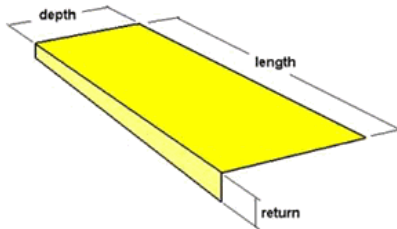


INDUSTRIAL:

STAIR NOSINGS

SIZES AVAILABLE

STAIR NOSINGS are offered in two series of profiles and all nosings are measured in three dimensions, length of the nosing; depth of the nosing; and the return.



Length of Nosing: Safety Step produce a range of standard or 'in stock' length Industrial Nosings from 450mm (18") to 1200mm (48") to accommodate almost all widths of steps. Other sizes up to a length of 3.6m (11'8") can be ordered. As the very ends of each stair tread are seldom walked on, Safety Step recommends that Industrial Stair Nosings are fitted centrally on each step leaving a gap at each side of between 100mm (4") and 150mm (6").

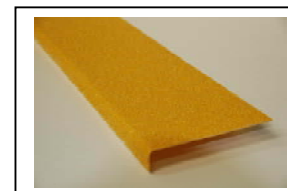
Depth of Nosing: Two standard depths are offered as two series of product codes. 75mm (3") depth and 150mm (6") depth.

Return: The return on all Industrial Stair Nosings is standard at 25mm (0.8"). This nosing return has three key functions

- It adds substantial rigidity to the stair nosing.
- When ascending the steps the drop offers good step edge definition.
- It allows the antislip texture to extend right to the very edge of the stair nosing offering maximum grip.

IMPORTANT NOTE: The dimensions of the "depth" and the "drop" as stated above are nominal measurements. Because of the unique one step manufacturing process used by Safety Step to achieve the fully composite finished product, very stair nosing is individually hand made and not extruded from a machine. This makes for small variations in each finished product and sizes may vary slightly.

Length x Width x Return		PART NUMBER
Metric	Imperial	
450 x 75 x 20	18" x 2" x 0.8"	PIN0-75
600 x 75 x 20	24" x 2" x 0.8"	PIN1-75
730 x 75 x 20	29" x 2" x 0.8"	PIN2-75
900 x 75 x 20	36" x 2" x 0.8"	PIN3-75
1030 x 75 x 20	41" x 2" x 0.8"	PIN4-75
1200 x 75 x 20	46" x 2" x 0.8"	PIN5-75
450 x 150 x 20	18" x 4" x 0.8"	PIN0-150
600 x 150 x 20	24" x 4" x 0.8"	PIN1-150
730 x 150 x 20	29" x 4" x 0.8"	PIN2-150
900 x 150 x 20	36" x 4" x 0.8"	PIN3-150
1030 x 150 x 20	41" x 4" x 0.8"	PIN4-150
1200 x 150 x 20	48" x 4" x 0.8"	PIN5-150



COLORS AVAILABLE

Industrial Stair Nosings are available in two 'in stock' standard colours, SAFETY YELLOW and BLACK



Additionally four other 'on request' colors are available, RED, WHITE, GREEN and BLUE.



Glow in the dark stair nosings are available that look off white to green in daylight and glow bright green/yellow in darkness.



GRADES AVAILABLE

The super tough abrasive grit used to form the high traction surface on stair nosings is one of the hardest compounds known to man. Fused Alumina grit is bound within the glass reinforced body of the stair nosing and presents a top surface with almost diamond hard characteristics.

MOHS scale comparison

Diamond	10
Silica Carbide	9.7
Fused Alumina	9.4
Hard Quartz	7.0
Steel	6.0

Safety Step offers a range of grit sizes which are categorized as the following six grades, together with typical applications:

- **FINE** - Commercial buildings swimming pools.
- **INDUSTRIAL** - For most industrial applications
- **OFFSHORE** - Oil platforms, heavily soiled and oily areas
- **EXTREME** – for heavy snow and other extreme applications

As different manufacturers have different names for each grade of their anti-slip material, the following comparisons of Safety Step grading may be used.

Grade	U.S. Grading	Microns (average)
Fine	60 mesh	250
Industrial	16 mesh	356
Offshore	12 mesh	686
Extreme	8 mesh	940

PHYSICAL PROPERTIES - FRP

Safety Step industrial anti-slip products are manufactured entirely by hand in a unique one step manufacturing process then trimmed and cut to size. By incorporating all of the separate elements of the finished product into one seamless fibreglass composite material we are able to build the strongest and most durable product available on today's market. The general term for the way we make our product is **Fibre Reinforced Plastic** or FRP for short, or more commonly called fibreglass.

FRP doesn't dent, corrode, rot, delaminate, support bacteria and has a high strength to weight ratio being several times higher than steel on a weight to weight basis. It demonstrates a very high resistance to UV and other environmental conditions, is highly resistant to chemical attack and has an indefinite lifespan. The particular base resin used by Safety Step also features extremely good fire retardant and low smoke emission characteristics.

Almost all other stair nosing and floor plate manufacturers adopt a layering or bonding method where an anti-slip coating is bonded to a pre-formed base such as steel or pultruded material. This method invariably sets up a weak point where the two dissimilar components, the top coating and the base material, meet. This weak point will be further strained by stress set up within the product through movement associated with normal use or thermal expansion and contraction. Such a bonding method also has a low tolerance to impact and typically the top coating will peel away from damaged areas.

The products you receive from Safety Step are constructed from a base mix of fire retardant polyester resins interspersed with layers of immensely strong interwoven glass fibre. The color pigmentation is floated right through the full thickness of the material so that it is impossible to wear the color off and become unsightly. The fused alumina anti-slip grain is then forced under pressure into the base mix while it is still wet, followed by a final resin layer laid over the top of it all. This entire composite mix is then cured at optimum temperatures until fully hard.



No layering, no bonding, no weak spots, just one immensely strong composite whole.

With safety Step products the anti-slip material cannot be knocked out as happens with over-coating methods, no peel back or chipping can occur around localised damage points, the colour cannot be worn off, flexing and movement will have no effect on them and with the FRP material, there is a 100% guarantee that it cannot rust or corrode. You simply get the toughest, most durable and longest lasting nosings available anywhere in the world.

INSTALLATION

On-site cutting

Industrial Stair Nosings are very easily shaped or cut to length should this be required. We recommend using a dry cut diamond blade operated in a hand held 100mm angle grinder.

As dust and loose chips will be generated through the cutting process, eye protection and dust masks should be worn.

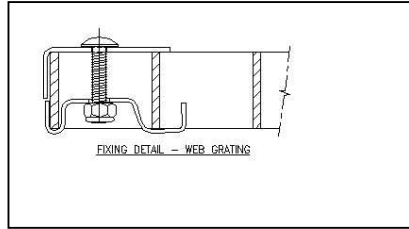
No edge sealing is required where the product has been cut.

Drilling Instructions

Drilling for screw or bolt fixings is a very easy task. Always measure back from the inside of the drop and mark the fixing hole location on the underside of the FRP material. Using a standard jobbing bit, simply drill through the material from the smooth rear face to the anti-slip top face. Ensure that adequate personal safety precautions are taken.

OPEN GRILLE /GRATING

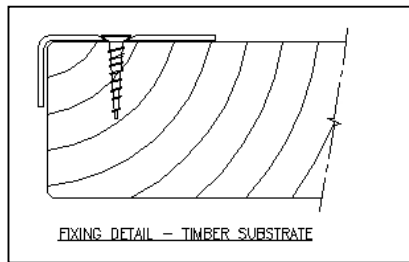
Industrial Stair Nosing may be installed on open grate stairs with stainless steel Saddle Assemblies (supplied by Safety Step) in conjunction with M6 x 35mm stainless steel bolts and M6 stainless steel nyloc nuts.



FIXING ASSEMBLY

TIMBER DECKING

Industrial Stair Nosings may be installed to timber stairs with 8g x 35mm self tapping screws and urethane mastic. The mastic assists with adhesion but importantly stops bounce or chatter when the nosing is walked on.

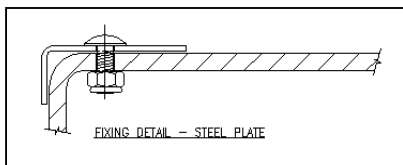


8g x 35mm Screw

FLAT STEEL SHEETING and TREAD PLATE

If access to the underside of the stair treads is easy then Safety Step recommend the use of stainless steel M6 x 35mm machine screws with M6 stainless steel nyloc nuts. If access to the underside of the stair tread is not possible then use 4.8mm x 14mm (or similar) monel steel rivets.

Bolts with nyloc nuts offer a highly secure fixing method with no risk of the fixings stretching or working loose. A seal of urethane mastic to the underside of the nosing is recommended to prevent bounce or chatter.



M6 x 35mm Machine Screw

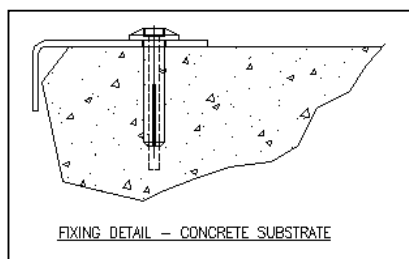


4.8mm x 14mm Monel Rivet

MASONRY FLOORS

Industrial Stair Nosings may be installed over concrete and masonry stairs using proprietary one piece masonry anchors. We recommend that a urethane mastic is also used under the Stair Nosings to prevent bounce and chatter when the nosing is walked on. All fixings are available from SAFETY STEP.

Where the existing stair tread has damage, it is recommended that a filler or bridge is formed under the stair nosing with urethane mastic to provide support.



Masonry Drive Anchor

MAINTENANCE

Stair Nosings can be easily maintained to preserve the smart appearance and effective non-slip qualities. Because of the extreme hardness and chemical resistance of Industrial Stair Nosings, cleaning can be effected with medium pressure steam or water, degreasers and detergents. Stubborn soilage can be removed with a stiff deck broom. Strong solvents should be avoided as they may soften or discolor the FRP material. Do not use scrapers or wire brushes.

TECHNICAL SPECIFICATIONS

SLIP REISTANCE

The coefficient of friction (COF) is a number which represents the friction between two surfaces. Friction is of course the resistance an object encounters in moving over another, so when we quote a COF figure for our anti-slip products we are quoting the measure of our products ability to provide safe traction and thereby prevent slips and falls.

Different countries and indeed different agencies within a country adopt and rely on different testing apparatus to gain COF results. Safety Step have had test results produced from the three internationally most widely accepted slipmeters:

- The Brungraber Mark II
- The English XL VIT
- The British Pendulum Slip Tester

Safety Step FRP industrial safety products have been tested with the above apparatus and found to comply with and exceed the requirements the following Standards:

- ASTM F1677
- ASTM F1679
- NFPA 1901
- DIN 51130
- AS/NZS 4586

RESISTANCE TO FIRE

Independent laboratory testing has confirmed that Safety Step FRP products will exhibit the following flammability characteristics:

- Rated Class 2, when tested according to BS 476, Part 7
- Rated self-extinguishing when tested in accordance to ASTM D 635
- Rated indices when tested according to AS 1530-Part 3, 1976

Ignitability Index	15
Spread of Flame Index	9
Heat Evolved Index	8
Smoke Developed Index	8

LUMINANCE DATA – GLOW PRODUCTS

Blended Strontium Aluminate pigment is the material included within Safety Step FRP products to cause them to glow in the dark. This material is non-toxic and non-radioactive.

The following chart maps the luminance decay of Safety Step glow in the dark industrial safety products. Luminance performance has been measured and charted from initial darkness to a condition of 0.3 mili candellas per square meter, the visibility threshold of the human eye.

The luminance measurements were made on the photoluminescent test samples with the ITS License Plate Test Apparatus.

The center of each test sample was measured initially, after 5 minutes, after 10 minutes, after 30 minutes, after 1 hour and after 2 hours.

The aperture of the Pritchard Telephotometer was adjusted to achieve the proper measuring area (two inches diameter) on the test samples. The ITS License Plate Test Apparatus is traceable to the National Institute of Standards and Technology through the calibration of the Optronic Luminance Standard.

The test samples were exposed to 1,000 lux illumination from a 150 watt Xenon light source for 5 minutes immediately prior to the initial luminance measurements.

Product	Luminance measured in mcd/m²						
	Initial	After 5 mins	After 10mins	After 30mins	After 60mins	After 120mins	Time to 0.3 Mcd/m ²
Strontium Aluminate	2,980	550	292	87	40	18	5,170