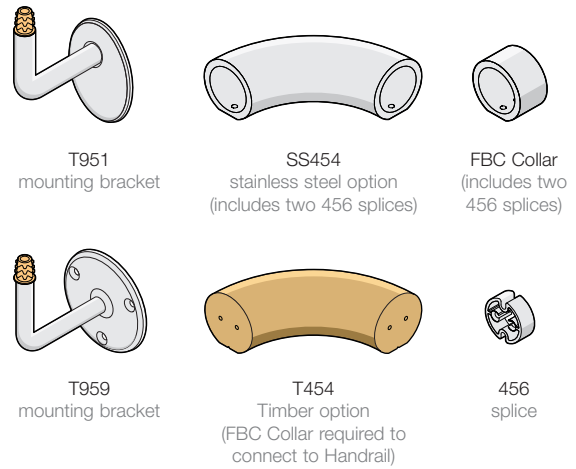


- Solid timber handrail with stainless steel or solid timber finishing accessories
- Supplied pre-lacquered – no on-site finishing required
- Timber handrail also forms part of D200T Dual Rail (see page 57)
- Colour: 4 timber options
- Size: Ash & Oak supplied in 3.6m lengths;
Maple & Sapele 3.0m lengths
- Material: Timber, Stainless steel

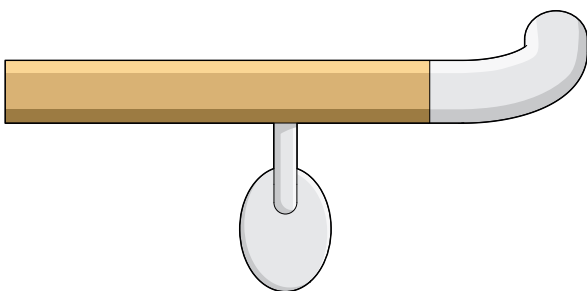
Features



Components

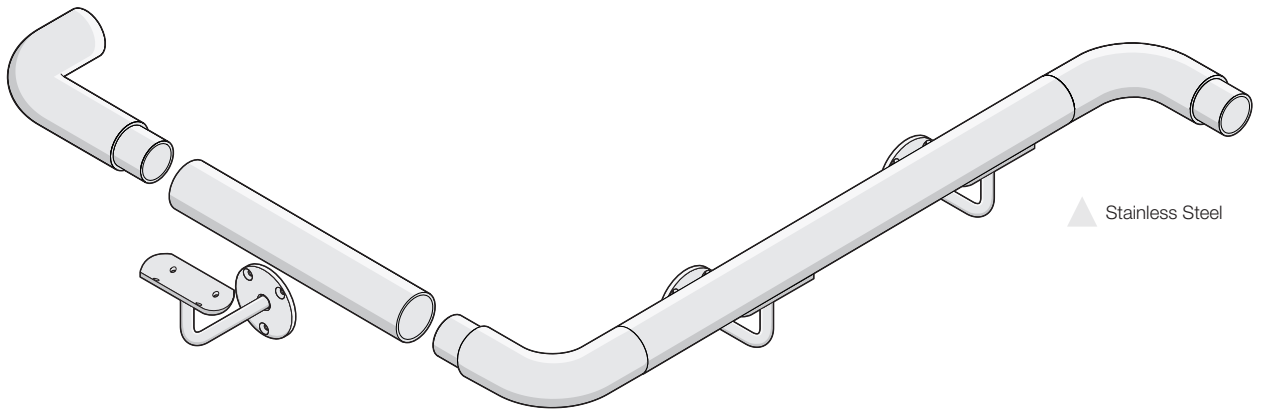


Timber options



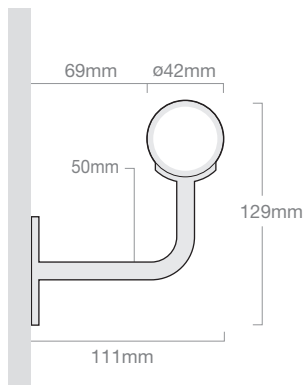
Light Reflectance Values shown are a guide only as wood is a natural product. Variations in colour & pattern will occur.

SSHR42 Stainless Steel Handrail

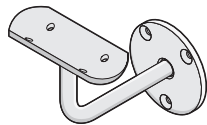


- Comprise stainless steel handrail, brackets and matching accessories
- Can be curved for bespoke applications (contact Gradus for radii information)
- Suitable for interior environments
- Colour: Satin or Polished finish
- Size: Supplied in 3.0m lengths
- Material: Stainless steel

Features



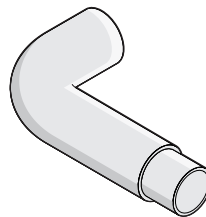
Components



SSHR42/SBRKT
mounting bracket



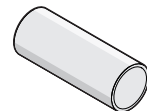
SSHR42/A90
inside/outside corner 90°



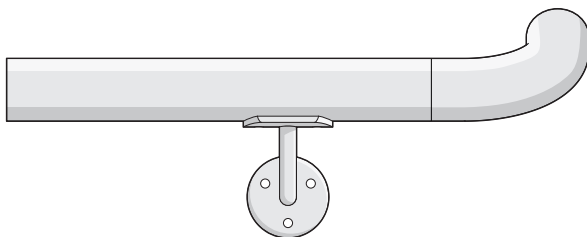
SSHR42/RET
wall return



SSHR42/EC
flat end cap



SSHR42/SPLICE
liner joint

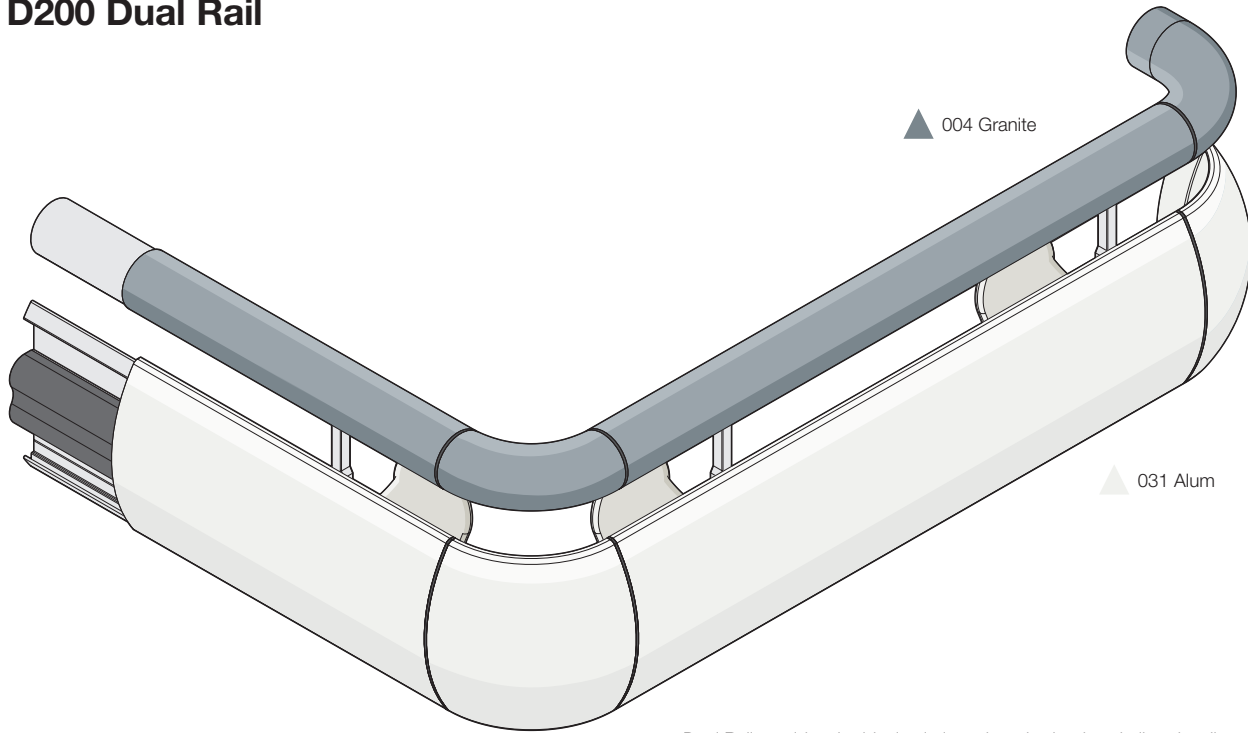


Finish



Stainless Steel LRV: 59.95

D200 Dual Rail



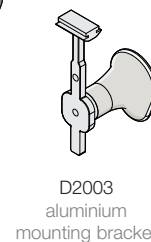
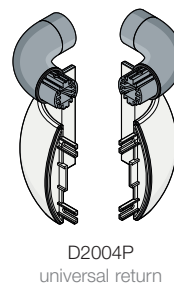
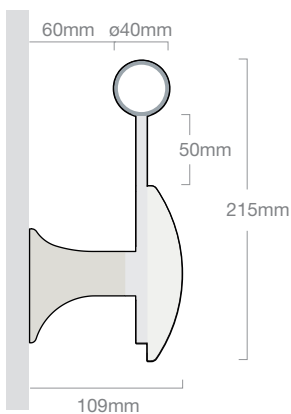
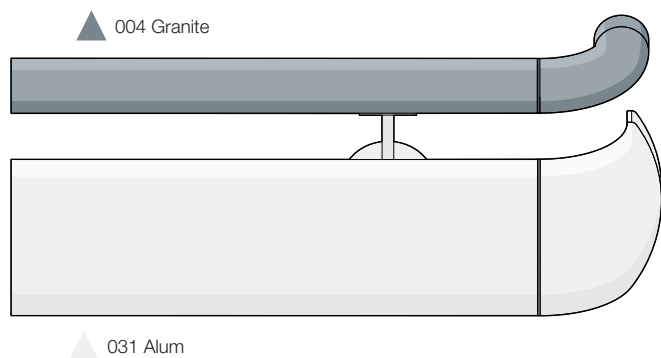
- Dual Rail provides the ideal solution where both a handrail and wall guard are required as a combined system
- Available in 4 options: D200P with PVC-u handrail, D200T with Timber handrail, D200W with wood effect aluminium handrail and D200S with silver anodised aluminium handrail
- Ideal for healthcare environments where pedestrian support is required in addition to protection against severe impact
- Reveals provide tight, neat joints and contain an anti-microbial agent to inhibit the growth of bacteria
- All options are designed to meet guidelines in HBN 00-10, HBN 00-04, BS 8300-2:2018 and Approved Documents K and M (see page 77 for details)
- Size: Supplied in 4.0m lengths
- Material: See individual product options

Features

D200P - PVC-u wall guard with PVC-u handrail and PVC-u accessories

- Colour: Wall Guard: All options available in 32 colours - see pages 21 - 23 for colours and availability
Handrail: D200P - as wall guard above
- Accessories include reveal(s)

Components

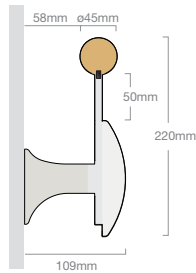
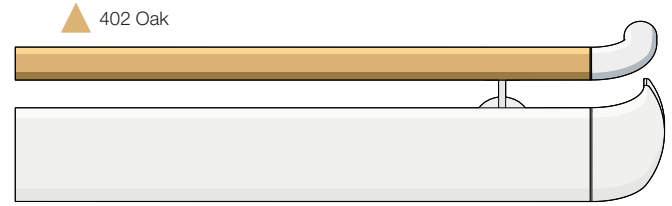


For multiple length handrail installations use splice SHR407 (page 52)
Should be used in conjunction with wall guard splice D200JS

D200 Dual Rail

D200T - PVC-u wall guard with timber handrail and stainless steel accessories

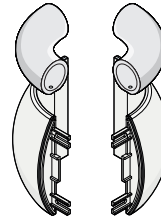
- Colour: Wall Guard: All options available in 32 colours - see pages 21 - 23 for colours and availability
Handrail: available in 4 timbers - see page 54 for details
- Wall guard accessories include reveal(s)



D2002EST
outside corner

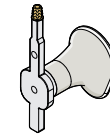


D2002IST
inside corner



D2004ST
universal return

FBC Collar
(includes two 456 splices)



D2003T
aluminium
mounting bracket

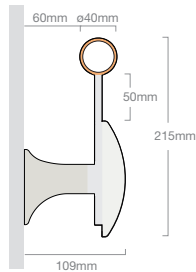
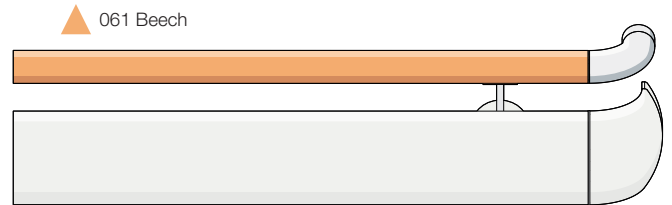


SSD2003T
stainless steel
mounting bracket

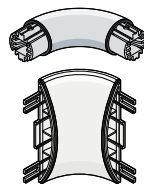
For multiple length handrail installations use FBC Collar in conjunction with wall guard splice D200JS

D200W - PVC-u wall guard with wood effect aluminium handrail and PVC-u accessories

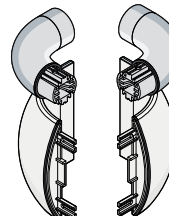
- Colour: Wall Guard: All options available in 32 colours - see pages 21 - 23 for colours and availability
Handrail: available in 5 wood effects - see page 29
- Accessories include reveal(s)



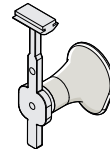
D2002ECP
outside corner



D2002ICP
inside corner



D2004CP
universal return



D2003
aluminium
mounting bracket

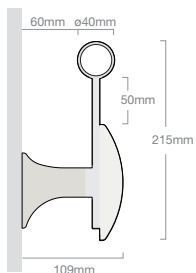
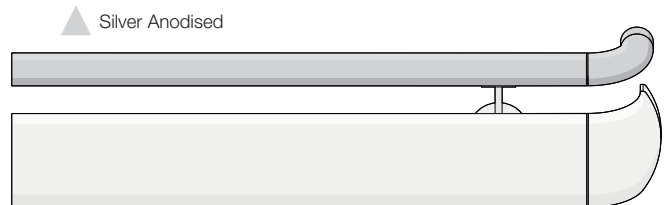


SSD2003
stainless steel
mounting bracket

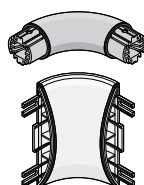
For multiple length handrail installations use splice SHR407 (page 52) Should be used in conjunction with wall guard splice D200JS

D200S - PVC-u wall guard with silver anodised aluminium handrail and PVC-u accessories

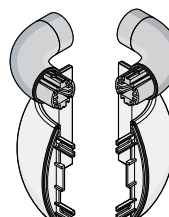
- Colour: Wall Guard: All options available in 32 colours - see pages 21 - 23 for colours and availability
Handrail: available in Silver Anodised finish
- Accessories include reveal(s)



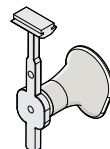
D2002ESP
outside corner



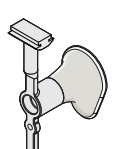
D2002ISP
inside corner



D2004SP
universal return



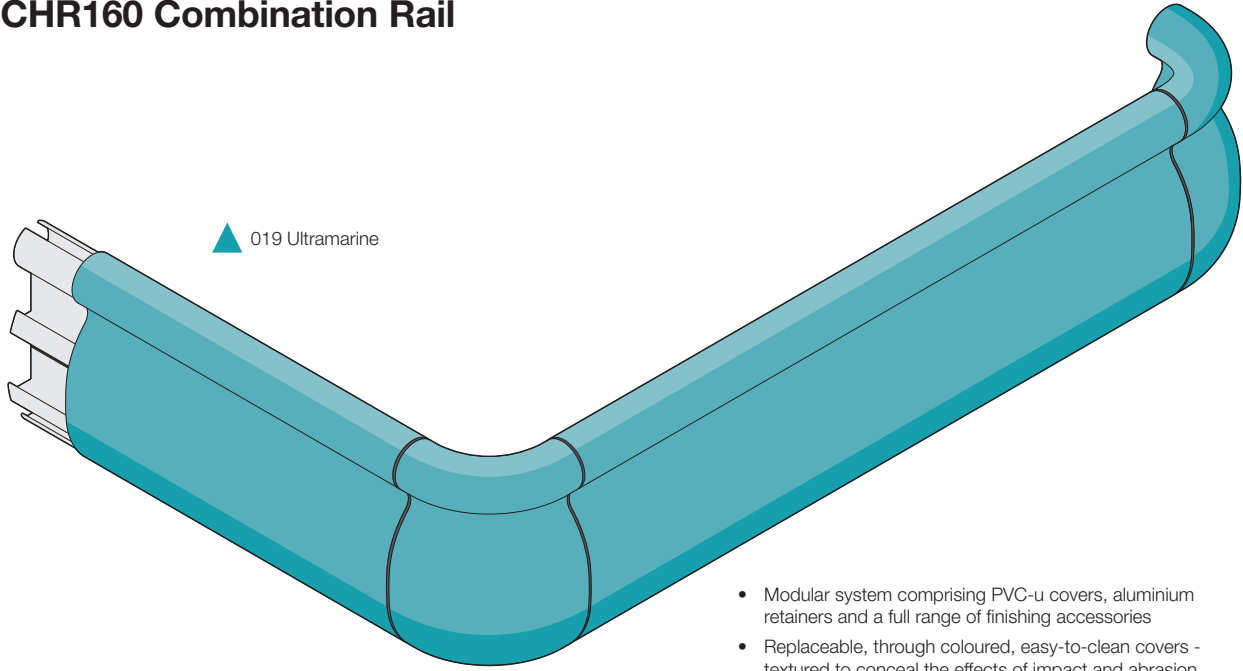
D2003
aluminium
mounting bracket



SSD2003
stainless steel
mounting bracket

For multiple length handrail installations use splice SHR407 (page 52) Should be used in conjunction with wall guard splice D200JS

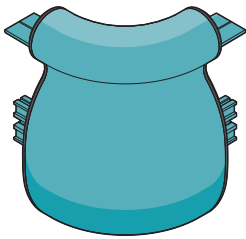
CHR160 Combination Rail



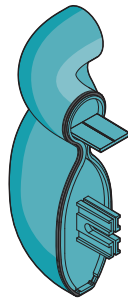
 Gradus is the largest UK manufacturer of wall protection profiles

- Modular system comprising PVC-u covers, aluminium retainers and a full range of finishing accessories
- Replaceable, through coloured, easy-to-clean covers - textured to conceal the effects of impact and abrasion
- Closed slots to ensure ends remain in place in event of severe high impact
- Reveals provide tight, neat joints and contain an anti-microbial agent to inhibit the growth of bacteria
- Colour: Available in 32 colour options – see pages 21 - 23 for colours and availability
- Size: Supplied in 4.0m lengths.
- Material: PVC-u, Aluminium

Components



CHR1602
universal corner
(including reveals)



CHR1604L
left return
(including reveal)



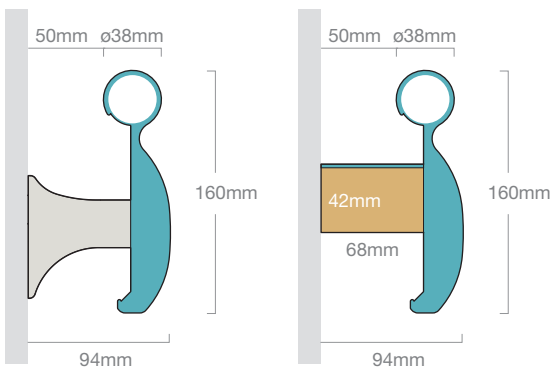
CHR1604R
right return
(including reveal)



CHR1603
mounting bracket
(supplied in colour 002 Gravel)

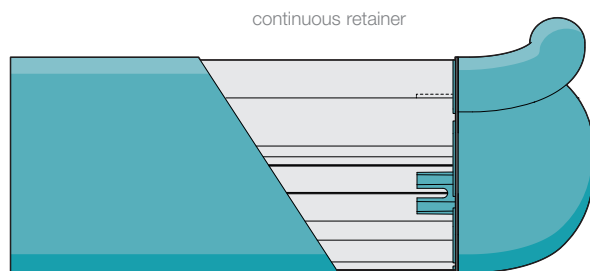
Features

Reduced ligature option available
continuous timber batten with
SureProtect Endure® strip



Contact Gradus for more details

Profile



For multiple length installations use Wall Guard Splice D200JS

Section 4

Corner Guards

Information on a wide range of corner protection solutions including PVC-u, stainless steel, rubber, aluminium and reflective corner guards.

Corner Guards

Corners are one of the most vulnerable parts of a building and when left exposed are often damaged from everyday wheeled and pedestrian traffic. Corner guards are ideal for reducing maintenance costs and maintaining interior appearances and can be combined with other Gradus protection products to provide a complete solution.

Gradus corner guards are available in a variety of material types, styles and heights to suit all building requirements.

PVC-u Corner Guards



High Impact PVC-u

- Aluminium retainer provides reinforced defence against high impact damage from wheeled traffic combined with a shock absorbent PVC cover which can be easily replaced if damaged

Standard PVC-u

- Cost effective solution for protecting corners from damage caused by pedestrian and wheeled traffic

Clear PVC-u

- Clear PVC-u allows any decorative surface finishes to clearly show through without interruption, providing an ideal solution in areas where less obtrusive protection is required

Metal Corner Guards



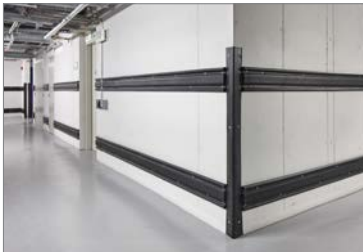
Stainless Steel

- Durable and hygienic protection solutions for clinical areas or to enhance aesthetics

Aluminium Chequer Plate

- Robust material to withstand damage from wheeled traffic

Rubber Corner Guards



Rubber

- Designed to deflect impact, protecting both wheeled traffic and building interiors against impact damage

Reflective

- Highly visible to alert vehicle users and protect both vehicles and buildings from impact damage

Consideration when selecting Corner Guards

Height

Whilst most corner damage will occur at lower levels, there are some exceptions. It is important to consider the following factors before specifying the height of the product:

- Type and size of traffic that could cause damage
- How the product will coordinate with other wall protection products e.g. handrails, wall guards and wall cladding
- Highlighting hazards – corner guards used to highlight columns, ducts or similar elements that project into circulation areas should be full height (refer to Approved Document M on page 76)

Wing Size

Selecting the appropriate wing size will vary depending on the type of environment, however, it is generally recommended that the maximum wing size should be specified for the following reasons:

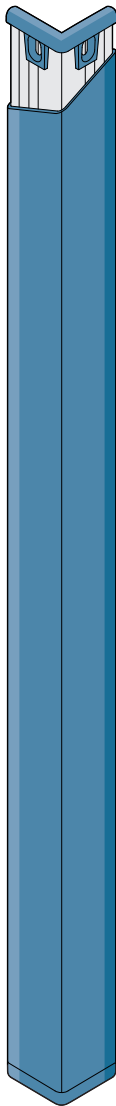
- Larger wing sizes cover more of the substrate and therefore offer a higher degree of protection
- When installing corner guards, larger wing sizes offer a greater surface area for adhesive and enables mechanical fixings to be applied further away from the apex of the corner

Colour

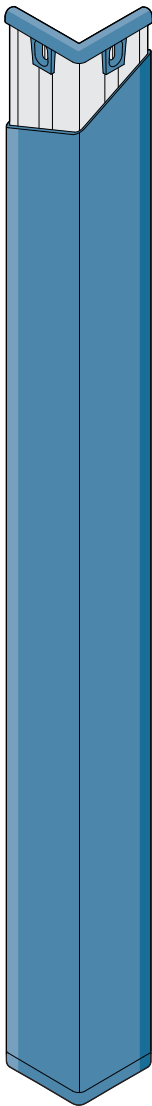
Corner guards can be selected in a colour to either visually contrast with surrounding wall surfaces or to blend in with the decor.

- Blend – Provide protection without compromising on the interior design of the building – Installing at full height helps to further blend the product in with the design
- Contrast – Specifying in a contrasting colour to the substrate alerts building users to avoid potential Impact - NB They should be installed at a minimum height of eye level to work effectively at alerting building users

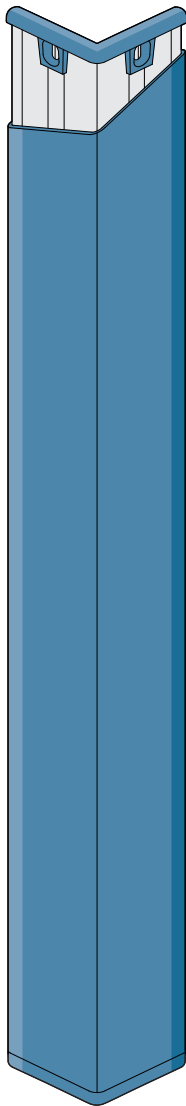
High Impact PVC-u Corner Guards



CGH5090
90°

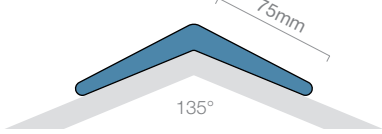
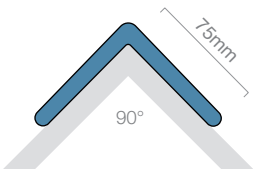
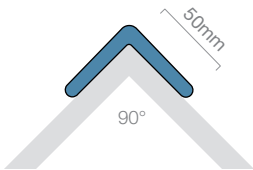


CGH7590
90°



CGH75135
135°

▲ 020 Denim

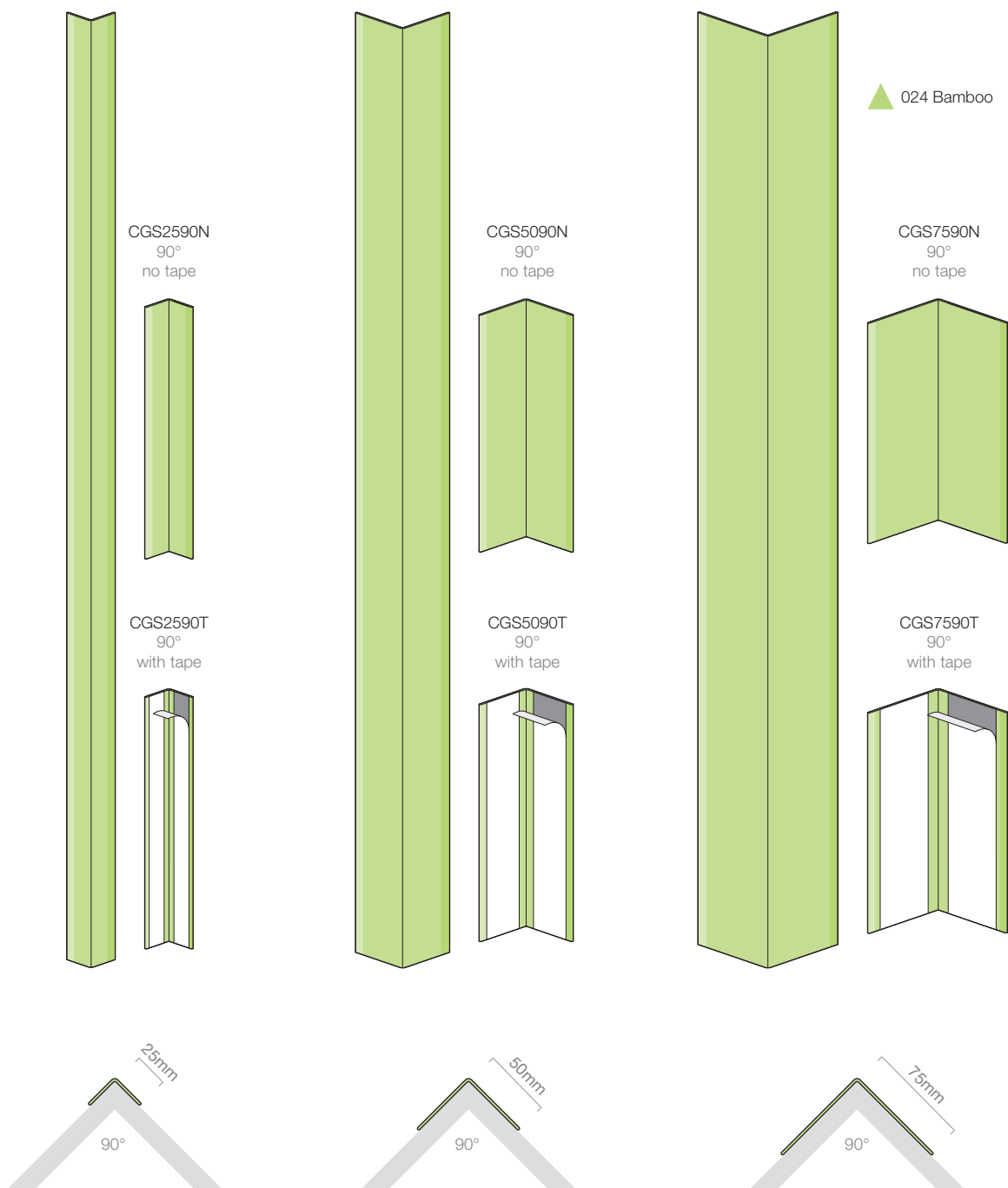


Features

- Surface mount corner guards comprising aluminium retainer, PVC-u cover and PVC-u top/bottom caps
- Replaceable, through coloured, easy-to-clean covers - textured to conceal the effects of impact and abrasion
- Aluminium retainer provides additional support for weaker substrates
- Supplied in package format with a pre-cut retainer, cover and 2 caps
- Colour: Available in 33 colour options – see pages 21 - 23 for details
- Height: 8 options: 0.8m, 1.0m, 1.22m, 1.3m, 2.0m, 2.44m, 2.7m and 4.0m
Can also be cut down to suit specific requirements with additional top/bottom caps available to order
- Material: PVC-u, Aluminium
- Environment: Interior

Standard PVC-u Corner Guards - with or without tape

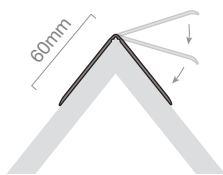
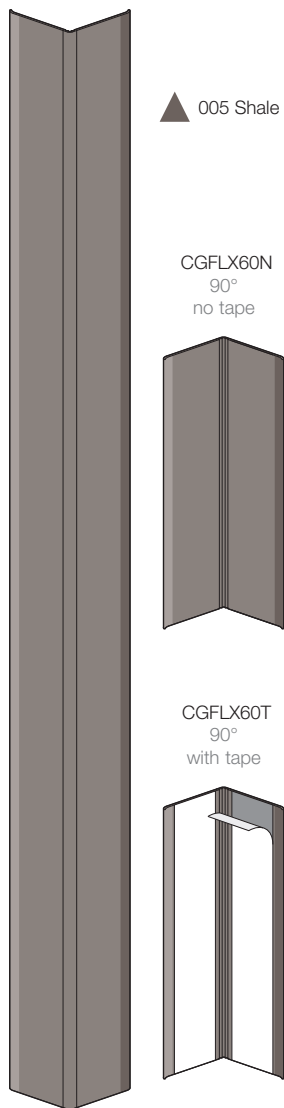
 Gradus is the largest UK manufacturer of wall protection profiles



Features

- One-piece, surface mount corner guards
- Cost effective solution ideal for use in environments such as hotels, leisure clubs, schools, offices and nursing homes
- Through coloured, easy-to-clean PVC-u – textured to conceal the effects of impact and abrasion
- Supplied with tape for ease of installation or without, for installation with a suitable adhesive
- Colour: Available in 34 colour options – see pages 21 - 23 for details
- Height: 8 options: 0.8m, 1.0m, 1.22m, 1.3m, 2.0m, 2.44m, 2.7m and 4.0m
Can also be cut down to suit specific requirements.
- Material: PVC-u
- Environment: Interior

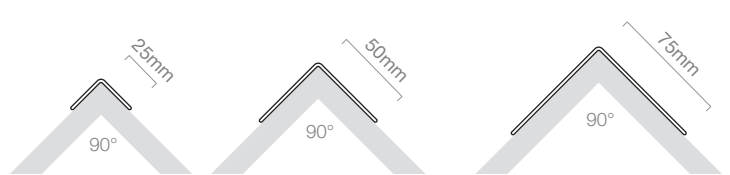
Adjustable Angle PVC-u Corner Guard



Features

- One-piece, surface mount corner guard – through coloured and textured to conceal the effects of impact
- Cost effective solution for irregular angle corners
- Supplied with or without tape
- Colour: Available in - 001 Chalk, 006 Ivory, 003 Clay, 005 Shale – see page 21
- Height: 8 options: 0.8m, 1.0m, 1.22m, 1.3m, 2.0m, 2.44m, 2.7m and 4.0m. Can also be cut down to suit specific requirements
- Material: PVC-u & PVC
- Environment: Interior

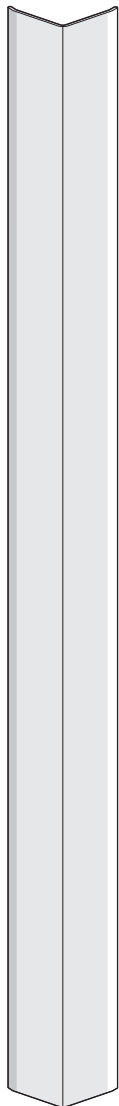
Clear PVC-u Corner Guards



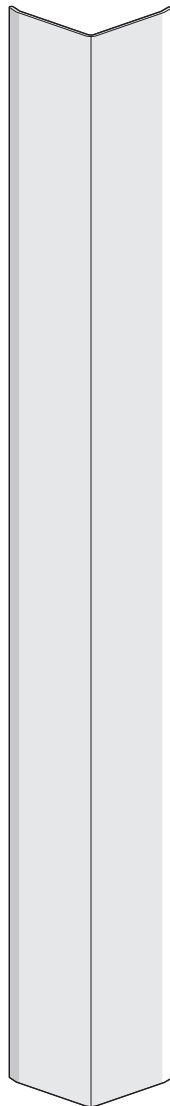
Features

- One-piece, surface mount corner guards with a smooth finish
- Allows wallcoverings and finishes to be protected whilst enabling pattern and colour to show through
- Colour: Clear
- Height: 8 options: 0.8m, 1.0m, 1.22m, 1.3m, 2.0m, 2.44m, 2.7m and 4.0m
Can also be cut down to suit specific requirements
- Material: PVC-u
- Environment: Interior

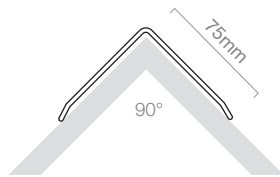
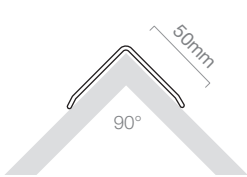
Stainless Steel Corner Guards



SSCG5090D
drilled
90°
SSCG5090U
undrilled
90°



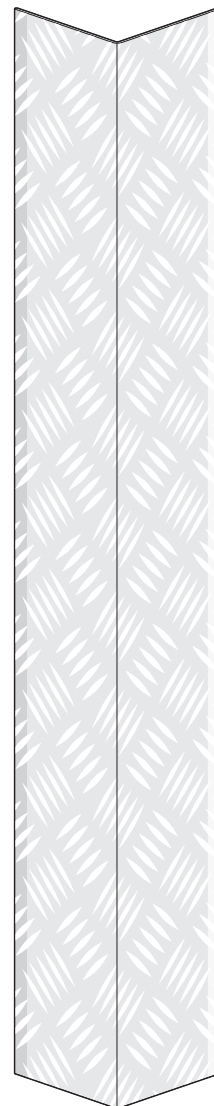
SSCG7590D
drilled
90°
SSCG7590U
undrilled
90°



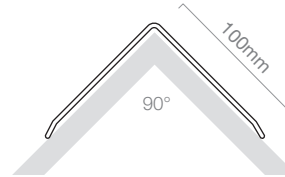
Features

- One-piece, surface mount corner guards
- Hygienic, durable protection for applications such as kitchens, canteens and laboratories
- Supplied drilled or undrilled
- Finish: Satin
- Height: 2 options: 1.25m, 2.5m
- Material: 304 Grade Stainless Steel – 1.5mm
- Environment: Interior

Aluminium Chequer Plate Corner Guard



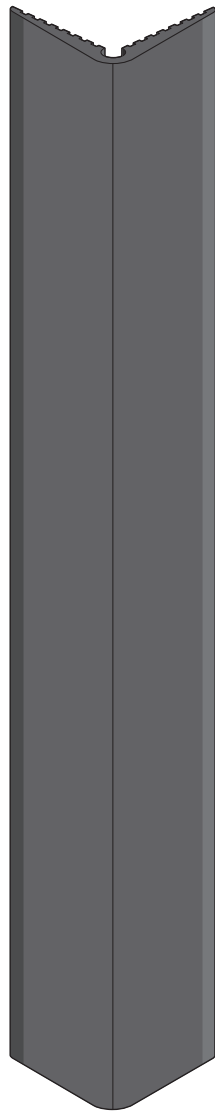
CPACG
10090/1250
undrilled
90°



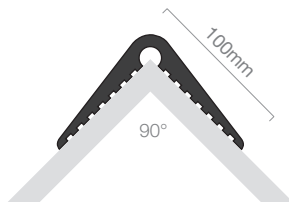
Features

- One-piece, surface mount corner guards
- Lightweight, easy-to-install
- Embossed chequer pattern conceals the effects of impact and abrasions
- Supplied undrilled
- Finish: Chequer Pattern
- Height: 1.25m
- Material: Aluminium
- Environment: Interior & Exterior

Rubber Corner Guard



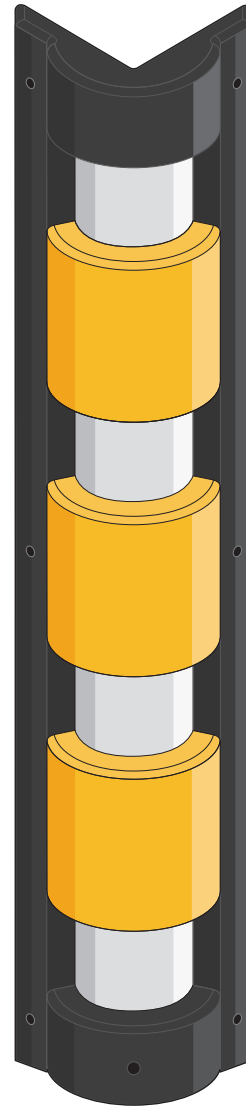
CGR119
90°



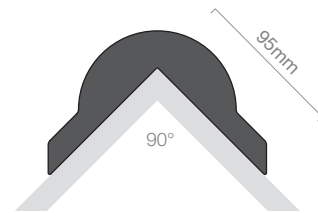
Features

- One-piece, surface mount corner guard
- Heavy duty protection against damage caused by wheeled traffic
- Through coloured to conceal the effects of impact
- Ideal for use in manufacturing, warehousing and loading bays, back of house retail, hospital service corridors and car parks
- Supplied undrilled
- Colour: Black
- Height: 3.0m
- Material: Rubber
- Environment: Interior & Exterior

Reflective Corner Guard



CGCW-890-BY
90°



Features

- One-piece, surface mount corner guards incorporating impact absorption pads and diamond grade reflectors
- Highly visible to alert vehicle users to potential hazards
- Ideal for loading bays and basement car parks where vehicles are manoeuvring in tight spaces and often with poor visibility
- Suitable for corners and pre-cast concrete or clad pillars
- Supplied undrilled
- Colour: Black/Yellow/Reflectors
- Height: 890mm
- Material: Polyethylene
- Environment: Interior & Exterior

Section 5

Door Protection

Door faces, edges and frames are vulnerable to damage due to the constant flow of pedestrian and wheeled traffic. A variety of door protection products are available to help prevent damage, conceal existing damage and highlight the door and door furniture, to assist the visually impaired and to meet guidelines in The Building Regulations 2010: Approved Document M and BS 8300-2:2018.

Door Face Protection

Door face protection

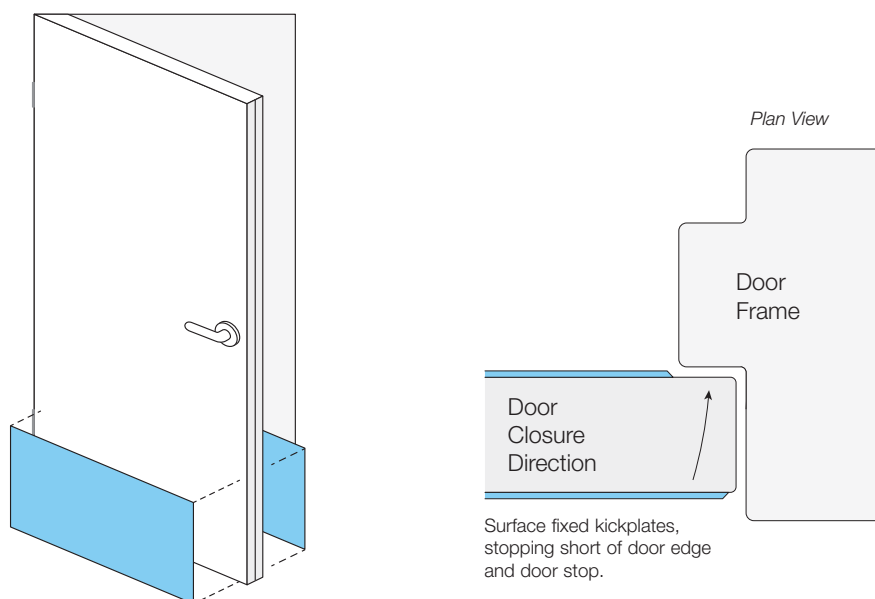
Door face protection can be cut into pushplates and kickplates.

Material options

Material	Thickness	Maximum Size	Specification Details
PVC-u	2.0mm 1.5mm	3000mm x 1300mm 2440mm x 1220mm	K2 – Kickplates and Pushplates <ul style="list-style-type: none"> • 35 colour options in SureProtect Endure® plus 10 colour options in SureProtect Design® (wood and metal effects) • Tested as resistant to chemical, bacterial and fungal growth • Textured finish designed to conceal the effects of impact and abrasion • Cut from SureProtect Endure® sheet to individual size requirements (Bevelled edges) • Option to cut bespoke shapes and designs • Suitable for interior environments • Available with double sided tape for ease of installation. (Only suitable for application on doors)
Stainless Steel	1.5mm	2500mm x 1250mm	K130/SPEC – Kickplates and Pushplates <ul style="list-style-type: none"> • 304 grade Stainless Steel with Satin finish (Other grades available) • Suitable for hygienic environments e.g. food preparation areas and laboratories • Cut to individual size requirements • Supplied drilled or undrilled • Suitable for both interior and exterior environments
Aluminium	2.0mm	2500mm x 1250mm	CPA2 – Kickplates and Pushplates <ul style="list-style-type: none"> • Aluminium with embossed chequer pattern • Embossed texture conceals the effects of impact damage • Cut to individual size requirements • Supplied drilled or undrilled • Suitable for both interior and exterior environments

Door face installation options

Illustrated below is an installation method for a surface mounted kickplate. Protective sheet can be applied to new doors by the door manufacturer or surface mounted by a contractor as part of building/refurbishment works.

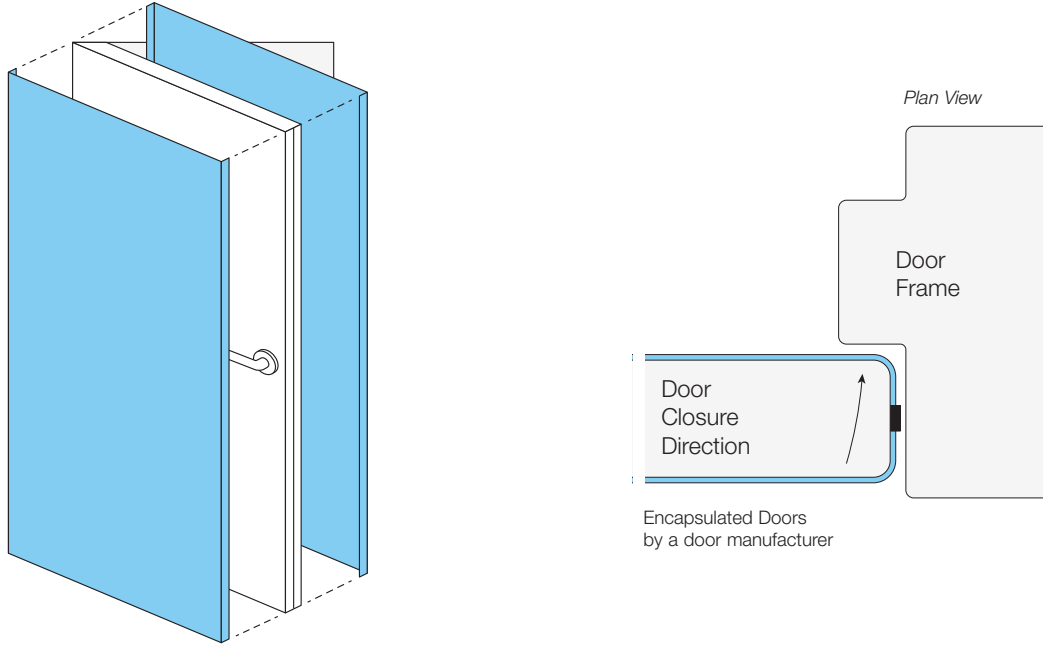


Door Face Protection

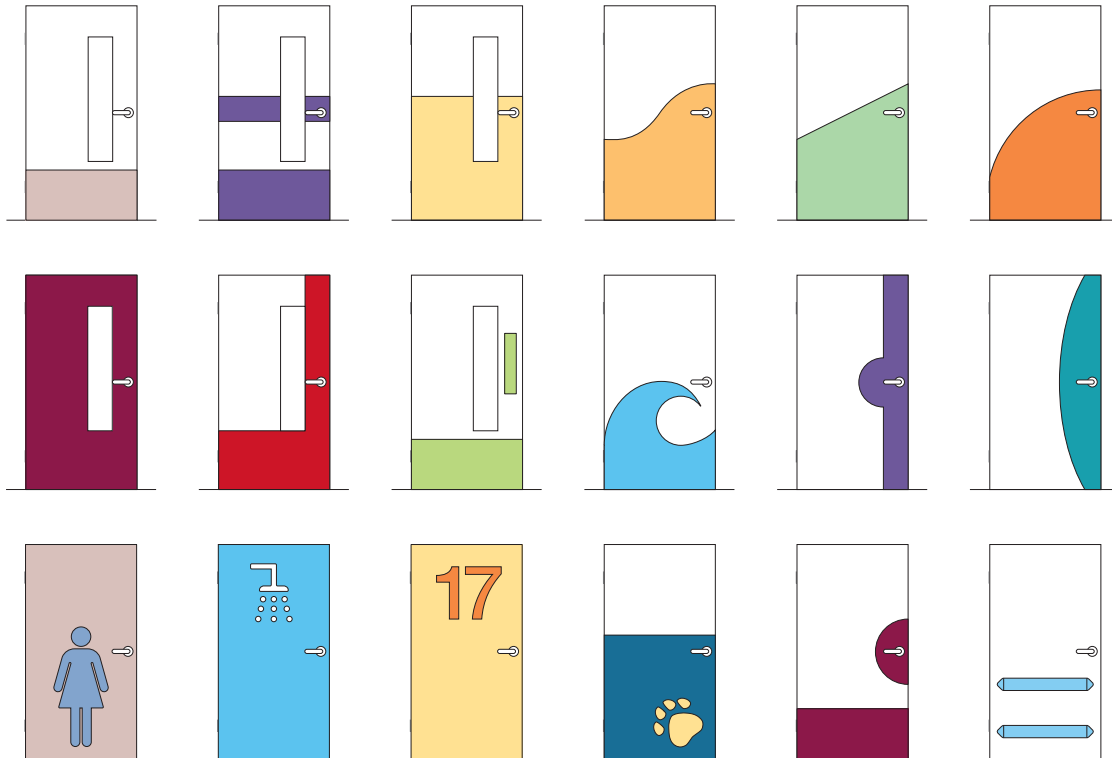
(Supply only, usually formed and bonded by a door specialist)

Door face & edge installation options

'Fully Clad' with SureProtect Endure® thermoformed / post formed edges applied to new doors by the door manufacturer. The provision of intumescent fire and smoke seals provided by the door manufacturer.



Typical examples (including water jet cutting)



Fire Rated Door Edge Guards

(Supply only, usually installed by a door specialist)

Fire Rated Door Edge Guards

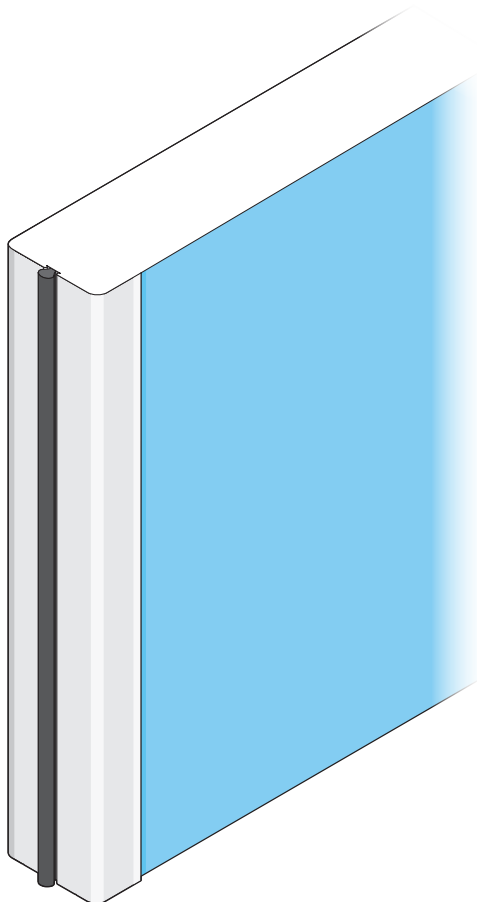
Fire Rated Door Edge Guards are fitted with intumescent fire and smoke seals which are vandal-resistant yet easy to replace. These profiles are ideal for maintaining the integrity of the fire door and can be used on the front and back edges of fire resisting door sets.

- Fire tested to BS 476: Part 20 & 22 for 30 and 60 minutes
- Reduces maintenance costs and protects vulnerable entry areas
- A viable long-term solution to combat high and medium impact damage
- Reduces the risk of splintering

Standard finishes are Satin Anodised Aluminium (SAA) or standard PVC-u colours available from the SureProtect Endure® range. This helps to provide colour and tonal contrast to door edges to aid the visually impaired and to meet the guidelines in BS 8300-2:2018 and Approved Document M. Profiles are available with a choice of seals dependent on application (brush, neoprene blade or blank intumescent).

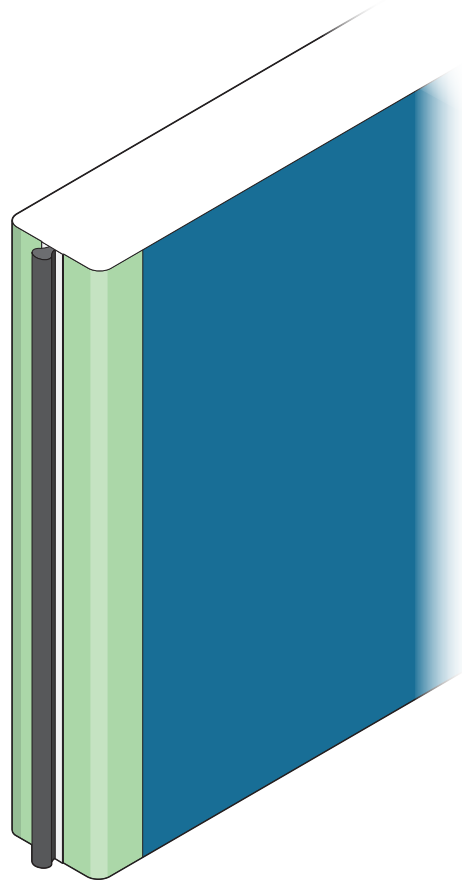
Aluminium

Aluminium: profile designed for doors (single or double doorsets) where there is the need to cut around the locks, latches and hinges.



PVC-u

PVC: radius profile designed for doors (single or double doorsets) where there is the need to cut around the locks, latches and hinges.



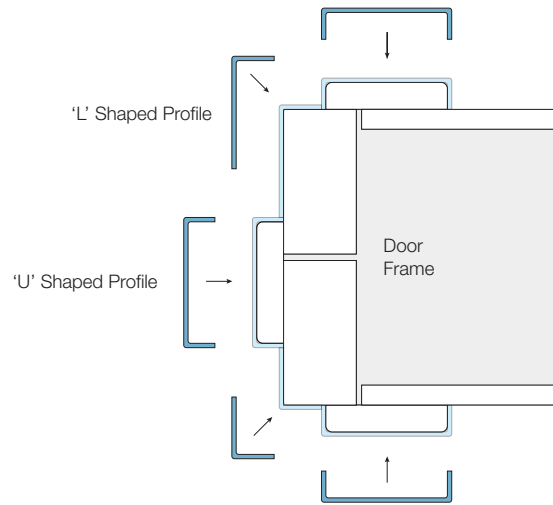
Door Frame Protection

(Supply only, usually installed by a door specialist)

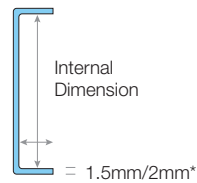
Door frame protection

SureProtect Endure® PVC-u sheet offers excellent flexibility through the versatility of forming into bespoke profiles, allowing functionality to be combined with aesthetics and offering an endless range of cladding possibilities, to protect as well as offering tonal contrast to aid the visually impaired (see pages 20 for tonal contrast guide).

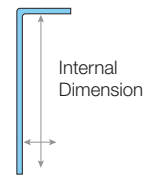
- SureProtect Endure® and SureProtect Design® sheet (not the print option) can be formed into a variety of profiles, with the most frequently used profiles being 'L' and 'U' shapes. These profiles can be used to clad a door frame by the door manufacturer, or on site with the use of thermoformed sections
- Fully cladding a door frame can be achieved by the door manufacturer in the factory or fabricated on-site by the use of thermoforming SureProtect Endure® sheet material. 'Off-site' thermoforming can be produced from accurate site dimensions and/or oversized to be trimmed down on-site
- For lead times and quotations for bespoke forming, contact Gradus Technical Support on 01625 428922



'U' shaped profiles



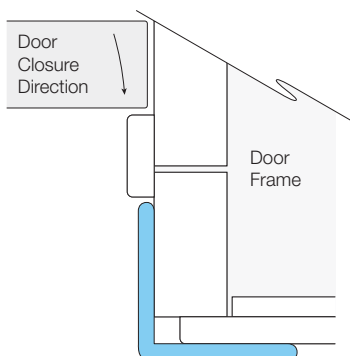
'L' shaped profiles



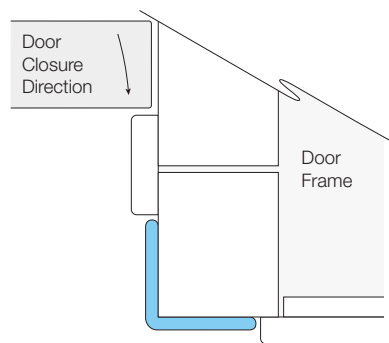
* Available in both SPE15 & SPE20

Corner guards (Push side only)

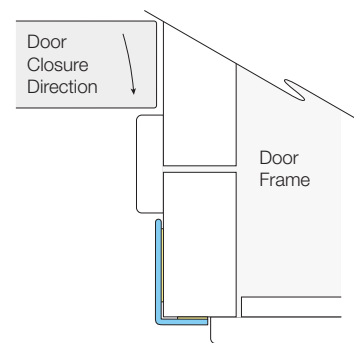
Door frames are often subject to high levels of impact from both pedestrian and wheeled traffic. Corner guards provide robust protection for door frame edges which are vulnerable to damage caused by a funnelling effect around door openings.



CGH7590
High Impact Corner Guard
(fitted over frame architrave leaving gap)
see page 61 for full product details



CGH5090
High Impact Corner Guard
(fitted between door stop & architrave)
see page 61 for full product details



CGS25/50/90
Standard Corner Guard
Surface Mounted
(trimmed down to suit site dimensions)
see page 62 for full product details

For lead times and quotations for bespoke forming, contact Gradus Technical Support on 01625 428922

Section 6

Floor Mounted Protection

Information on floor mounted protection products including floor rails, bollards and posts.

Stainless Steel Floor Rail System



Gradus stainless steel floor systems provide the ideal protection solution for surfaces that are not suitable for wall fixings, such as counters and glass partitions. Floor systems are specifically designed for keeping wheeled traffic away from the walls and can help create a sophisticated, unobtrusive finish for a modern design scheme.

- Ideal alternative to wall guards where wall fixings are not possible such as curtain walling or glass partitioning
- 304 grade stainless steel – Satin or Polished finish
- Comprises 51mm diameter rail with various pillar options and accessories
- Standard and heavy duty pillar and bracket options available for front and back of house applications
- Supplied in 3.0m lengths
- Can be curved – contact Gradus for radii information
- Suitable for interior use

Code	Description	Ø = Diameter
SSFR51	Stainless Steel Rail 51mm Ø	
SSFR51HD/230*	Heavy Duty Pillar 230mm (h) Stainless Steel	
SSFR51FB/180	Straight Floor Bracket 180mm (h) Satin Stainless Steel	
SSFR51SFB/180	Slanted Floor Bracket 180mm (h) Satin Stainless Steel	
SSFR51A90	90° Corner - Internal & External	
SSFR51A135	135° Corner - Internal & External	
SSFR51SP	Joining Splice	
SSFR51EC	Flat End Cap	
SSFR51RET/180	Floor Return 180mm (h)	
SSFR51RET/230	Floor Return 230mm (h)	

Heavy Duty Pillar



Slanted Floor Bracket
(straight version also available)



Stainless Steel Bollard



Ideal alternative to wall guards where surface fixings are not suitable such as counters, refrigeration units, isolated equipment and doors in hold open position

- 2 profile options available in 2 heights
- 304 grade stainless steel – Satin or Polished finish
- Comprises bollard with base plate cover for concealed fixing
- Suitable for interior use

Code	Description	Ø = Diameter	Base Plate Ø
SSP51/550	51mm Ø x 550mm (h)		155mm
SSP51/1000	51mm Ø x 1000mm (h)		155mm
SSP76/550	76mm Ø x 550mm (h)		155mm
SSP76/1000	76mm Ø x 1000mm (h)		155mm



Galvanised Steel Bollard with Cover Kits

A range of heavy duty steel core bollards with high visibility cover kits offering a high performance, low maintenance solution with no repainting required.

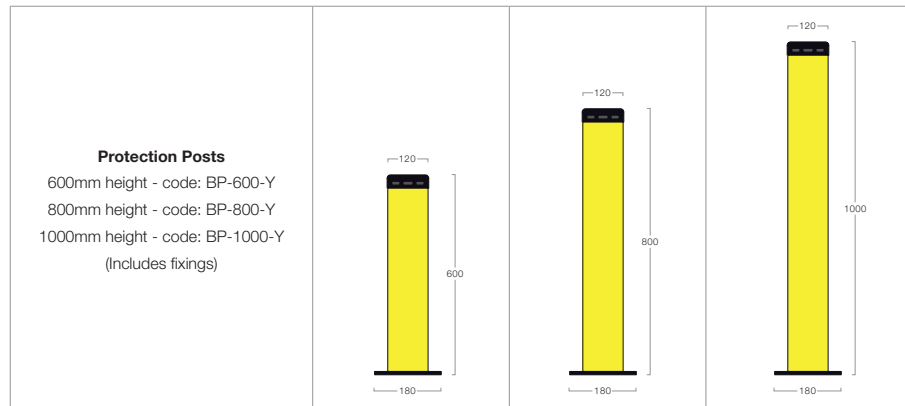
- Supplied complete with square offset baseplate, with 4 fixing positions
- Cover kits are manufactured from medium density polyethylene and are supplied in modular sections that are easy and quick to install for either new installations or instant refurbishment of existing bollards
- Interior and exterior use. Covers are suitable for all weather temperatures (-40 to +90 degrees) and produced from a 7 year UV stabilised material formula

<p>Galvanised Steel Cores</p> <p>900mm height code: BCBD-168-900-G</p> <p>1200mm height code: BCBD-168-1200-G</p> <p>1500mm height code: BCBD-168-1500-G</p>	<p>Cover Kit - Black/Yellow</p> <p>960mm height code: BCK-168-960-BY</p> <p>1260mm height code: BCK-168-1260-BY</p> <p>1560mm height code: BCK-168-1560-BY</p>	<p>Cover Kit - Green/White</p> <p>960mm height code: BCK-168-960-GW</p> <p>1260mm height code: BCK-168-1260-GW</p> <p>1560mm height code: BCK-168-1560-GW</p>	<p>Cover Kit - Red/White</p> <p>960mm height code: BCK-168-960-RW</p> <p>1260mm height code: BCK-168-1260-RW</p> <p>1560mm height code: BCK-168-1560-RW</p>	<p>Optional Accessory</p> <p> 50mm</p> <p>Reflective band Silver</p> <p>As shown in photo Can be retro-fitted code: BA-REF-S</p> <hr/> <p>Steel core fixings code: FXG-TB16-150G</p> <p>Cover kit fixings Tamper proof security fixing TEK screw & black plug code: BA-SFK</p> <hr/> <p>Common uses for colours:</p> <ul style="list-style-type: none"> • Black/Yellow – hazard • Green/White – fire escape/exit • Red/White – warning
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Steel Core Protection Posts

A range of protection posts offering a medium impact, low-cost alternative to high-impact bollards. Ideal for protecting pedestrian doors, corners and vulnerable services and provide a low maintenance solution as they do not require repainting.

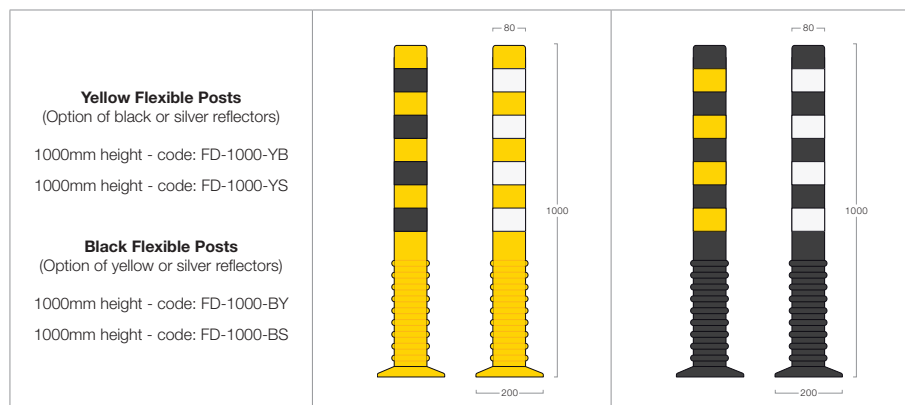
- Protection posts comprise a galvanised steel core and baseplate, a rotating polyethylene sleeve (Yellow RAL 1003) and rubber top caps incorporating diamond grade reflectors
- Interior and exterior use. Suitable for all weather temperatures (-40 to +90 degrees)
- Surface mounted galvanised steel baseplate (Offset 180mm square, 10mm thick)
- Overall post diameter – 120mm (Steel core 114mm diameter)



Flexible Protection Posts

Gradus Flexible Posts are designed to help control traffic flow and safely navigate vehicles in areas where risk of impact is high. They are ideal for guiding trolleys and other wheeled traffic in back-of-house service areas and for controlling vehicle movement in confined underground car parks.

- Flexible Posts are designed to alert and guide vehicle users to safe routes in confined areas
- If a collision does occur the product will bend under impact, alerting the driver and minimising damage to the vehicle
- Flexible Posts are extremely durable and will return back to shape following most vehicle collisions
- Interior and exterior use



For a full range of Gradus Safety & Protection Systems see our Safety & Protection Catalogue or visit www.gradus.com

Appendix

Specification Guidelines

Additional information covering specification guidelines and material & testing information.

Specification Guidelines

The Building Regulations, British Standards and Construction Guidelines for specifying the appropriate Gradus product

Building Regulations and British Standards are designed to ensure the optimum specification of products through a combination of legislative requirements and guidance. The following extracts have been taken from the Building Regulations 2010, British Standard BS 8300-2:2018, Health Building Note 00-10 and Health Building Note 00-04 and show how Gradus products can be used to help satisfy these requirements, and help achieve an inclusive environment in line with the Equality Act 2010. For further details on this or any other aspect of Building Regulations and Standards contact Gradus Technical Support on 01625 428922.

Note: Details of standards and guidelines are correct at time of going to print, current standards should be checked prior to specifying.

Extracts from the Building Regulations

The Building Regulations 2010 - "Access to and use of buildings. Approved Document M - Volume 2: Buildings other than dwellings" 2015 edition

The latest version of Approved Document M 2010 is stated 'for use in England'. Current building standards should be checked at time of specification for Wales, Scotland & Northern Ireland.

The Legal Requirement

Part M Access to and use of buildings other than dwelling Access and Use

M1. Reasonable provision shall be made for people to -
a) gain access to : and
b) use the building and its facilities

Access to extensions to buildings other than dwellings M2. Suitable independent access must be provided to the extension where reasonably practicable.

[Gradus advice and recommendations for the Building Regulations Approved Document M are detailed in blue text.](#)
[For further details contact Gradus Technical Support on 01625 428922.](#)

Approved Document M

Approved documents are intended to provide guidance. Much of the guidance in the approved document is based on BS 8300. The guidance contained in Approved Document M is designed to indicate one way in which requirements may be met. There may be other equally satisfactory ways of meeting the requirements.

Entrance Lobbies

- 2.29 Entrance lobbies will satisfy Requirement M1 or M2 if:
- (h) Any columns, ducts and similar full height elements that project into the lobby by more than 100mm are protected by a visually contrasting guard rail.
 - (h): [Protruding elements can be highlighted with products such as SureProtect Endure® sheet, which can be formed around the element, additionally wall guards and corner guards can be used.](#)

Internal Doors

- 3.8 The presence of doors, whether open or closed, should be apparent to visually impaired people through the careful choice of colour and material for the door and its surroundings. For example, when a door is open, people with impaired sight should be able to identify the door opening within the wall, as well as the leading edge of the door.

- 3.10 Internal doors will satisfy Requirement M1 or M2 if:
- (e) All door opening furniture contrasts visually with the surface of the door.
 - (f) The door frames contrast visually with the surrounding wall
 - (g) The surface of the leading edge of any door that is not self-closing, or is likely to be held open, contrasts visually with the other door surfaces and its surroundings.
- [SureProtect Endure® kickplates, pushplates and door edge protectors, along with door frame guards can be used to highlight and protect the door in a colour that contrasts to the door and wall.](#)

Corridors and passageways

- 3.14 Corridors & passageways will satisfy Requirement M1 or M2 if:
- (a) Elements such as columns, radiators and fire hoses, do not project into the corridor, or where this is unavoidable, a means of directing people around them, such as a visually contrasting guard rail, is provided.
 - (a): [Protruding elements, such as columns, can be highlighted with products such as SureProtect Endure® sheet, rubrails, wall strips, wall guards, handrails and corner guards.](#)

Handrails to external stepped and ramped access

Note: Gradus handrails are not suitable for stepped and ramped access, however, these guidelines are considered best practice guidelines for all types of handrails. Similar guidelines can also be found in BS 8300-2:2018 under 10.3.2 Handrail Design (see page 50).

Design considerations

- 1.34 People who have physical difficulty in negotiating changes of level need the help of a handrail that can be gripped easily, is comfortable to touch and, preferably, provides good forearm support.
- [Made from PVC-u or timber, Gradus handrails have a comfortable grip with a smooth, safe finish which is not cold to the touch.](#)
- 1.35 Handrails should be spaced away from the wall and rigidly supported in a way that avoids impeding finger grip.
- [Gradus SHR40 and Gradus THR450 Timber Handrail are designed to meet the guidelines in BS 8300-2:2018 and Approved Document M 2010 \(2015 edition\) with dimensions as stated.](#)
- 1.37 Handrailing to external ramped and stepped access will satisfy Requirement M1 or M2 if:
- (e) It contrasts visually with the background against which it is seen, without being highly reflective.
 - (e): [A wide range of colours is available, allowing a handrail to be selected in a colour that contrasts to the background.](#)
 - (f) Its surface is slip resistant and not cold to the touch.
 - (f): [Gradus handrails are either made from timber or have a textured PVC-u cover which makes them slip resistant and not cold to the touch.](#)
 - (g) It terminates in a way that reduces the risk of clothes being caught.
 - (g): [All Gradus handrails return to the wall, minimising the risk of snagging.](#)
 - (h) Its profile is either circular with a diameter of between 32 and 50mm, or non-circular, 50mm wide and 39mm deep having rounded edges with a radius a minimum of 15mm (see diagram 7).
 - (j) There is a clearance of between 50 and 75mm between the handrail and any adjacent wall surface.
 - (k) There is a clearance of at least 50mm between a cranked support and the underside of the handrail.

(h), (j) Gradus SHR40 Handrail and Gradus THR450 Timber Handrail are (K): designed to meet the guidelines in BS 8300-2:2018 + and Approved Document M 2010 with dimensions as stated. (see diagram 7 below)

Relationship with guidance in Approved Document K (Protection from falling collision and impact)

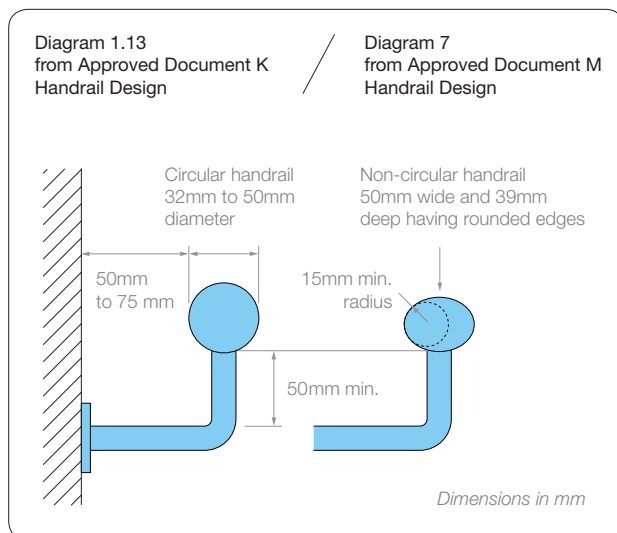
Where applicable, parts of this Approved Document state that the requirements of Part M will be satisfied by compliance with the applicable parts of the guidance with Approved Document K (Protections from falling, collision and impact). Compliance with these applicable requirements set out in Approved Document K in these circumstances will be regarded as compliant with a relevant design standard for the purposes of regulation 9 and the Schedule to the Regulations.

Handrails to internal steps, stairs and ramps

Design considerations

- 3.54 The design considerations for handrails are as those for 'Handrails to external stepped and ramped access' in 1.34 to 1.36.
- 3.55 Handrails to internal steps. Stairs and ramps will satisfy Requirement M1 or M2 if they comply with Approved Document K, sections 1-3.

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Approved Document K “Protection from falling, collision and impact” K1 Stairs, ladders and ramps

(Effective April 2013 – for use in England)

Note: Approved Document K (April 2013) is stated for use in England only. Current building standards should be checked at time of specification for Wales, Scotland and Northern Ireland.

Handrail for stairs

Note: Gradus handrails are not suitable for use on stepped or ramped access, however, these guidelines are considered best practice guidelines for all types of handrail. Similar guidelines can also be found in BS 8300-2:2018 under 10.3.2 Handrail Design (see page 50).

For buildings other than dwellings

- 1.36 Provide handrails in accordance with all of the following.
- (d) Ensure that the handrail will contrast visually with the background against which it is seen, without being highly reflective
 - (d) Gradus handrails are available in a wide range of colours allowing a handrail to be selected in a colour that contrasts with the background. All Gradus handrail colours have been measured to provide Light Reflectance Values* (LRVs) in order to provide the specifier with information to ensure that suitable contrast is achieved.
**These values have been measured using the CIE Y value in accordance with BS 8493:2008+A1:2010.*
 - (e) Use a surface for the handrail that is slip-resistant and which, in locations subject to extremely cold or hot temperatures, does not become excessively cold or hot to touch. In areas where resistance to vandalism or low maintenance are key factors, use of metals with relatively low thermal conductivity may be appropriate.
 - (e) Made from PVC-u or timber, Gradus handrails have a comfortable grip with a safe, slip-resistant finish that is neither hot nor cold to the touch. The materials used will not cool or heat excessively in extremes of temperature.
 - (g) See Diagram 1.13
 - (g) Gradus SHR40 handrail, Gradus THR450 Timber handrails and Gradus Dual Rail are designed to meet the guidance in BS 8300-2:2018 plus Approved Document M and Approved Document K of The Building Regulations 2010 with dimensions stated (see diagram 1.13 to the left).

Specification Guidelines

The Building Regulations, British Standards and Construction Guidelines for specifying the appropriate Gradus product

Extracts shown below show examples of best practice

BS 8300-2:2018

Design and Buildings and their approaches to meet the needs of disabled people - Code of Practice.

This standard provides guidance or good practice in the design of domestic and non-domestic buildings and their approaches so that they are convenient to use by disabled people. Gradus advice and recommendations for BS 8300-2:2018 are detailed in blue text. For further details contact Gradus Technical Support on 01625 428922.

10.3.2 Handrail Design

Commentary on 10.3.2

A handrail should be:

- (a) Easy and comfortable to grip with no sharp edges, but able to provide adequate resistance to hand slippage;

Note 1: *An external perimeter of between 100 mm and 160 mm is the optimum size to provide a power grip around a handrail. Suitable profiles include circular or oval. A flatter profile gives better forearm support*

- (a): *Made from PVC-u or timber, Gradus handrails have a comfortable grip with a safe finish.*

- (b) Continuously graspable along its entire length without obstruction;

Note 2: *Well spaced handrail supports are not considered an obstruction (see 10.3.3).*

- (b): *Gradus handrails are designed to provide a continuous uninterrupted grip, with accessories such as internal and external corners, allowing the handrail to navigate changes in direction.*

- (c) Finished so as to provide visual contrast with the surroundings against which it is seen;

- (c): *The wide range of colours available allows a handrail to be selected in a colour that contrasts with the wall finish.*

All Gradus handrail colours have been measured to provide Light Reflectance Values (LRVs) in order to provide the specifier with information to ensure that suitable contrast is achieved.*

**These values have been measured using the CIE Y value in accordance with BS 8493:2008+A1:2010*

10.3.3 Handrail dimensions and spacings

Any circular handrail should have a diameter of between 32mm and 50mm.

There should be a clearance of between 50mm and 75mm between a handrail and any adjacent wall surface, and any handrail support should meet the handrail, centrally, on its underside. The clearance between the bottom of the rail and any cranked support, or any continuous balustrade, should be at least 50mm to minimise the risk of the handrail supports interrupting the smooth running of a person's hand along the rail.

Gradus SHR40 handrail and THR450 Timber handrail are designed to meet the dimensions stated (see pages 50).

Note: Similar guidelines can also be found in The Building Regulations Approved Document M under 'Handrails to external stepped and ramped access' (see page 76).

Gradus handrails are not suitable for stepped and ramped access, however, these guidelines are considered best practice guidelines for all types of handrail.

11 Surface Finishes

Commentary on Clause 11

The extent to which floor, wall, door and ceiling surfaces enable disabled people to find their bearings and maintain their independent use of a building is influenced by:

- The colour, pattern, light reflectance value (LRV) and texture of the surfaces;

All Gradus products have an LRV to ensure that a suitable choice can be made to contrast between surfaces. For instance, kickplates and pushplates can be used to highlight the door. In addition, handrails that contrast to the background can provide support and direction.

- The treatment of components and finishing elements, such as doors, architraves, skirtings, handrails, etc. which define, or are contained within, these surfaces;

Through the use of colour, Gradus products can be used to colour code different floors or departments, create wayfinding or highlight protruding elements such as columns.

11.1 Visual Characteristics

Differences in LRV should be used to assess the degree of visual contrast between surfaces such as floors, walls, doors and ceilings and between key fittings/fixtures and surrounding surfaces.

All Gradus products have an LRV to ensure that a suitable choice can be made to contrast between surfaces. For instance, kickplates and pushplates can be selected to highlight the door, and handrails can be selected to contrast with the background.

11.4 Wall Surfaces

Large, repeating patterns that incorporate bold, contrasting colours should not be used for the wall surfaces in parts of a building where visual acuity and stress reduction are critical.

Service outlets, light switches, and other functional elements on the surface of walls should be distinguishable from the wall, using visual and textural contrast.

Gradus SureProtect Endure® protective PVC-u sheet is available in 35 solid colours for visual contrast and clarity to be achieved. This allows other functional elements on the wall surface to be highlighted using Light Reflectance Values to ensure suitable visual contrast.

Permission to reproduce extracts from BS 8300-2:2018 is granted by the BSI Standards Limited. No other use of this material is permitted.

The complete British Standard can be purchased from the BSI online shop: <https://shop.bsigroup.com>

Extracts from HBN 00-10 Performance requirements for building elements used in healthcare facilities HBN 00-10 (supersedes HTM 69)

HBN 00-10

This document outlines the policy and performance requirements for building elements used in healthcare facilities. These requirements are a set of essential standards of quality and safety that building elements must comply with. It supersedes Health Technical Memoranda 56, 60, 61, 64, 68 and 69. Gradus advice and recommendations for HBN 00-10 are detailed in blue text. For further details contact Gradus Technical Support on 01625 428922.

Performance Requirements:

- 2.9 Smooth, hard, seamless and impervious surfaces are required in clinical areas as they are easier to clean.
- 2.12 Wall finishes should not comprise materials that promote or sustain the growth of fungi and micro organisms.
- 2.15 Wall finishes are to be durable and able to withstand minor impacts without the need for additional wall protection.
- 2.16 Wall finishes are to be impermeable and easily wiped over if necessary and not be physically affected or degraded by detergents and disinfectants.

Gradus SureProtect Pure® offers a smooth impermeable surface finish which is easy to clean and does not support the growth of bacteria or fungus. It is 2.5mm thick and through coloured in order to resist and conceal the effects of impact and abrasion.

Requirements for impact protection:

Impact protection is intended to help reduce the incidence and severity of damage to walls and partitions in healthcare buildings so that their performance is maintained.

Protection fittings include:

- Handrails
- Crash rails
- Combination rails
- Corner guards
- Bed head protectors

Gradus wall protection products are tested for impact resistance and are designed to absorb impact without damage to the substrate. The majority of profiles are modular in design, allowing damaged covers to be easily replaced without disruption.

Note: This section does not cover the need for handrails as part of a protection system, as this is covered by the client's project-specific needs and the Equality Act 2010 (see also Health Building Note 00-04 – 'Circulation and communication spaces'). Nevertheless, this does not preclude the use of handrails as part of a protection system.

Performance Requirements:

Materials and colours should comply with the requirements of the Equality Act 2010, where appropriate.

Gradus wall protection profiles are available in 35 colours, all of which are measured for Light Reflectance Values, in order to ensure profiles can be selected to provide suitable visual contrast where required.

Materials for handrails are PVC-u or timber and offer a comfortable grip with a smooth, safe finish which is not cold to the touch.

Source: Department of Health Estates & Facilities Division:
Core Elements
Health Building Note 00-10 Part B: Walls and ceilings
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Specification Guidelines

The Building Regulations, British Standards and Construction Guidelines for specifying the appropriate Gradus product

Extracts from HBN 00-04 – ‘Circulation and communication spaces’

HBN 00-04

Health Building Note 00-04 provides guidance on the design of circulation and communication spaces in hospitals and other healthcare buildings, including corridors, internal lobbies and stairs, and lifts. It also provides supporting information on doors and handrails. Gradus advice and recommendations for HBN 00-04 are detailed in [blue text](#). For further details contact Gradus Technical Support on 01625 428922.

2 General design and functional requirements

Visual and colour contrast

2.9 Contrasting handrails/crash rails may be fitted to act as navigation tools

The wide range of colours available allows a handrail to be selected in a colour that contrasts with the wall finish. All Gradus handrail colours have been measured to provide Light Reflectance Values* (LRV) in order to provide the specifier with information to ensure that suitable contrast is achieved. *These values have been measured using the CIE Y value in accordance with BS 8493:2008+A1:2010.

3 Corridors

Handrails

3.29 Handrails should be fitted in main communication routes (that is, main corridors between departments) and in departmental departments as required. See specific departmental guidance for further information.

See Gradus SHR40 handrails and combi-rails (pages 52 - 55) and Gradus D200 Dual Rail (pages 56 - 57).

7 Handrails

Shape and size

7.3 Handrails should be easy to grasp; the size and shape should allow a firm but comfortable grip with the whole hand.

7.4 Handrails that are too small are uncomfortable and provide an unsatisfactory grip, whereas handrails that are too large are difficult to grip for people with weak or arthritic hands

7.5 A handrail that is round in cross section with a diameter of 40-45mm is recommended. Oval handrails with dimensions of 38mm x 50mm wide are acceptable. In both cases the longer dimension should be horizontal.

7.6 Handrails with large square or rectangular cross-section should be avoided.

All Gradus handrails feature a round grip in line with the recommendations and the guidelines in BS 8300-2:2018 and Approved Document M Volume 2 2010 (2015 edition).

Shape and size

7.7 Handrails should allow enough space between the rail and the adjacent wall (or any other obstacle) for hands to pass without scraping knuckles and to aid those who want to use the rail as a support for the whole forearm.

7.8 A clearance of 60-75mm is recommended, as this allows the forearm to be rested on the rail without any danger of it getting trapped.

Gradus SHR40, THR40 and D200 Dual Rail meet the recommended clearance dimension. Similar guidelines can also be found in BS 8300-2:2018 and Approved Document M 2010 (2015 edition).

Provision in corridors

7.19 Handrails should return into recessed doorways and openings, but otherwise be continuous to aid navigation.

All Gradus handrails are offered with a complete range of accessories to allow continuous runs around both internal and external corners and for safe returns to walls to take into account doorways and openings (see pages 52 - 55).

Handrails in association with wall protection

7.20 Where handrails and wall protectors are provided:

- a minimum vertical clearance of 50mm must be maintained between the handrail and wall protector;

Gradus handrails are designed to meet the dimensions stated (see pages 50 - 58), incorporating a 50mm clearance between the handrail and wall guard element of the profile.

All other Gradus handrails and wall guards are designed to work together and can be installed to the dimensions stated.

7.22 Handrails should be:

- easily visible, that is, contrast visually with the surface to which they are fixed;

The wide range of colours available allows a handrail to be selected in a colour which contrasts with the wall finish

- smooth and free from any abrasive elements;
- neither too cold nor too hot to the touch.

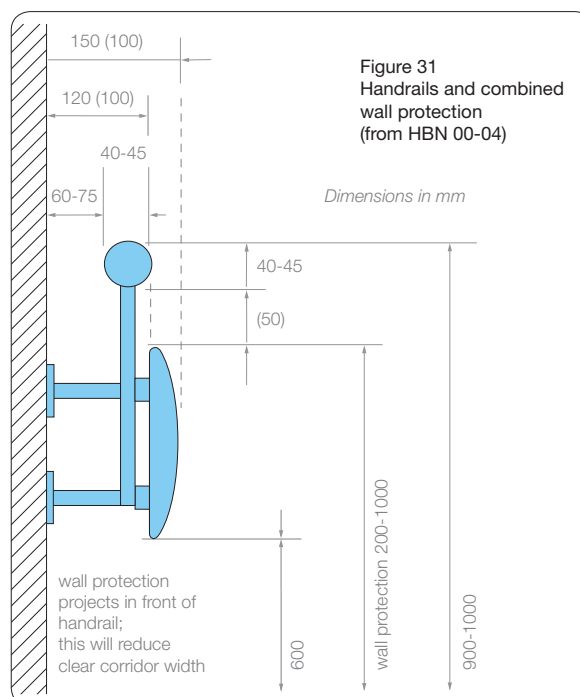
Made from PVC-u or timber, Gradus handrails have a comfortable grip with a smooth, safe finish that is not cold or hot to the touch

Source: Department of Health Estates & Facilities Division: Core Elements

Health Building Note 00-04 : Circulation and communication spaces

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Drawings are extracts from guidance.

Source: Department of Health Estates & Facilities Division: Core Elements – Health Building Note 00-04: Circulation and communication spaces Crown copyright

Extracts shown below show examples of best practice

Mat (Material)

05 Designing for robustness

No. of credits available: 1

Minimum standards: No

Aim

To recognise and encourage adequate protection of exposed elements of the building and landscape, therefore minimising the frequency of replacement and maximising materials optimisation.

Assessment Criteria

The following is required to demonstrate compliance for:

One credit

1. Areas of the building have been identified (both internal and external) where vehicular, trolley and pedestrian movement occur.
2. The design incorporates suitable durability and protection measures or design features/solutions to prevent damage to the vulnerable parts of the building. This must include, but is not necessarily limited to:
 - a. Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc).
 - b. Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas.
 - c. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas.

CN2 Suitable Durability

Suitable durability and protection measures to vulnerable parts of the building can include:

1. Bollards/barriers/raised kerbs to delivery and vehicle drop-off areas
2. Robust external wall construction, up to 2m high
3. Corridor walls specified to Severe Duty (SD) as per BS 5234-2 and, for healthcare buildings, Health Technical Memorandum 56 – Partitions
4. Protection rails to walls of corridors
5. Kick plates/impact protection (from trolleys etc) on doors
6. Hard-wearing and easily washable floor finishes in heavily used circulation areas (i.e. main entrance, corridors, public areas etc)
7. Designing out the risk without the need for additional materials specification to protect vulnerable areas.

CN3 Vehicle impact protection

Any vehicle impact protection measures specified must be positioned at an adequate distance from the building to protect the fabric from impact from any vehicle with a measurable overhang of the body from the wheel track, in particular for any goods delivery areas.

In vehicle movement areas only; where the specification of external robust wall construction is specified to comply with the credit, additional protection must be provided to ensure against potential damage to the robust facade from vehicle movement i.e. specifying bollards or protection rails.

CN4 Preventing excessive material use

The specification or design measures chosen should reflect the need to balance the additional specification of materials with the need to protect building elements to minimise their replacement, ensuring against excessive material use and promoting materials optimisation.

CN5 Public / Common Areas

Consideration should be given to materials specification in public/common areas (especially public waiting areas and toilet areas) to provide protection against potential malicious or physical abuse in as far as it is possible.

CN6 Sales areas (retail)

In any sales areas, where customer goods trolleys will be used, protection must be provided to vulnerable parts of the building (such as glass curtain walling etc.) within 1m of trolley movement.

Schedule of Evidence

Req.	
Design Stage	
Post Construction Stage	
All	
Design drawings illustrating vulnerable areas/parts of the building.	
Design drawings and/or relevant section/clauses of the building specification or contract confirming the durability measures specified.	
BREEAM Assessor's site inspection report and photographic evidence AND/OR 'As built' drawings.	

Gradus offers a comprehensive service for all aspects of wall protection ranging from advice on specification for supply only projects, through to a complete project management service for the supply and installation of Gradus Wall Protection Systems.

Gradus considers factors that would influence the specification in line with 'Mat 05 Designing for robustness' and facilitates this with extended service levels including on-site surveys, measuring and face-to-face advice from trained specification consultants.

Gradus can help with the assessment of a building in order to establish the types of wall protection required and appropriate locations/levels where it should be installed, ensuring products selected meet the requirements of the building.

Source: *BREEAM New Construction Non Domestic Buildings Technical Manual - SD5073-5.0 : 2011*



Gradus is a member of NBS Plus to assist architects and other specifiers for guidance when writing specifications.

BIM

In line with the UK Government's BIM (Building Information Modelling) mandate, Gradus now has BIM objects available for the entire range of wall protection profiles.

The Government Soft Landings (GSL) policy came into full force in 2016, alongside BIM Level 2, to reduce costs and improve performance of asset delivery and operation.

Gradus BIM objects provide up-to-date, accurate data about products, providing you with the relevant technical information to build into your projects. You can download our BIM objects free of charge on Bimstore. www.bimstore.co.uk

Gradus PVC-u Product Characteristics

Gradus PVC-u products have undergone a series of rigorous tests to ensure they will perform to expectation throughout their life. Tests are undertaken in Gradus' purpose-built testing facilities, by independent testing houses and through observing and testing products in-situ. With over 50 years experience Gradus provides peace of mind to its customers.

<p>PVC-u</p> <p>PVC-u Sheet Material</p> <p>PVC-u profile Material</p>	<p>Unplasticised polyvinyl chloride is through coloured to conceal the effects of impact and abrasion.</p> <p>Fire Performance: All Gradus SureProtect Endure®, SureProtect Design® and SureProtect Pure® has been tested in accordance with EN ISO 11925-2:2010 and EN 13823:2010+A1:2014 and classified according to EN 13501-1:2007+A1:2009 as Reaction to Fire Classification B-s3, d0</p> <p>Gradus PVC-u profile material has been tested in accordance with EN ISO 11925-2:2010 and EN 13823:2010+A1:2014 and classified according to EN 13501-1:2007+A1:2009 and Reaction to Fire Classification: B-s2, d0</p> <p>NB: Please refer to manufacturers installation guidelines for recommended adhesives.</p> <p>Chemical Resistance: Tested in accordance with EN ISO 175:2010 Plastics – determination of the effects of liquid chemicals including water. The results show that the products as tested are resistant to most commonly used chemical solutions.</p> <p>Bacterial Resistance: Tested in accordance with EN ISO 846:1997-Part C (Bacterial growth test) Evaluates the effects and propagation of bacteria on plastic materials that are exposed to the environment. The results show that the products as tested did not support bacterial growth.</p> <p>Fungal Resistance: Tested in accordance with EN ISO 846:1997- Part A (Fungal growth test) Plastics – evaluation of the action of fungus. The results show that the products as tested did not support fungal growth.</p> <p>Impact Resistance: Tested in line with ISO 6603-1:2000 Determination of puncture impact test.</p> <p>VOC Testing – SureProtect Endure® & SureProtect Design®: France introduced regulations in 2011 relating to the labelling of building products used internally with regard to emissions of volatile polluting substances.</p> <p>SureProtect Endure® has been tested for VOC emissions in accordance with ISO 16000. Emission test results after 28 days correspond to the emissions Class A of the French regulations on labelling of the products for wall cladding on their emissions of volatile pollutants (April 2011)</p>
<p>PVC-u Moulded Accessories</p>	<p>Returns, corners and brackets are hardwearing injection moulded thermoplastic, textured and colour matched to the PVC-u.</p>
<p>Aluminium</p>	<p>Durable alloy 6060-T6 grade or 6063-T6 to EN 573-3:2013</p>
<p>Product Support</p>	<p>Colour swatches, samples and further information are available on request from: Gradus Technical Support on 01625 428922 or visit www.gradus.com</p>
<p>Installation</p>	<p>Comprehensive installation instructions are available to download from the Gradus website www.gradus.com</p> <p>Installation details and advice are also available on request from Gradus Technical Support 01625 428922</p>
<p>Maintenance</p>	<p>Maintenance details are available on request from: Gradus Technical Support on 01625 428922</p>

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SureProtect Endure® Wall Cladding



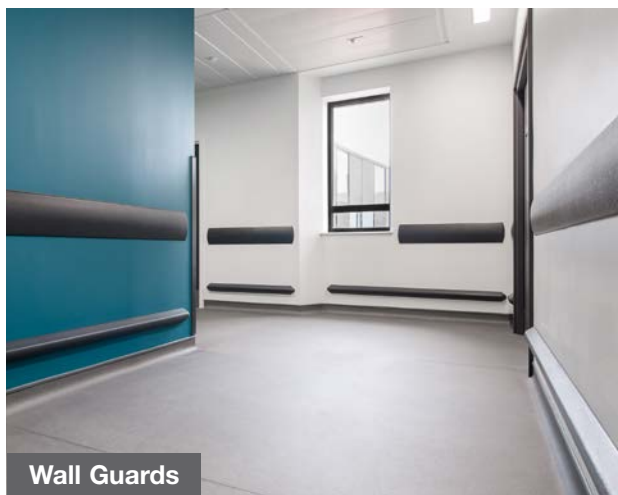
Bespoke Solutions



SureProtect Pure® Hygienic Wall Cladding



SureProtect Design® Digital Print



Wall Guards

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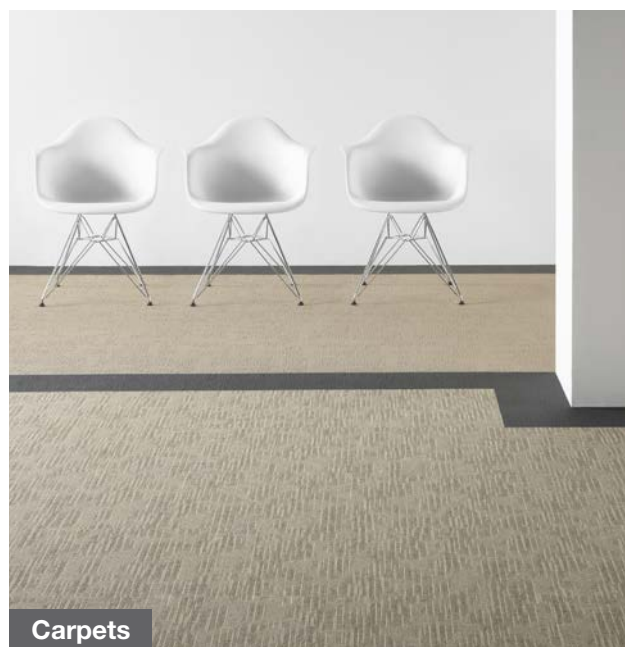
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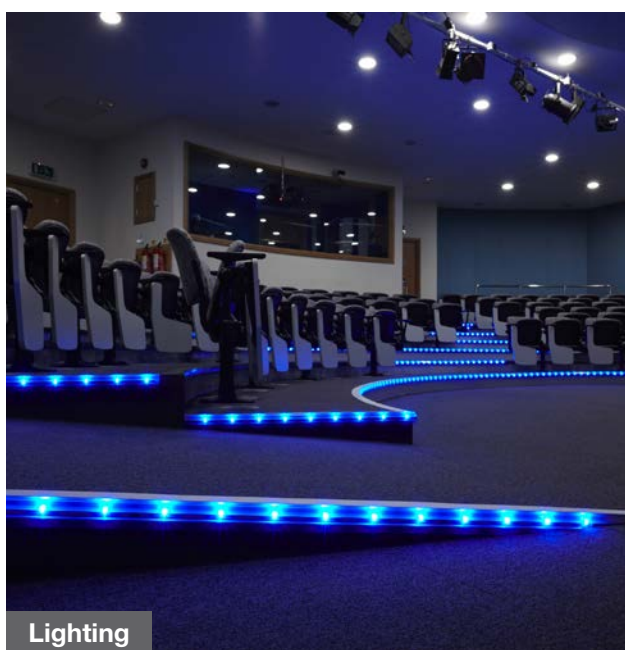
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