

A major innovation
in **road safety**



GRIP  **TOP**™

Ductile iron and mineral technology for extra safety

BECAUSE ROAD SAFETY SIMPLY ISN'T AN OPTION



Are our roads **more dangerous** than we think?

On Britain's roads today, there are many factors which cause motorcyclists and cyclists to skid, often resulting in serious accidents. Among these factors are worn out access covers. Designed with raised metal studs to increase grip, they wear away over time and are prone to become smooth and slippery by decades of traffic.

The Oxford survey reports that skidding as a result of road surface problems was the major cause in 32% of respondents' answers.

The report states *'unlike the police records, it shows that skidding and slipping accidents are by far the most common type of incident.'*

As many skidding accidents involve *'inappropriate or badly maintained road surfaces'* and as this *'cannot reasonably be prevented by the cyclist'*, the Oxford survey particularly recommends that *'as a matter of some urgency, durable high-friction alternatives to smooth metal should be investigated.'*

The vulnerability of drivers on two wheels

Government figures published in the UK and abroad confirm the danger facing this most vulnerable group of road users. These demonstrate just how disproportionate the figures for their deaths and injuries really are as well as the need for an urgent and effective solution:

- Around 20% of road accident deaths and serious injuries involve motorcyclists yet they represent only around 1% of road traffic

Source: Government Motorcycling Strategy

- Between 1995 and 2003, deaths on roads involving motorcyclists have increased by 25%. The number of motorcycle deaths is now higher in rural areas than urban areas

Source: Government Motorcycling Strategy

- In the Motorcycle Council of New South Wales' survey of motorcyclists, loss of traction due to road surface condition was a factor in 43% of single vehicle crashes.

Source: Motorcycle Council of New South Wales, Australia – de Rome & Brandon, 2007



Driving for change – challenging times ahead



A new deal for roads

Ever-increasing traffic numbers and growing congestion are more and more becoming a matter for national debate. The Government White Paper *'A New Deal for Transport: Better for Everyone'* responds by encouraging the use of other methods of transport such as cycles and motorcycles. Unless something is done to improve road safety on their behalf, there will be further rises in accident rates for this vulnerable group.

Source: Tomorrow's Roads: Safer for Everyone, chapter 9

A new level of safety

Among the Department for Transport's many goals, road safety is always paramount. Although it has improved dramatically since the 1980s and exceeds targets set in 2000, the Department for Transport continues to push for improvement. Recognising the increasing risks, a specific strategy was devised to protect them which is set out in the accident reduction targets to be achieved within the next two years:

- 40% reduction in the number of people killed or seriously injured in road accidents
- 50% reduction in the number of children killed or seriously injured
- 10% reduction in the slight casualty rate, expressed as a number of people slightly injured per 100 million vehicle kilometres.

Source: Tomorrow's Roads: Safer for Everyone and Government Motorcycling Strategy

'Concerns principally related to the susceptibility of two-wheeled vehicles to the nature of the road surface and the vulnerability of riders ...include, for example, manhole covers with inadequate skid resistance or located in the carriageway where the motorcyclist could be leaning into a bend'

Government Motorcycling Strategy, chapter 4



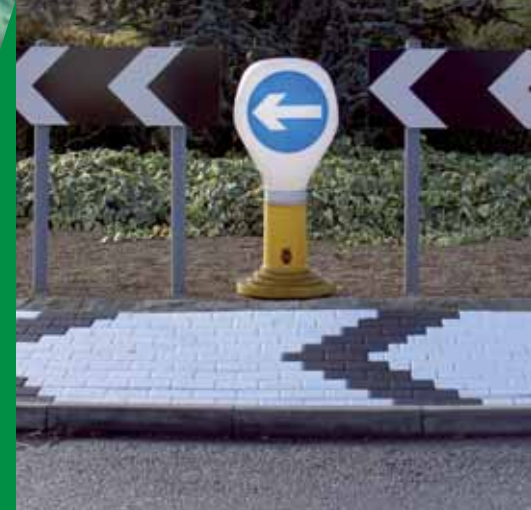
A new role for road design

Creating a safer infrastructure is seen as another way to improve road safety forming another part of the Department for Transport's strategy.

Key elements include:

- A recognition that good engineering reduces the risk of accidents
- A focus on better maintenance of national roads
- The introduction on local roads of longer-term, more co-ordinated local planning and improvements for walkers and cyclists.

Source: Tomorrow's Roads: Safer for Everyone, chapter 5



Now, there is a safer option

Introducing a major new contribution to road safety: GripTop

Our responsibility as market leader in access covers and gratings

Saint-Gobain Pipelines, as European leader in ductile cast iron access covers and gratings, runs an ambitious and constant policy of innovation, and aims to offer a wide range of high performing solutions. In the UK, the increasing demand for improved safety has been the driver of our new product development programme. Today Saint-Gobain Pipelines achieves a major breakthrough with GripTop.

GripTop: making the danger zones safer for everyone

GripTop is a complete new range of D400 anti-skid treated access covers providing durable performance where the road configuration and traffic conditions require long-lasting grip for added safety. GripTop is a proven cover surface treatment developed from years of research. Saint-Gobain Pipelines has applied GripTop to the PAM range of products – Inter Ax2, Ult-Emax, Opt-Emax – to provide extra safety when it matters most.

GripTop: when the bonding technology combines the strength of ductile cast iron with the stopping power of aggregates

The years of research help Saint-Gobain Pipelines to determine the appropriate combination of aggregates and bonding agents. In order to ensure that, whatever the climatic and service conditions, the following targets are fully achieved:

- Optimum balance of resistance to aggregate plucking
- Adhesion to the ductile cast iron substructure
- Resistance to polishing and surface durability.





GripTop: on-the-spot road safety for crucial locations

- Roundabouts
- Traffic lights
- Rural roads
- Pedestrian crossings
- Bends
- Gradients
- Highways
- Accident blackspots



GripTop is tried, tested and proven



GripTop's gripping power put to the test in the city

In partnership with Bristol City Council, Saint-Gobain Pipelines carried out large-scale testing of GripTop in the city centre. Around 70 new access covers were installed, monitored and tested over a two-year period in the Broadmead redevelopment programme. Located on road surfaces subject to heavy traffic where gradients encouraged acceleration and deceleration, the prototypes proved hugely successful, winning high praise after demonstrating to road users and engineers both increased durability and stopping power.



Bristol has something to say about GripTop

Here are just some of the many positive comments from City representatives on the proven value of GripTop™ when trialled under the harshest city centre traffic conditions:

'Treated utility covers were used throughout the principal highway network and have proven to be both practical and durable. In the 18 months since their installation there have been no instances of failure despite the heavy traffic using the treated roads.'

'If successful, this pilot study could be expected to inform further road safety mass action programmes carried out by the Authority either individually, or in combination with other measures.'

'It is therefore proposed to introduce treated covers at a number of sites within the Bristol boundary in order to ascertain their suitability, gain feedback from user groups and monitor driver behaviour, accident rates and durability.'

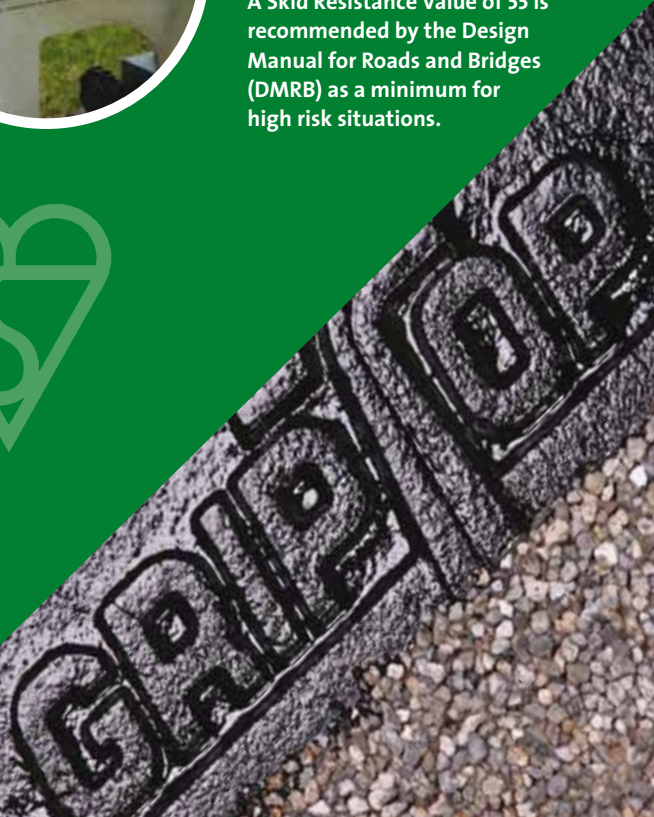
'It is also expected to inform other highway programmes and may provide the basis for design standards in respect of future highway and development projects.'



Test facility

GripTop has proved a Skid Resistance Value (SRV) superior to 63 after 130,000 6.5 tonne loaded passages at 40mph. Tests continue to show high resistance to polishing and no loss of grip. The accelerated traffic simulation gives a quicker visibility of the high durability of GripTop.

A Skid Resistance Value of 55 is recommended by the Design Manual for Roads and Bridges (DMRB) as a minimum for high risk situations.



GripTop passes the **ultimate** challenge

Gripping them in their tracks

Engineering considerations often leave no choice but to embed covers on the carriageway itself and even within the traffic's wheel tracks. Installing GripTop here not only delivers greater durability but also greater grip, particularly for vulnerable road users such as cyclists and motorcyclists.

'This new type of cover should make the road much safer for two-wheeled traffic' said Executive Member for Transport, Cllr Dennis Brown.

Source: Myra Johnson, Motorcycle Action Group, 2005.

GripTop stands the test of time

GripTop has been trialled for nearly two years in Bristol. The performance and durability of its anti-skid properties fully lived up to their promise, requiring no maintenance or further treatment to extend their lifetime or improve their reliability.

GripTop improves aesthetics in the urban environment

When the GripTop anti-skid aggregate finish is matched to the surrounding road surface colour, the cover becomes almost invisible. Barely noticeable to passing traffic, it increases road safety significantly by being less distracting than a traditional cover that might cause cyclists and motorcyclists to change lanes or even swerve to avoid. GripTop will also be available in red colour, to perfectly match the bus and cycles lanes: highly safe and unnoticeable.

GripTop, fully compliant to BS EN 124 standard

GripTop is BSI Kitemark certified, the marking and surface condition requirements of the standard are perfectly met.





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Ten good reasons why you should choose GripTop

1. GripTop meets road skid resistance requirements and contributes to improve safety on all roads.
2. Choosing GripTop demonstrates forward thinking in line with impending government legislation.
3. GripTop has demonstrated proven durability in exhaustive trials.
4. GripTop can be safely and beneficially installed in carriageway wheel tracks.
5. GripTop brings extra safety to our major ranges of manhole covers providing with a wide choice of dimensions.
6. GripTop manufacturing process is fully industrialised and operated under Quality Insurance Management.
7. GripTop is a proven maintenance-free solution.
8. GripTop is fully compliant to BS EN 124 and is Kitemarked.
9. GripTop covers are virtually invisible when dressed to match existing road surface colour.
10. GripTop helps improve aesthetics in the urban environment.



optional
red finish

Patent pending

GripTop range:

SAP code	Design	Clear opening (mm)	Depth (mm)
212925	GripTop Opt-Emax	600x600	100
212927	GripTop Opt-Emax	900x600	100
212928	GripTop Opt-Emax	1220x685	100
212933	GripTop Ult-Emax	600x600	100
212934	GripTop Ult-Emax	675x675	100
212937	GripTop Inter-Ax2	600x600	100
212938	GripTop Inter-Ax2	675x675	100

SAP code	Design	Clear opening (mm)	Depth (mm)
212929	GripTop Opt-Emax	600x600	150
212931	GripTop Opt-Emax	900x600	150
212932	GripTop Opt-Emax	1220x685	150
212935	GripTop Ult-Emax	600x600	150
212936	GripTop Ult-Emax	675x675	150
212939	GripTop Inter-Ax2	600x600	150
212940	GripTop Inter-Ax2	675x675	150


SAINT-GOBAIN
PIPELINES

PAM



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Ductile iron and mineral technology for extra safety

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A REVOLUTIONARY INNOVATION DESIGNED TO PREVENT ACCIDENTS, SAVE LIVES.