

STEPS



Technical Guidance Information	202
Designing Steps	202
Hazard Warning Locations	202
Step Dimensions of Tread + Riser	202
Visual Contrast Strips	202
Slip / Skid Risk	202
LRV – Light Reflective Values	202
Solar Reflectance Values	202
Profiles	204
Flag Steps	204
Bullnose	204
Square Edge	204
Concrete Kerb Step Units	204
TerraKerb®	204
Mile Stone	205
Bullnose	205
Surface Finishes	206
Bespoke Concrete Step Units	207
Moulded Units	207
Corner Units	207
Quadrant Units	207

STEP TECHNICAL GUIDANCE

Designing Steps

Step details are fast becoming more important in all projects, both in terms of visual appeal and, more importantly, safety. AG have been supplying step products for many years and through investment continue to find new and innovative concrete solutions in this area.

When designing external step details designers need to refer to UK Building Regulations Part M 2004 or Ireland Building Regulations TGD M 2010, Part M Access and Use which detail what is required for compliance. Additional guidance may be taken from the **Design of Buildings and Approaches to meet the needs of disabled people BS 8300 2009**:

“Those involved in the design and construction of a building may be required by the relevant building authority to provide such evidence as is necessary to establish that the requirements of the Building Regulations are being complied with”.

1 Hazard Warning Locations

Part M of the Building Regulations gives guidance on the use of hazard warning flags to facilitate the safety of persons with impaired vision when approaching changing levels in stepped areas.

The use of a corduroy hazard warning surface is a requirement that must be installed at both the top and bottom landing areas to provide advance notice of a change in levels. The hazard warning landing area when approached straight must be 800mm and set-back 400mm from the front edge of the steps whilst extending 400mm either side of the actual step width.

2 Step Dimensions of Tread + Riser

In line with Part M, the dimensions of step details are generally consistent with the rise of each step measuring between 150mm and 170mm whilst the tread is between 280mm and 450mm. These dimensions give consistency to all users thereby reducing the injury risks associated with step details.

3 Visual Contrast Strips

Part M of Building Regulations states that “all nosings are made apparent by means of a permanent contrasting material 55mm wide on both tread and rise”. When ascending or descending a flight of stairs the ability to distinguish between the individual treads and risers is essential, particularly for those who are partially sighted. Contrasting strips of a slip resistant material must be inserted along the full width of the steps both on the tread and riser. The inserted strips should ideally measure 55mm in width and set-back 35mm from the front of the step on the tread and 35mm from the top of the riser.

4 Slip / Skid Risk

Safety underfoot and reducing the risk of slip / skid is as important for step details as it is for paved areas. AG provide a full range of step details which have a low slip / skid risk and comply with all the various testing procedures including PTV, USRV and R rating. All flags within the range including the TerraPave® Ground surfaces are suitable for use in locations of changing levels. Contact AG Specification Department for further information. See slip / skid information for more detail.

5 LRV – Light Reflective Values

LRV is the total quantity of visible light reflected by a surface at all wavelengths and directions when illuminated by a visible light source. For persons with adequate vision, differences in the nature or the intensity of colour provide enough visual contrast. Unfortunately

this is not the case for all people who are visually impaired. The main feature of a surface which appears to be strongly correlated with the ability of visually impaired people to identify differences in colour is the LRV. Differences in LRV can be used to assess the degree of visual contrast between surfaces of paving, walling, masonry and any surrounding surface.

LRV is scaled from 0, which is deemed absorbing and could be assumed to be totally black, up to 100 which may be reflective and perfectly white. For the purposes of practical influence in any application black is always greater than 0 and white never equals 100. To comply, in most cases, a difference of more than 30 points or more allows a degree of variability to provide reasonable visual contrast. This visual contrast and compliance with Part M is achieved when the difference in LRV is greater than 30 points. AG have a large selection of paving units and step details tested which comply with Part M of Building Regulations.

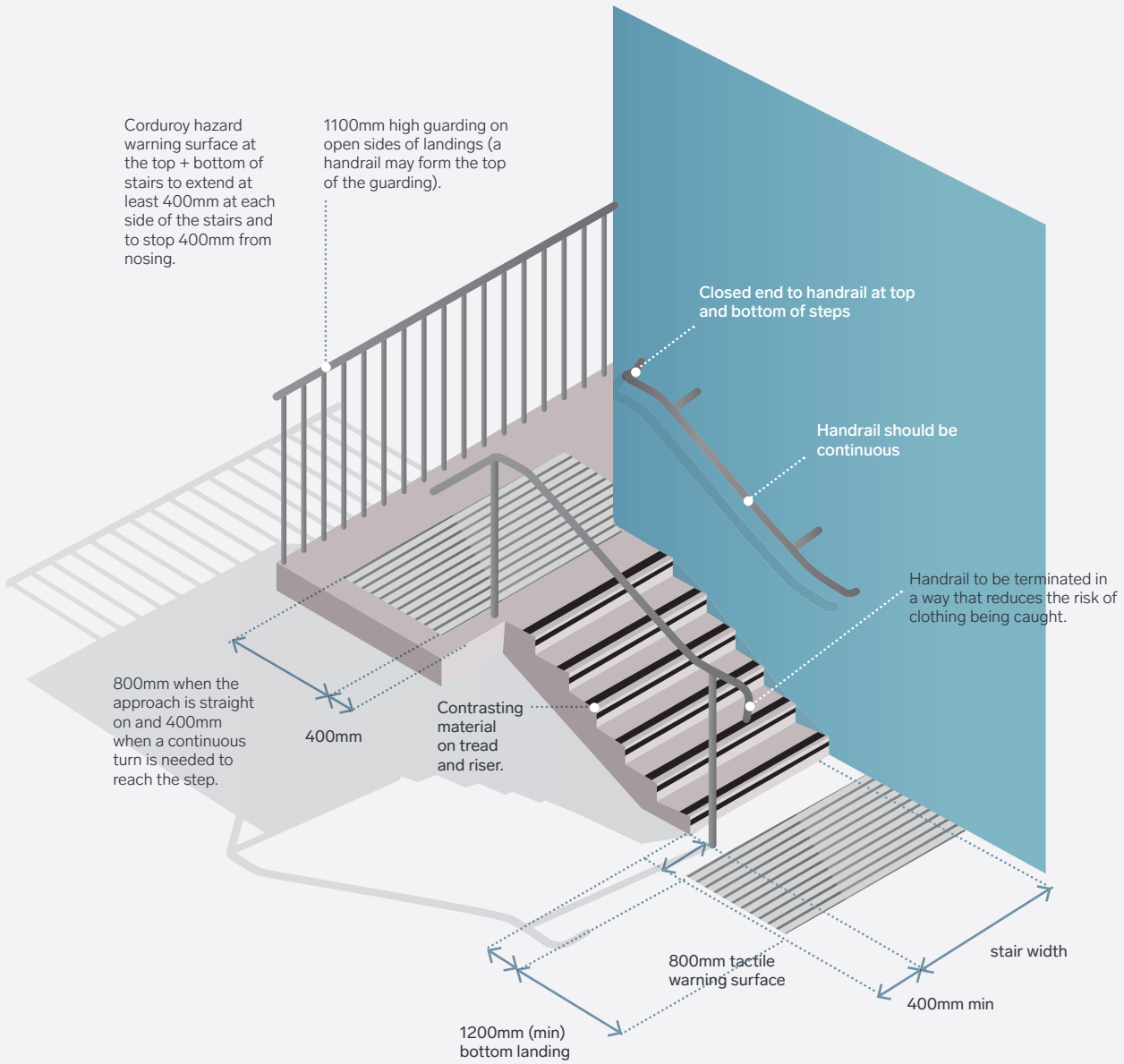
6 Solar Reflectance Values

Solar reflectance is becoming increasingly common in paving specification and AG have conducted extensive testing on all products. Guidelines on acceptable levels of solar reflectance index state that a product must have a SRI (Solar Reflective Index) of greater than 29 to be acceptable. In explaining SRV we can refer to the following:

A heat island is a local area of elevated temperature in a region of cooler temperatures. The heat island usually occurs in urban areas; hence they are sometimes called urban heat islands. An urban heat island occurs when built-up areas are warmer than the surrounding environment.

Heat islands occur where there is a preponderance of dark exterior building materials and lack of vegetation. Materials with low solar reflectance (generally dark materials) absorb heat from the sun, and materials with higher solar reflectance (generally light-coloured materials) reflect heat from the sun and do not warm the air relative to the surrounding areas as much. In hard landscaping this effect can be seen and felt where dark coloured paving is installed, especially in an enclosed space with direct sunlight and no cooling winds (e.g. enclosed courtyards in modern buildings). AG have conducted a series of SRI tests on their coloured paving units and can advise on correct specification where needed.

KEY PERFORMANCE COMPONENTS + DESIGN CONSIDERATIONS.

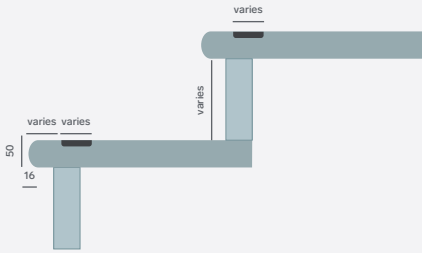


STEP PROFILES

There are multiple profile options available using a large selection of products from the TerraPave® flag range. Additionally you can consider our TerraKerb® or small block kerb formats.

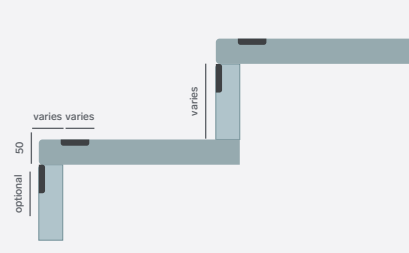
BULLNOSE STEPS

TerraPave®, Caliza® finishes



SQUARE EDGE STEPS

TerraPave®, Caliza®, Canterra®, Granaza, Pedra finishes



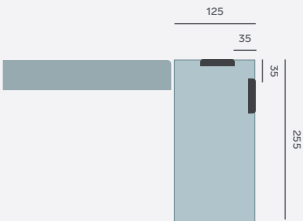
Frost Resistant



Pedestrian Use

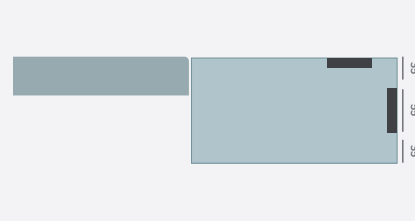
TERRAKERB® UPSTAND

TerraKerb® finish

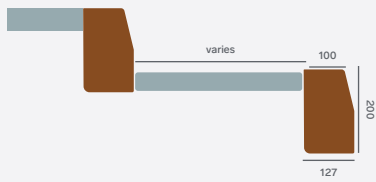


TERRAKERB® FLAT

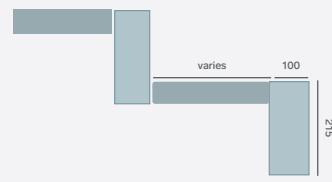
TerraKerb® finish



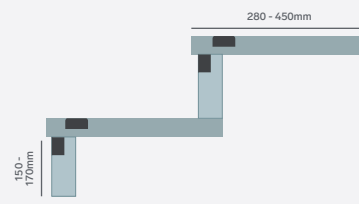
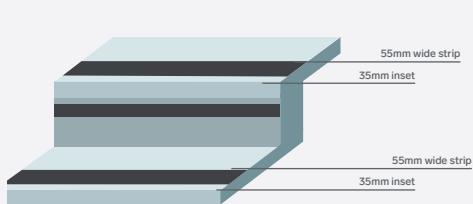
SMALL BLOCK BULLNOSE KERB EDGE
Bullnose Kerb Sett finish



SMALL BLOCK SQUARE KERB EDGE
Mile Stone® finish



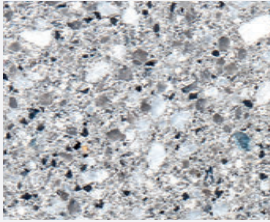
VISUAL CONTRAST STRIPS
TerraPave®, Caliza®, Canterra®, Granaza, Pedra finishes



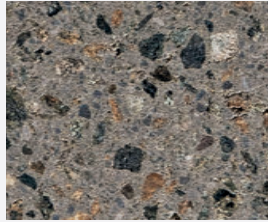
Steps

surface finish options

BULLNOSE STEPS + VISUAL CONTRAST STRIPS

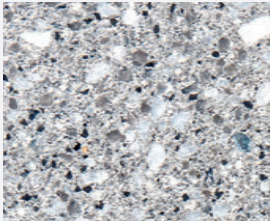


TERRAPAVE®
See page 10 for colours + finishes



CALIZA®
See page 38 for colours

SQUARE EDGE + VISUAL CONTRAST STRIPS



TERRAPAVE®
See page 10 for colours + finishes



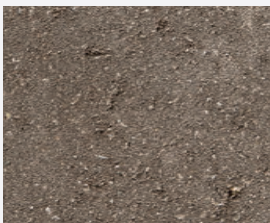
CANTERRA®
See page 18 for colours



CALIZA®
See page 38 for colours

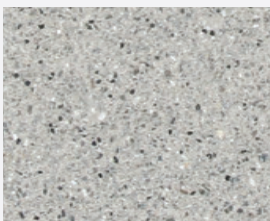


GRANAZA
See page 26 for colours



PEDRA
See page 48 for colours + finishes

TERRAKERB®



TERRAKERB®
See page 166 for more information

SMALL BLOCK BULLNOSE



BULLNOSE KERB SETTS
See page 178 for colours

SMALL BLOCK SQUARE



MILE STONE KERBS
See page 184 for colours



Frost Resistant



Pedestrian Use



Light Traffic



Heavy Traffic

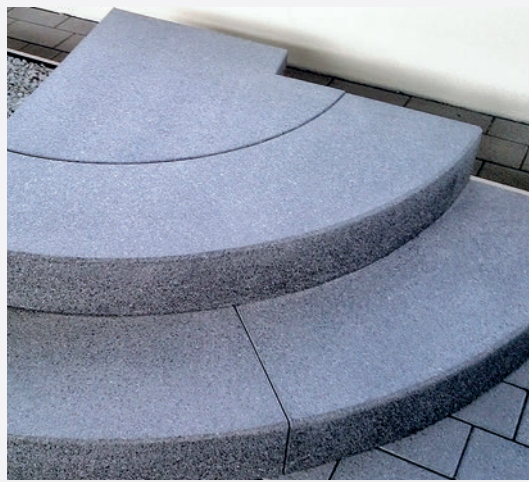
Bespoke Units

specialty manufactured step products

Bespoke steps, seating and coping units in any size, colour or finish.



LARGE FORMAT MITRED CORNER STEP UNITS



LARGE FORMAT CIRCULAR QUADRANT STEP UNITS



LARGE FORMAT MULTI-PURPOSE MOULDED CONCRETE STEP UNITS



SEATING + COPING UNITS

Steps

- 1 Steps, Country Cobble® Cashel, Setts Slate, Mile Stone Slate, *Private*
- 2 Steps, Caliza Textured Grey Step Units with Country Cobble Slate, *Worcestershire*
- 3 Steps, Sorrento Ground, Bullnose Kerb Slate, Country Cobble® Slate edging, *Private*
- 4 Steps, Riser: Bayfield corner block, Canelletto. Tread: Country Cobble® paving, Burren. Other surrounding products: Country Cobble®, Slate + Manor Stone®, Glenarm, *Dungannon*
- 5 Steps, Rimini Textured Bullnose steps with Florento textured strips, *Stoke*
- 6 Steps, Verona Ground, *Private*
- 7 Steps, Country Cobble Slate Setts, Bullnose Kerb Sett Slate, TerraPave Milano Ground Flags, *Private*



