
Tarmac
safety
health
environment
and social
report
2003
A member of the Anglo American plc group

Chief Executive Officer's Report

2003 was Tarmac's centenary year and the safest on record, 89% of the 697 industrial locations were injury free. The injury frequency rate in 2003 was 0.88 representing a 37% improvement on 2002 and a 75% improvement compared with the 3.57 in 2000. This was disappointing as a target of a 50% reduction had been set. Even more regrettable was the fatality of an experienced employee in our Dubai contracting operation (Page 10). However, we remain committed to eradicating all lost time injuries from our operations at the same time as addressing those which represent the highest risk to life and limb. We have achieved three quarters of the target we set ourselves for 2005.

There is now less than twelve months to achieve our ultimate goal of 'zero lost time injuries by 2005'. This remaining period will be our biggest challenge to date. In 2000 the first challenge to be faced was getting everyone to believe that I was serious about Target Zero, that it was real and it was not going away. The second was to find the strategy to deliver zero injuries. That strategy is now well established and delivering significant improvements. The third challenge has been to get consistent implementation of the strategy, Golden Rules and SHE standards across the Tarmac Group. Our SHE standards are often significantly higher than the minimum legal requirements and industry norms of the countries in which we operate. Our performance is significantly better than that of our competitors.

I believe that our attitude towards safety, health, the environment and the community is at the centre of a culture which sets us apart. I find no-one in Tarmac who does not believe that our demonstrated concern for the safety and health of all who work for Tarmac has not given rise to a new sense of teamwork based on mutual respect; nor do I find members of the team who would not support our fundamental belief in the fact that working responsibly within our environment and our community does not contribute to our success.

Tarmac's commitment to health is just as strong as the commitment towards safety. The long-term targets (2010) set two years ago remain unchanged. The main occupational health issues are those of noise induced hearing loss and hand arm vibration syndrome. Unfortunately a lot of the damage has been done in the past when these conditions were not well understood and exposure to noise and vibration was poorly controlled. The past cannot be changed but we can make a difference to the future health of our employees. The challenge is to eradicate new cases of these diseases and arrest the progression of any existing cases. In 2004, Tarmac will launch an Occupational Health Strategy to deliver these goals, it will also embrace other areas such as whole body vibration, musculoskeletal disorders, stress and rehabilitation.

The drive towards world-class environmental performance continues across the entire Group. Some businesses have made quicker progress than others with the introduction of formal environmental management systems to the ISO14001 standard. At the end of 2003, 371 individual sites had third party certification, an increase of 85% over 2002. During 2004 all businesses will have sites with third party certification. Protecting the environment plays a big part in Tarmac's contribution towards sustainable development. Making the best use of non renewable resources, reducing energy consumption and thereby CO_2 emissions, and reducing waste not only protects the environment it makes sound business sense. Tarmac has introduced medium (2007) and long term (2010) reduction targets in these areas.

Tarmac's recycling business continues to expand so that we are able to offer customers a choice of either primary or secondary aggregates or both. Many of our added-value products also contain recycled materials which would otherwise have been discarded.

Being a good neighbour is as important as being a good employer and supplier. The communities around our sites are a prime consideration. Communication is a vitally important element of good community relations and has long been a key part of maintaining our 'licence to operate' by those who live close to our operations. As part of the implementation of our Business Principles, community engagement plans have been developed at 51 locations and another 101 sites have formal liaison arrangements in place with their local communities. At most other locations, liaison arrangements are less formal but no less effective. The Business Principles are now integrated into our day-to-day activities and form part of all group procurement contracts and the standard SHE rules for contractors in the UK.

I trust this report demonstrates our continued commitment to improving Tarmac's safety, health, environment and community performance.

Robbie Robertson
Chief Executive Officer
Tarmac Group

Content and Scope

THIS IS THE NINTH REPORT ON TARMAC'S ENVIRONMENTAL PERFORMANCE. IT REPRESENTS THE PROGRESS, ACHIEVEMENTS AND SETBACKS THROUGH 2003. THIS REPORT COVERS ALL OF THE WHOLLY OWNED TARMAC OPERATIONS WORLDWIDE.

overview

TARMAC IS A LEADER IN THE PRODUCTION OF CONSTRUCTION MATERIALS IN THE UK, CONTINENTAL EUROPE, THE MIDDLE EAST AND FAR EAST. THE CONSTRUCTION MATERIALS OPERATIONS PRINCIPALLY INVOLVE THE PRODUCTION OF CRUSHED ROCK, SAND AND GRAVEL, ASPHALT, READY-MIXED CONCRETE AND MORTAR, CONCRETE PRODUCTS, LIME AND CEMENT.

Tarmac Group/Tarmac UK

Tarmac Group

The Tarmac Group's materials can be found in almost every part of our daily life. Tarmac products are used in developing road and rail infrastructure, hospitals, houses and schools and products as diverse as toothpaste. Tarmac aims to conduct its activities in a sensitive manner, helping to ensure a sustainable resource base for future generations.

With operations throughout the UK, Central Europe, the Middle and Far East, Tarmac serves the varied needs of its customers with an emphasis on quality of service and product.

Key customer groups for Tarmac include civil and building industry contractors, merchants and distributors, industrial users and DIY consumers.

Through the extraction, processing and delivery of mineral resources for use within the construction and industrial sectors, Tarmac produces sand and gravel, crushed rock, asphalt, ready-mixed concrete, mortar, precast concrete products, blocks and paviors, cement, lime and industrial products. In addition to our primary operations, Tarmac invests heavily in the development of recycled products and the processing and use of secondary sources of aggregates such as slag, crushed concrete and asphalt planings.

Tarmac UK

With a national coverage of over 500 production units Tarmac Ltd operates on a geographical structure with four regional businesses focused on serving local markets.

- **Tarmac Northern**
- **Tarmac Central**
- **Tarmac Western**
- **Tarmac Southern**

Together these four businesses combine with Tarmac Concrete Products and Tarmac Recycling to form the largest aggregates business in the UK. Tarmac National Contracting operates as a self-standing national business.

Tarmac Concrete Products

Tarmac Concrete Products is a leading concrete product company consisting of four well-established brands: Tarmac Topblock, Tarmac Precast Concrete, Tarmac Topfloor and Tarmac TopPave.

Tarmac National Contracting

Tarmac National Contracting comprises the largest services, contracting and asphalt surfacing group in the UK with regional and area offices, supported by a ready supply of materials direct from our own quarries and asphalt plants.

Tarmac Recycling

Tarmac Recycling operates from 26 permanent and two joint venture aggregates recycling facilities plus various short-term contract facilities as well as operating three landfill sites. Last year Tarmac Recycling achieved sales of 1.3 million tonnes.

Tarmac Group Europe, Middle East and Asia

Tarmac France (France and Belgium)

Tarmac France consists of two main businesses, Tarmac Matériaux de Construction (TMC) which manufactures concrete products, and Tarmac Granulats, a producer of aggregates.

The product portfolio of TMC includes blocks, block paving, kerbs, pipes and specialised precast concrete products such as fencing and chambers, serving both the construction industry and the public works sectors. Principle clients are the national and regional chains of builder's merchants who go on to sell to contractors, individuals and public works companies. Businesses are situated in the north of France, the Paris basin, Lyons, Rhône-Alps, Bordeaux and south Belgium. Tarmac Granulats is a quarrying business based in the Beaujolais and Centre regions of France, producing a variety of crushed aggregates. Sand and gravel as well as limestone-derived aggregates feed into the local public works and road building markets as well as the construction industry for use in the manufacture of concrete and concrete products. The main application of hardstones is in road surfacing.

Tarmac Central Europe (Germany, Poland and Czech Republic)

In Germany, Tarmac has five hardstone quarries, eight sand and gravel pits, eight ready-mixed concrete plants and one asphalt plant.

Tarmac's Polish operations cover aggregates, concrete paving, asphalt and ready-mixed concrete. The aggregates businesses serve customers primarily in Wroclaw, Lodz, Warsaw and Poznan as well as construction sites throughout southern Poland. Tarmac is the market leader in the production of concrete paving for private individuals, construction companies and local governments. It has seven production facilities serving customers in Warsaw, Krakow and Katowice and Wroclaw.

In the Czech Republic, Tarmac has 24 hardstone quarries, and eight sand and gravel pits mainly in the northern and western parts of the country.

Tarmac Iberia

Iberia has two main regions in which it operates: the Central Region, mainly Madrid (where Tarmac is market leader in aggregates and ready-mixed concrete), operates four sand and gravel pits, four crushed rock quarries and 19 ready-mixed concrete plants; and the Mediterranean Region, where Tarmac has two limestone quarries and 26 ready-mixed concrete plants.

Tarmac Middle East and Tarmac India

Tarmac Middle East includes businesses operating a quarry in Oman, six asphalt plants in Dubai, Abu Dhabi and Oman, and asphalt contracting businesses in the United Arab Emirates and Oman. The quarry is a sand and gravel operation, supplying around 4.5 million tonnes a year to customers in the UAE. These include major producers of ready-mixed concrete, concrete products and asphalt, including Tarmac's own asphalt operations at Al Ain and Abu Dubai.

The UAE and Oman asphalt businesses have a combined annual coated stone output of around 1.2 million tonnes, supplying local and national government organisations in both countries, as well as numerous private sector customers.

The Middle East businesses are jointly owned with our local partners, but are all managed by Tarmac. In some cases, the relationships with our partners go back over 25 years.

Tarmac India operates in two ready-mixed concrete plants in Bombay, and is wholly owned by Tarmac. This business has grown steadily since its inception, and is now second in the Bombay market, producing over 60,000m^3 of concrete a year.

Tarmac China and Hong Kong

In China, the activity levels are centred in and around Shanghai. There are three asphalt units, one wholly owned and two joint ventures. The latter are currently being reorganised to become wholly owned. Although there is some private work, the customer base is primarily the Shanghai Government through the District Highways Departments.

A first quarry investment has recently been made in Huzhou, Zhejiang Province to the south west of Shanghai. The wholly owned limestone quarry will primarily supply the asphalt industry in Shanghai.

Tarmac Hong Kong is primarily an asphalt supply and contract surfacing operation. The principal client is the Hong Kong Government, utilising 95% of the company's resources. There is also some private work relating to property developments.

The asphalt business is regarded as highly innovative, with the introduction of noise reducing and coloured asphalts and other proprietary products in recent years.

safety

Policy Statement

THE TARMAC GROUP WILL STRIVE TO ACHIEVE AND MAINTAIN THE HIGHEST STANDARDS OF SAFETY AND HEALTH FOR ALL EMPLOYEES, CONTRACTORS AND MEMBERS OF THE PUBLIC WHO MAY BE AFFECTED BY ITS ACTIVITIES AND WILL PURSUE CONTINUOUS IMPROVEMENT IN ALL AREAS.

Tarmac has adopted Zero Tolerance Target Zero (OTTO) for lost time injuries with the aim of achieving the following targets:

Safety

- Zero Lost Time Injuries by 2005
- A 50% year on year reduction in Lost Time Injuries

Health

The elimination by 2010 (or progression of existing cases) of:

- Noise Induced Hearing Loss
- Occupational dermatitis related to exposure to agents or substances at work
- Hand Arm Vibration Syndrome
- Occupational lung disease

related to exposure to agents or substances at work

By zero tolerance we mean that:

- No one observes an unsafe situation without taking appropriate action
- No one observes someone behaving in an unsafe manner without requiring them to stop
- No one allows a colleague to work in unsafe conditions

Safety and health are line management responsibilities of prime importance. The Managing Directors of each business unit are responsible for ensuring that appropriate organisation and arrangements are made for the fulfilment of this policy and for monitoring its implementation and effectiveness.

In order to achieve these aims the Company will:

- Demonstrate visible commitment by all line managers carrying out regular safety task audits
- Adopt a behavioural approach to the management of safety and health
- Seek to eliminate unsafe behaviour
- Implement Golden Rules for safety
- Achieve and maintain conditions of work which are healthy and safe
- Provide adequate welfare facilities for our employees
- Seek to eliminate incidents and dangerous occurrences
- Carry out appropriate health screening of employees every three years
- Provide effective instruction, training and supervision
- Ensure that persons employed are both physically and mentally fit and competent for their duties
- Ensure that all employees are fully aware of their responsibilities regarding safety, health and welfare
- Identify hazards and assess risks and eliminate where practicable
- Involve employees at all levels by establishing local SHE Committees
- Provide and maintain safe plant and equipment
- Continuously review and revise company policy and guidance notes
- Provide adequate numbers of competent persons to advise on all aspects of safety, health and welfare
- Provide adequate resources to ensure full compliance with this policy and future legislation

Robbie Robertson
Chief Executive Officer
Tarmac Group

TARGET ZERO FOR LOST TIME INJURIES BY 2005 IS NOW LESS THAN TWELVE MONTHS AWAY. SAFETY RECORDS ARE NOT AVAILABLE FOR THE WHOLE OF TARMAC'S CORPORATE HISTORY BUT THEY ARE AVAILABLE FOR THE LAST FOUR YEARS AS PART OF THE ANGLO AMERICAN GROUP. UNDOUBTEDLY 2003 HAS BEEN THE SAFEST YEAR TO DATE. TARGET ZERO IS AN AMBITIOUS AND DEMANDING GOAL BUT ONE TARMAC BELIEVES IS STILL ACHIEVABLE.

Safety Introduction

The main safety focus in 2003 has been on ensuring the tools developed in 2002 were embedded across the whole Tarmac Group:

- The Group Safety Strategy
- Policies and Guidance for over 35 key SHE risks and activities
- Golden Rules for Safety
- Safety Task Auditing
- Visible Felt Leadership

The key to success is not a constant flow of new 'initiatives' or 'campaigns', it lies in developing a culture where everyone believes and acts in a manner that supports the CEO's belief that:

"No job is so important it cannot be done safely"

and the Zero Tolerance approach which simply means:

"stopping work which is unsafe"

The tools are in place to achieve Target Zero, the challenge for 2004 and beyond will be to ensure they are used correctly by everyone who works on a Tarmac controlled site.

Safety Performance

Frequency and Severity Rates

In 2003 the target to reduce the Lost Time Injury Frequency Rate, LTIFR, included contractors for the first time. The targets of a 50% reduction were based upon the actual performance in 2002.

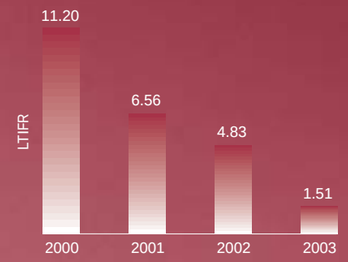
The Group frequency rate of 0.88 improved by 37% missing the target of 0.70.

The Group severity rate of 319 increased by 4% over the 308 recorded in 2002.

The inclusion of contractor injuries in the performance measures has reduced the degree of influence Tarmac can have on ensuring anyone who is injured at work returns as soon as possible. This has impacted on the severity rate.

Significant achievements have been made by Tarmac Northern and Tarmac Southern who achieved or bettered their LTIFR reduction target of a 50% or more.

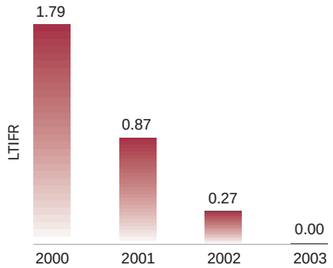
Tarmac France achieved a 69% improvement reducing their LTIFR from 4.83 to 1.51. This has been brought about by a cultural change within the business led by the Managing Director. Tarmac France has come a long way in the past four years as the graph below shows. Whilst the performance is still above the Group average, significant improvements are now being made across the business.



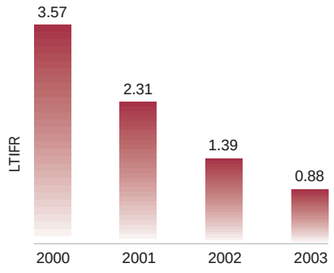
Tarmac France LTIFR 2000 – 2003

Unless stated otherwise, safety performance relates to employees and contractors.

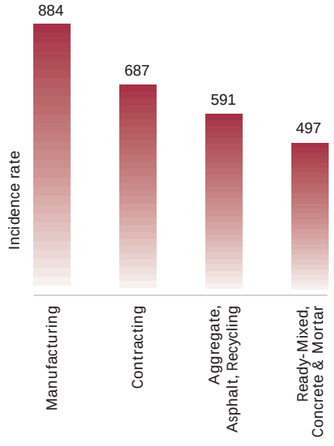
safety



Tarmac China LTIFR 2000 – 2003



Tarmac Group LTIFR 2000 – 2003



Employee RIDDOR Incidence Rate 2003

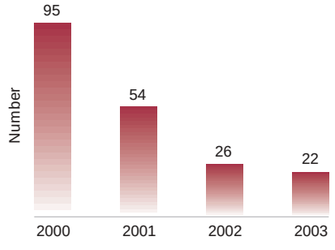
Safety Performance

In 2000 a target of a 50% year on year reduction in the injury frequency rate was set with the ultimate goal of zero lost time injuries by 2005. In 2003, 89% of the 697 industrial locations were injury free, confirming our belief that Target Zero is achievable.

Tarmac Iberia's LTIFR of 3.58 was again disappointing and was significantly worse than the Group average of 0.88. Significant assistance and resources have been provided to the business to improve task auditing, risk assessment and visible felt leadership. A frequency rate target of 1.00 has been set for 2004.

HSE Hard Target Initiative

In 2001 Tarmac supported the Health and Safety Executive's, HSE Hard Target Initiative for quarrying and pledged to 'halve the number of injuries in the industry by 2005'. The HSE used the average number of Reporting of Injuries, Diseases and Dangerous Occurrences, RIDDOR injuries between 1995 and 2000 as a baseline. In 2000 there were a total 95 RIDDOR injuries to employees and contractors recorded in Tarmac quarries (including those in the Nash, Tilcon and BLI businesses). In 2003 there were 22. This 77% improvement is over twice the rate achieved by the industry as a whole.



RIDDOR Injuries – UK Quarries (employees & contractors)

Tarmac – Health and Safety Executive Protocol

Tarmac has signed a formal agreement, the 'Protocol on Health and Safety Arrangements' with the Health and Safety Executive, HSE. The Protocol sets out how the HSE will work with and assist Tarmac to drive down the number of work-related injuries and cases of occupational ill health amongst its employees. It is intended to be a simple and non-bureaucratic set of arrangements.

Specific objectives of the Protocol are to:

- Contribute to the achievement of the Quarry Industry's Hard Target, to halve the number of injuries in the industry by 2005.
- Assist Tarmac in the implementation, monitoring and review of its national health and safety management arrangements.
- Support Tarmac in achieving its published safety target, of 50% year on year reduction in lost time injuries with zero lost time injuries by 2005.
- Support Tarmac in achieving its published occupational health targets.
- Maximise the impact of HSE interventions with Tarmac employees.
- Provide effective means of communication between the two organisations, including with employee representatives, over health and safety matters.
- Resolve efficiently and effectively any health and safety problems that may occasionally arise between the two organisations.

The agreement covers all of Tarmac's quarrying operations in England, Scotland and Wales. The protocol will result in fewer 'routine' visits to Tarmac sites by the HSE Inspectors. These arrangements will not affect reactive visits by the HSE to investigate injuries, incidents, ill health or any complaints they receive relating to Tarmac's operations. The protocol will allow the HSE to target its resources at companies where greater attention is required than Tarmac and takes the company a step closer to being truly 'self regulating'.

British Cement Association – Cementing Best Practice

In November, the Chief Executive Officer on behalf of Buxton Lime Industries, was one of the signatories of the British Cement Association's 'Cementing Best Practice' initiative *'To create an environment where injuries and ill health do not occur, with a 30% year on year improvement in injury rates every year until 2010 compared with a baseline of 2003'*. We will report our contribution towards this target in 2004.

Tarmac's aim continues to be the elimination of all lost time injuries by 2005 but willingly supports any industry wide initiatives to improve the SHE performance in those sectors in which we operate.

Safety Developments

Target Zero has created a challenge for everyone within Tarmac to make a positive contribution to improve safety performance and to tackle those problems often considered 'too difficult'.

The following are some examples of the developments carried out in 2003.

Contractor's Safety Passport for quarries

The safety of contractors is of equal importance to that of our employees.

Tarmac was fully involved in the development of the EPIC 'Contractors' Safety Passport' scheme which was launched in June 2001. The scheme aims to ensure that all contractors have a minimum understanding of the safety, health and environmental issues in quarries and associated environments and supports the HSE's 'Hard Target' initiative for quarrying. Tarmac requires contractors working in quarries to hold the EPIC Contractors' Safety Passport by 1 January 2004. At the end of December, EPIC had issued over 4,700 passports.

This requirement is now included in the procurement procedures for all relevant activities. Tarmac has worked with EPIC to produce a series of posters to reinforce the message that by the end of December 2003 contractors were expected to hold the Safety Passport.

safety

Leading Indicators

Safety Task Auditing is now firmly embedded across Tarmac. It involves observing people at work, discussing what they are doing and the way the work is being carried out, identifying safe and unsafe acts and gaining a commitment to work safely in the future. An important element of the process is praising safe behaviour and providing an opportunity for the person being observed to discuss any other safety, health or environmental issues, which they may have.

The primary aim is to be proactive and detect unsafe behaviour and bring about change before an injury occurs. Over 1,200 people across the Group have now been trained to carry out task audits, including all executives, directors and line managers. More than 27,000 task audits were completed in 2003.

The information on the number of unsafe acts being observed now allows a leading indicator of safety performance, the Unsafe Act Index (UAI), to be calculated and monitored, to direct resources at those areas where an injury is likely and take action to prevent it becoming a reality. From 2004 each business unit will produce its own UAI.

European Week for Safety and Health

'Safe at Work – Safe at Home'

Tarmac supports the EU Week for Safety and Health and in 2003 this was used as the launch of the 'Safe at Work - Safe at Home' booklet.

During the last four years Tarmac has been focused on creating a safety culture amongst employees and contractors where working safely is the 'only way' of doing things. If this goal is to be achieved people must adopt a total approach to safety at work, at home or whatever they are doing.

Tarmac Western produced a safety booklet which provides employees with basic information about safety in the home which can be more hazardous than being at work. In 2002 over 3 million people in the UK had to visit hospital emergency units for injuries sustained in their own home. The leaflet has been supplied to UK employees and distributed throughout the Tarmac Group for translation into local languages. The aim is to encourage employees and their families to think and act safely at all times not just whilst they are at work.

OTTO the Otter

As a way of engaging local school children in safety, Lynne Grant SHE coordinator at Tarmac Concrete Products factory in Henlade, gave a talk to local school children at Priorswood Primary School about general safety awareness at school and at home.

Dressed in personal protective equipment Lynne discussed why wearing a hard hat at work was as important as wearing a cycle helmet to protect someone from head injuries. The children were asked to design a safety poster based around a cartoon character 'OTTO the Otter'. The idea has been well received and other local schools in the Taunton Dean area are considering similar events in 2004.

Brownie Points

Tarmac Topfloor won a Regional Award from the HSE for their efforts during Safety and Health Week. They worked with the First Belper Scout and Guide Group to raise awareness to the dangers of hazardous substances. The children were given a talk by Tarmac Topfloor marketing director Phil Harris regarding the dangers of substances at home. The children designed posters to depict the dangers of chemicals and the winning entry is to be circulated to all four of Topfloor's factories.

Golden Rules

The 2002 report outlined the review of the fatal injuries within the Anglo American Group. The review identified that over 80% could be attributed to a few causes and a failure to follow basic safety rules.

Tarmac now has Safety Fundamentals and Golden Rules for:

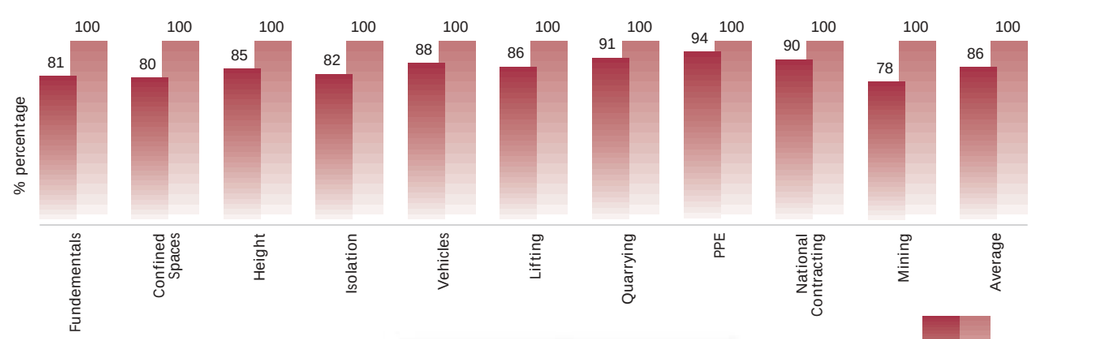
- Confined Spaces
- Working at Heights
- Energy & Machinery Isolation
- Surface Vehicle Safety
- Quarrying Operations
- Lifting & Material Handling
- Personal Protective Equipment, PPE
- Mining Operations
- National Contracting

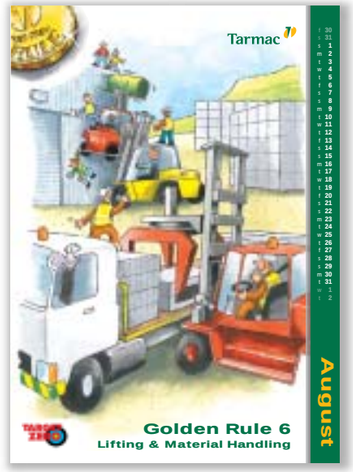
If the Golden Rules are followed they will significantly reduce the risk of injury from these causes. The correct use of Personal Protective Equipment, PPE can also reduce the severity of many injuries and often prevent many minor injuries.

The Golden Rules are being rigorously applied and enforced at all locations for employees and contractors. A comprehensive training programme and publicity campaign has been carried out across Tarmac which includes a video available in 15 different languages.

During 2003 compliance with the Golden Rules has been audited by a combination of self assessments and independent audits by SHE professionals from other Tarmac business units. The average score for the independent audits was 86%.

Golden Rules Audit Score 2003





The target for 2004 will be 100% compliance consistent with the 'OTTO', Zero Tolerance Target Zero, approach. This will be a challenge, particularly in relation to working at height on delivery vehicles. The Golden Rules will be the key focus area in 2004. The 2004 Tarmac safety calendar again features the Golden Rules as part of the publicity to ensure they are fully understood and followed at all locations.

safety

Road Safety

For many Tarmac employees the most hazardous activity they undertake is driving a motor vehicle on a public highway. Tarmac introduced a Mobile Phone policy in 2002 which prohibited the use of hand held phones for making calls whilst driving. Any Tarmac employee calling a mobile phone is required to ask the person *"Are you safe to take this call?"*

A comprehensive Road Safety policy has been introduced. This covers all aspects of the management of road risk, from car selection to driver training and monitoring of road traffic incidents. Employees are required to produce their driving licence as part of their annual appraisal, any offences are discussed to promote the zero tolerance approach to safety, including driving on a public road.

Good Safety is Good Business

People often ask if you can demonstrate a link between good safety and good business. Investment at Tarmac Western's operations in South Wales has proved the case.

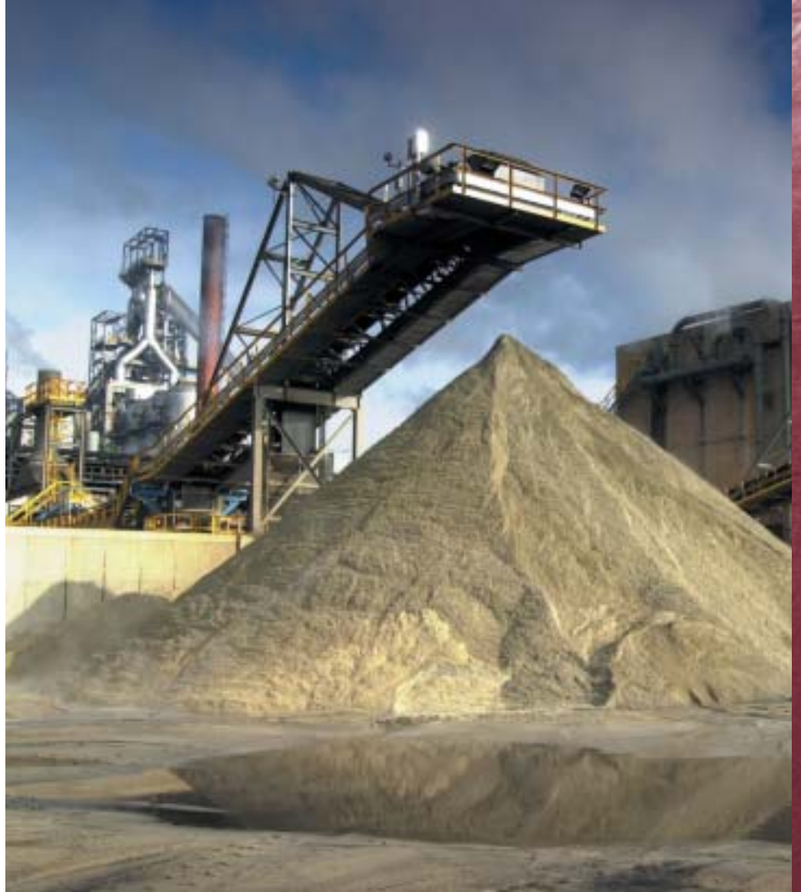
During 2001/2 the following concerns were identified with the plant used to process the air cooled blast furnace slag at Port Talbot and Llanwern steel works:

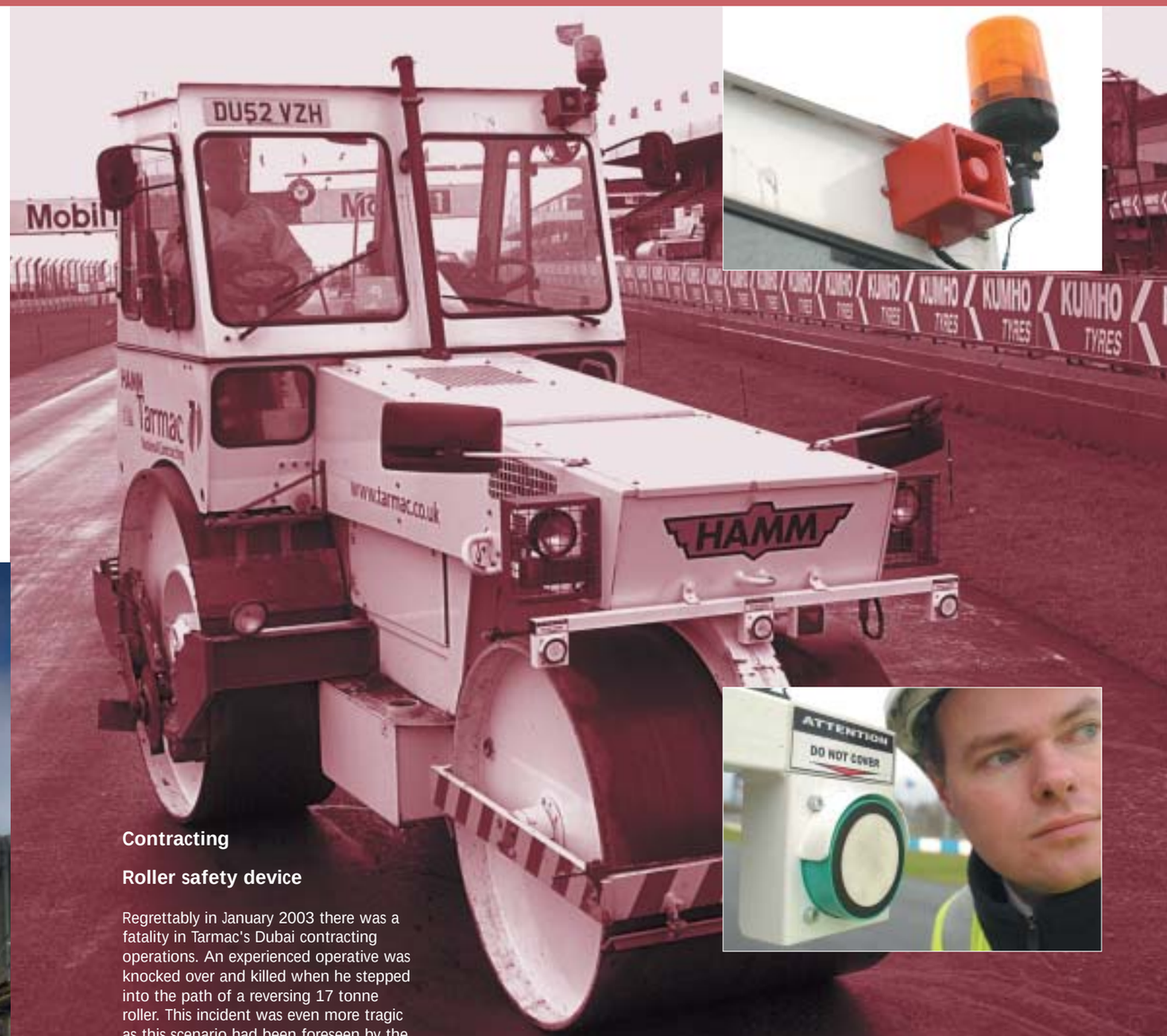
- Significant structural corrosion as a result of the operating environment.
- High level of breakdown maintenance as a result of the age and condition of plant also giving rise to poor plant availability.
- Poor utilisation as a result of the plant blockages with the associated spillage.
- The inability to satisfactorily process steel slag, which would be a future requirement.

All of these issues had the potential to lead to safety and health incidents and therefore injuries. Additionally, the existing equipment could not satisfactorily process steel slag, which would be a future requirement. An investment was made during 2002/3 in a purpose designed mobile crushing and screening plant for which the following SHE and financial benefits were realised:

- A reduction of two thirds of the cost per tonne of production.
- Increased throughput, thereby enabling the equipment to be utilised at both sites.
- Improved safety, plant availability and utilisation as a result of significant reduction in breakdown maintenance and clearing of plant blockages and spillage.
- The flexibility to process steel slag.
- Removal of the workforce from noisy and dusty environments.
- Equipment can be tracked out of the way to enable spillage to be cleared by a loading shovel, thereby eliminating manual handling risks.
- Removal of future structural steelwork issues with fixed plant and the associated costs.
- Removal of large rigid dumpers from the process which were previously used to haul material from the stockpiles to the plant with obvious economic and SHE benefits.

The financial investment of £750,000 has taken less than three years to be paid back and there have been no lost time injuries. Prior to the investment there had been an average of four injuries per year.





Contracting

Roller safety device

Regrettably in January 2003 there was a fatality in Tarmac's Dubai contracting operations. An experienced operative was knocked over and killed when he stepped into the path of a reversing 17 tonne roller. This incident was even more tragic as this scenario had been foreseen by the Tarmac National Contracting Safety Forum established in November 2002 to develop Golden Rules specifically for contracting operations.

The Chief Executive Officer and all the business directors were determined that this type of incident should not occur again and that the Golden Rule for Contracting be finalised and implemented as a priority and a technical solution must be found to prevent a recurrence. The National Contracting Golden Rules are now in place and require a five metre safety zone to be maintained with large rollers.

After extensive field trials Tarmac now has a technical as well as a behavioural solution. The Vehicle Collision Avoidance System, VCAS, utilises ultrasonic sensors mounted on the front and rear of the roller. These detect a person or object within the protected area, up to five metres away, and stops the roller automatically.

The Tarmac Executive has agreed a policy of retro fitting the system on the entire Tarmac owned fleet of rollers world wide, over 150 machines, by 30th June 2004. The cost will be in the region of £630,000 but is considered to be a small price to pay to prevent a further tragedy.

safety

Bitumen burns – a thing of the past

A key tool in pursuit of Target Zero is the assessment of risk and hazard control. The most effective way to reduce risk is to eliminate the hazard altogether. Over the years the use of hot poured bitumen to seal road construction joints has resulted in numerous injuries within Tarmac and the industry as a whole.

Tarmac Northern National Contracting, decided if they were to achieve Target Zero the use of hot poured bitumen had to be eliminated. Existing risk control relied upon the use of PPE including full perspex face shields and elbow length leather gauntlets.

Bitumen suppliers were contacted to develop a cold pour material with the same technical qualities as hot bitumen. Within 12 months Tarmac Northern had successfully tried and tested the product and wrote to all their clients and customers, advising them of the research and continued safety concern of using hot bitumen.

△ Cold pour bitumen is the now the first choice for sealing joints for the whole of Tarmac National Contracting consistent with the OTTO approach.

Successes, Setbacks and Targets

Anglo American CEO's Safety Award

Tarmac Western achieved third place in the Anglo American Chief Executive Officer's Annual Safety Award for large business units employing more than 100 people. The competition is open to all Anglo American managed operations worldwide and is highly contested.

Quarry Products Association's Health & Safety Best Practice Awards

Tarmac operations had several successes in the 2003 awards.

Tarmac Central, Area three Topmix received a 'Highly Commended' in the Innovation Section.

Tarmac Central, Caldon Low Quarry were 'Runners Up' for outstanding achievements in the Bitumen Storage and Delivery section.

Tarmac Northern's Concrete and Mortar business in Scotland were the winners of the Trevor King Trophy in the slips/trips and falls category.

Tarmac Northern, Wensley Quarry were the runners-up within the workplace transport category.

Tarmac Northern, Yorkshire Concrete and Mortar received a 'highly commended' award in the Innovation category.

Tarmac Concrete Products

Tarmac Concrete Products and all individual business units, Topfloor, Precast, TopPave & Topblock received the four star awards from the British Precast Concrete Federation for achievements in safety.

Tarmac Central Europe

The Elbekies sand and gravel quarry in Brandenburg, Germany was awarded a Safety Certificate by the Steinbruchs-Berufsgenossenschaft (Professional Quarrying Association) for their systematic approach to safety and having exceeded four years without a lost time injury.

Prosecutions

There were three prosecutions brought by the UK Health and Safety Executive during 2003.

Tarmac Concrete Products

The company was fined £2,000 with £1,588 costs for a contravention Regulation 14 of the Electricity at Work Regulations 1989 in that they failed to ensure that no person was engaged in any work activity on or near any live conductors that danger may arise. The prosecution followed an incident in 2002 where a crane made contact with overhead power lines on a site. The power lines have now been routed underground to avoid a recurrence.

Tarmac Central

The company was fined £2,000 with £849 costs for a contravention Regulation 8(1) of the Workplace (Health, Safety & Welfare) Regulations 1992 in respect of inadequate lighting. The prosecution followed an incident in 2002 when an injury occurred at an industrial location and inadequate lighting was a contributory factor. The business had been newly acquired and planned improvements had not been completed at the time of the incident.

The company was fined £3,300 with £1,661 costs for a contravention Regulation11 (1) of the Provision and use of Work Equipment Regulations 1998 in respect of inadequate precautions to prevent access to moving machinery. The prosecution followed an incident in 2003 when an injury occurred at an industrial location when an employee disobeyed instructions and entered a locked area without isolating the equipment. The business had been newly acquired and improvements in employee attitudes towards safety had not been fully achieved.

Changes to the way new acquisitions are integrated into the business have been introduced following a review of these incidents.

Enforcement Notices

The HSE served two Prohibition and two Improvement Notices during 2003. All have now been complied with to the satisfaction of the HSE.

SAFETY TARGETS 2003 & 2004

ZERO LOST TIME INJURY ACCIDENTS BY 2005.

2003 LTIFR of 0.88 is a 75% improvement on the 3.57 recorded in 2000.

50% YEAR ON YEAR REDUCTION IN LOST TIME INJURY FREQUENCY, LTIFR. TARGET OF 0.35 FOR 2004 EMPLOYEES AND CONTRACTORS.

2003 LTIFR 0.88 versus target of 0.70, a 37% improvement on 2002.

REQUIRE CONTRACTORS WORKING IN UK QUARRIES TO HOLD AN EPIC 'CONTRACTORS SAFETY PASSPORT' BEFORE 2004.

The EPIC Scheme was launched in the UK in June 2001. EPIC has now issued over 4,700 passports. The requirement to hold an EPIC Safety Passport has been written into procurement procedures.

GOLDEN RULES – FULL IMPLEMENTATION BY 2005.

health

DURING 2003 THE HEALTH SCREENING PROGRAMMES HAVE CONTINUED AND THERE IS A CLEAR VIEW OF THE PROBLEM AREAS. OCCUPATIONAL HEALTH IS NOT STATIC AND NEW ISSUES CONTINUE TO EMERGE SUCH AS WHOLE BODY VIBRATION (WBV), STRESS AND REHABILITATION. TARMAC'S EXTENDED HEALTH TARGETS FOR 2010 REMAIN UNCHANGED, REFLECTING THE LONG-TERM COMMITMENT IN THIS AREA. THE CHALLENGE FACING TARMAC IS TO ACHIEVE THE SAME LEVEL OF OCCUPATIONAL HEALTH IMPROVEMENTS AS THOSE ACHIEVED IN SAFETY.

Health

Health screening

Sufficient data is now available from the health screening programme to confirm the main occupational health issues as:

- Noise Induced Hearing Loss, NIHL
- Hand Arm Vibration Syndrome, HAVS
- Musculoskeletal Disorders, MSDs

The low prevalence of occupational lung disease and dermatitis indicates that the current control measures are proving to be effective.

The challenge is to create a working environment where new cases of occupational disease do not occur and existing cases do not progress to a more serious stage. Health risks are often less visible than safety risks. The uncompromising, zero tolerance approach adopted towards safety is being applied to health. There is no doubt that modern equipment has significantly reduced exposure to dust, noise and hand arm vibration. This combined with a better awareness of health issues by the entire workforce will help deliver the long term health targets.

Noise

Noise Induced Hearing Loss, NIHL, continues to be the most common industrial disease amongst the workforce. The most effective form of hazard control measure is to eliminate the exposure. It is difficult to reduce the noise levels of some processes but people can be removed from the noisy areas. However there are some activities, such as the use of jackhammers, where exposure to noise cannot be eliminated.

In these situations Personal Protective Equipment, PPE in the form of appropriate hearing protection has to be relied upon. PPE is normally the least effective control measure and is used as the last, rather than the first choice of hazard control. Tarmac has adopted the Zero Tolerance approach towards the correct use of PPE to ensure it is effective.

Musculoskeletal Disorders

Musculoskeletal disorders can result from a single event or the cumulative effects of repeated activities. The most common musculoskeletal disorders reported by employees are 'strains' and 'sprains' of various joints, particularly the back. Tarmac co-operated in a study conducted by Loughborough University, on behalf of the Quarry Products Association, QPA and HSE, to determine the level of exposure to Whole Body Vibration, WBV amongst drivers of off-road quarry vehicles. The study has provided useful information on the levels of exposure to WBV and the factors which can influence this. Preliminary work has been conducted with Tarmac's occupational health provider to develop the screening programme to give a better understanding of health problems associated with WBV. This will be progressed in 2004 to develop a tool to determine if there is a cause/effect relationship for Whole Body Vibration.

Hand Arm Vibration

The main source of vibration is from the use of hand held pneumatic tools. There is a continual search for ways of eliminating hand held vibrating tools or, where this is not possible, to find alternative, lower vibration models.

Due to the uncertainty over the personal exposure to hand arm vibration regular health screening is a key element of the strategy to prevent harm occurring. Working closely in the UK with Tarmac's occupational providers, Private Health Care, a sophisticated health screening questionnaire has been developed. This provides a reliable and cost effective method of routinely monitoring employees who are exposed to vibration and detecting the onset of HAVS. Interventions can then be made to ensure the condition does not progress further. This may result in a worker being removed from any further exposure to hand arm vibration.

health

Manual Handling

The manual handling of heavy (over 60 kg) concrete kerbstones has been 'custom and practice' within the construction industry for decades. The HSE has raised concerns regarding this issue as the cumulative effects cause significant musculoskeletal problems in the workers involved, particularly to the back. Tarmac National Contracting controls the laying of a large number of kerbstones either directly by employees or indirectly through sub contractors. The technology is now available to mechanically handle kerbstones and it can be applied on the majority of sites. There are some locations where the layout or space restrictions prevent the use of mechanical handling equipment. Tarmac has adopted a policy of mechanically handling all heavy kerbstones unless a risk assessment has shown this to be impractical. Mechanical kerb handlers have been purchased for use by Tarmac employees or by sub contractors who do not have access to such equipment.

Having eliminated the use of hot bitumen for sealing asphalt joints (page 11) Tarmac Northern has developed a method of applying the cold pour alternative material. The team wanted to remove the need for an operative to walk 'bent over' alongside an asphalt joint, often for several kilometres, using a watering can. A local engineering company developed an applicator, which is easily pushed along by an operative whilst standing upright. The prototype has been very popular with everyone who has used it during the trials. The intention is to issue the new applicator to all Tarmac contracting crews during 2004.

Occupational Health Management

An audit of compliance with the Anglo American Occupational Health Management Guidelines was completed in 2003. This has highlighted areas for improvement and a Group wide occupational health strategy and policy will be developed in 2004.

HEALTH TARGETS

TO ELIMINATE ANY NEW CASES (OR PROGRESSION OF EXISTING CASES) OF NOISE INDUCED HEARING LOSS, HAND ARM VIBRATION SYNDROME, DERMATITIS AND OCCUPATIONAL LUNG DISEASE (RELATED TO EXPOSURE AGENTS OR SUBSTANCES AT WORK) BY THE END OF 2010.

The main priorities are Hand Arm Vibration Syndrome, HAVS and Noise Induced Hearing Loss, NIHL. Work is focused on eliminating exposure or controlling it to a level which will not cause harm.

environment

Policy Statement

TARMAC IS COMMITTED TO ACHIEVING WORLD CLASS PERFORMANCE IN ENVIRONMENTAL PRACTICE AND MINIMISING THE ENVIRONMENTAL IMPACT OF ALL ITS OPERATIONS, PREVENTING POLLUTION AND STRIVING FOR CONTINUAL IMPROVEMENT IN ITS ENVIRONMENTAL PERFORMANCE WHILST WORKING TOWARDS A SUSTAINABLE FUTURE.

The Managing Directors of each business unit are responsible for ensuring that appropriate organisation and arrangements are made for the fulfilment of this policy and for monitoring its implementation and effectiveness.

In order to achieve these aims the company will:

- Meet all legal requirements, regulations and standards of the country of operation and where possible, exceed these parameters with monitoring to ensure compliance.
- Minimise environmental impact of operations and reduce the aspects of the environment affected by the business, as far as is practicable.
- Demonstrate efficient use of energy, water and raw materials, taking appropriate opportunities to minimise waste and to re-use or recycle.
- Work to improve the standards of the sectors in which the company operates, enhancing environmental awareness and commitment amongst staff through structured training and encouraging the adoption of sound environmental principles amongst contractors, suppliers and customers alike.
- Report and review key environmental impacts of operations and progress against targets for the future.
- Respond positively to the environmental developments in each business area by review of such issues with the appropriate authorities, the local communities and other bodies.
- Ensure that, where practical, energy efficient techniques are utilised throughout the company's activities.
- Aim to make a positive contribution to biodiversity.

Robbie Robertson
Chief Executive Officer
Tarmac Group

Environmental Management Systems

Introduction

The Environmental Management System (EMS) standard ISO14001 is the framework used by Tarmac to manage its impacts on the environment, with the aim of continuous environmental improvement. The use of ISO14001 helps to formalise the approach towards managing potential impacts and brings consistency across a geographically diverse group.

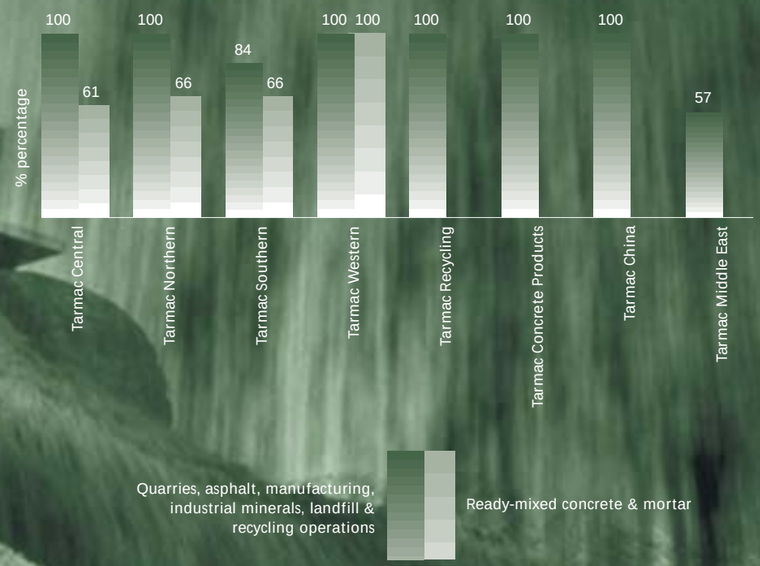
Tarmac's environmental performance has improved continuously since beginning to implement ISO14001 in the late 1990s. Progress has not always been as rapid as envisaged but by sharing knowledge, experiences and best practice, the company has established a sound basis for environmental management throughout the organisation.

Progress with implementation of ISO14001

The target of installing an EMS in all business units to the ISO14001 standard before 2004 has largely been achieved, with all Tarmac businesses now operating or implementing environmental management systems. A small percentage of business units have yet to achieve formal ISO14001 certification across the full range of sites, including France, Spain, Poland, Germany and Czech Republic. These businesses have a target to achieve compliance with this goal by the end of 2004.

Across the Tarmac Group there are now 371 units, 62% of all locations, with ISO14001 certification. The aim is to implement an EMS at new businesses within 12 months of acquisition. This is a challenging target given the nature and complexity of operations but one Tarmac endeavours to meet.

Percentage of sites with ISO 14001 across Tarmac – 2003



environment

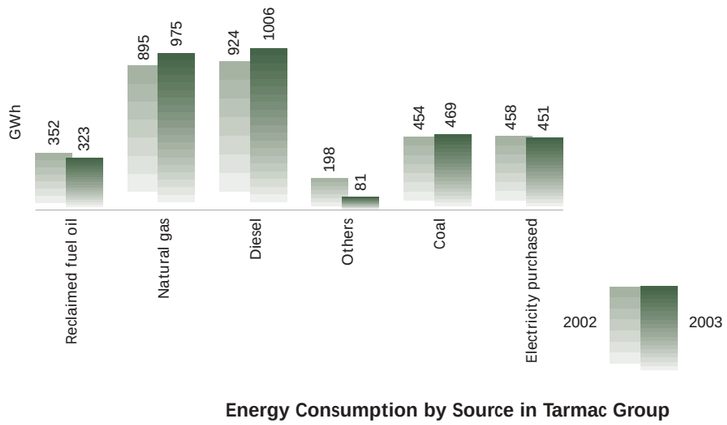
Energy and Emissions

Tarmac recognises the impact its operations can have on the global consumption of fossil fuel and subsequent greenhouse gas emissions resulting from combustion and production processes. Although operations within the company will contribute to this impact to different extents, Tarmac believes that it is the responsibility of every business and every employee to take responsibility for their own actions regarding energy consumption.

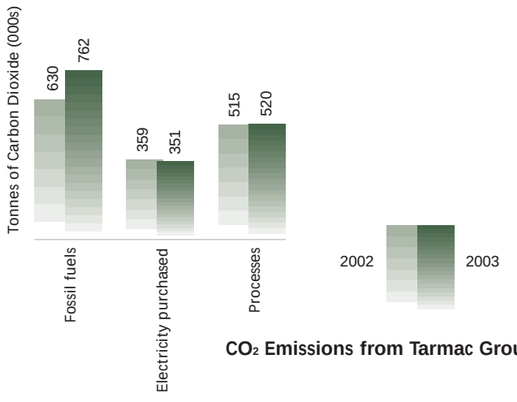
As a result Tarmac Group made a visible commitment to reducing energy consumption in 2002, by publicly reporting our performance and by signing up to the UK government initiative – Making a Corporate Commitment – MACC2.

The targets were set for achievement in 2007 and 2010, therefore we do not expect to see immediate year on year reductions in specific energy consumption (sec). Several businesses have spent 2003 establishing the framework that will allow energy reduction measures to be achieved. Actions range from the appointment of an Energy Manager in Tarmac Central to the continued use of services offered by the 'Action Energy Programme' within the UK.

The increase in energy usage is due to the full year reporting of data from acquisitions in France and Spain, plus improving data accuracy.



Energy Consumption by Source in Tarmac Group



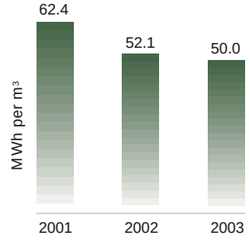
CO_2 Emissions from Tarmac Group Operations

Energy Reduction Measures at Ninfield

An example of energy savings include a capital scheme implemented at Topblock's Ninfield plant during winter 2002/2003, modifying the block curing facility.

The process required the filling of a curing chamber with freshly manufactured blocks, the chamber door was then closed and the curing cycle would begin. This required the temperature to be raised to approx 40ºC by use of gas oil fired heaters. The temperature was held at 40ºC for a period of time before opening vents and dumping the hot air to atmosphere reducing the temperature to allow operators to enter.

The curing chamber has been modified to create one large chamber with improved insulation to all sides and the roof. Automated equipment was fitted removing the need for operators to enter the chamber. This enables the temperature to be maintained at a constant 35-40ºC removing the need to vary the temperature, reducing wasted energy.



Ninfield Specific Energy Consumption

Waste, Recycling and Resource Use

Tarmac's commitment to minimising waste, increasing recycling and using secondary aggregates are core elements of our environmental policy as we believe that they contribute significantly to creating a sustainable business.

Tarmac Recycling has continued to expand in the UK with production of recycled aggregates exceeding 1.3 million tonnes from 28 locations, providing customers with a choice of either primary or secondary aggregates.

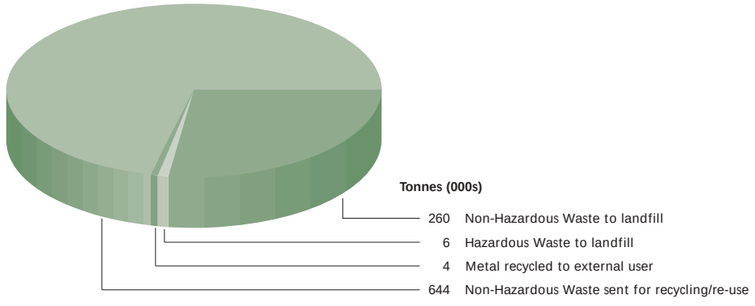
Tarmac continues to seek ways of using recycled materials in added-value products, reducing demand for primary aggregates and utilising materials which otherwise would have been thrown away.

Approval for Secondary Aggregates

Tarmac has been working closely with the UK authorities to gain approval for the use of secondary aggregates in highway and footpath construction, where stringent quality standards are required. Two significant developments have taken place that will allow secondary aggregates to compete directly with primary aggregates. Foamix (a cold lay asphalt material containing secondary aggregate), has been granted Highways Authority and Utilities Committee (HAUC) approval from the British Board of Agréments, which will allow the material to be used for trench reinstatement works.

The Highways Agency has given approval for the use of Basic Oxygen Steel Slag as a surface course aggregate on trunk roads (including motorways). This significant development came after an investigation and report that was funded from Tarmac's landfill tax credits.

Waste Generation – Tarmac Group 2003



environment

Progress with Waste Reduction Targets

Tarmac Group has not set an overall waste reduction target as the issue is dealt with at a local level. Businesses have set individual targets dependent on the waste streams produced. Many targets are long term and immediate progress was not expected after one year. However, there has been some progress and the following are examples of the efforts that have been made across the business to reduce waste.

China

An agreement between the Shanghai asphalt plant and a local block manufacturer has enabled part of the surplus filler to be used in the manufacture of concrete blocks.

UK Businesses

Within the UK businesses, increased awareness of the need to reduce waste has brought improvements in the segregation of waste, better control of production and, in the mortar sector, a trend towards the supply of dry-silo mortar has reduced the number of truck washouts and therefore waste.

Alternative disposal or recycling options are constantly being sought to reduce the amount of waste sent to landfill.

Vehicle import terminal, Port of Tyne

Sustainability factors have become an important consideration for customers. When the Port of Tyne Authority in the UK needed paving and ancillary works for a 49-acre parking site for 8,000 cars at the car import terminal, it was a Tarmac subsidiary company that won the tender. Alston Limestone Co (ALCO) offered an innovative cold-mixed asphalt using recycled blast furnace slag in place of primary aggregates. The project brought numerous environmental benefits compared to traditional methods.

The 26,000 tonnes of blast furnace slag, a by-product of steel manufacturing, were transported to the site in ten shiploads from Tarmac's Teesport works 50 kilometres away. This resulted in a significant reduction of road vehicle movements and the avoidance of potential traffic congestion. The asphalt plant was less than one kilometre from the project site, further reducing vehicle movements. Reductions in energy use and CO_2 emissions were achieved with the innovative cold-mixed asphalt manufactured and supplied by Roadstone Recycling (a Tarmac joint venture company). The aggregate does not require heating to high temperatures, as in the case with conventional hot-mixed asphalt. The project met the aims of the Tarmac environmental policy to *'demonstrate the efficient use of energy, water and raw materials, taking appropriate opportunities to minimise waste and to re-use and recycle'*.

Port of Tyne ▽

Pompey Centre, Portsmouth ▷

Water

The main use of water is in the production of ready-mixed concrete and mortar and concrete products. In these added value products water is a constituent part and is often potable (drinking quality) water. Potable water has been extensively treated to make it fit for human consumption, which involves a large amount of energy, 0.5kWh per cubic metre. Water is also used for the production of aggregates, particularly sand and gravel. However, the vast majority (over 95%) is re-circulated on site. The majority of water used for aggregate production is collected or abstracted on site and has not been treated to the same standards as potable water, reducing the energy consumed per cubic metre. Water is also used for dust suppression, cleaning vehicles and equipment and of course, the essential domestic uses applicable to any business. At many sites water is discharged into surface waters or sewers under tightly controlled discharge consents. Regular monitoring and sampling regimes are used to control the quality of discharges and ensure they do not adversely impact upon the environment.

Sustainable Drainage Systems

There are rising concerns in the UK regarding the extent of urban development and associated increases in impermeable surface areas. These put extra pressure on existing urban drainage systems, which are often unable to cope with the high volumes of surface water run off. This in turn, places extra pressure on watercourses, which in extreme cases has resulted in rivers bursting their banks and causing damage to wildlife, habitats and properties within the river catchment area.

As a result the Environment Agency are promoting the use of sustainable drainage systems as a technique to manage surface and groundwater systems.

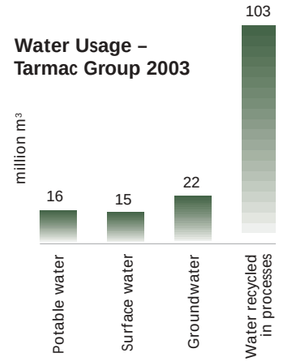
In response to these concerns Tarmac has developed a 'drainage pavement' that 'stores' water when it rains, thereby significantly reducing the risk of flooding. The porous asphalt consists of voids that hold up to 30% of the volume of water, which falls upon it. This also helps to minimise diffuse pollution from contaminated surface run off as the voids act as a filter medium, trapping potential pollutants.

Trials with the new product have proved to be very successful, including the car park at the Pompey Centre, in Portsmouth, surfaced by Tarmac National Contracting. The Transport Research Laboratory has concluded tests and it is anticipated that the product will be launched in May 2004.

Water Reduction Targets

In 2002 Tarmac set a target to reduce potable water consumption in the production of concrete, and mortar and concrete products of 2.5% by 2007 and 4.3% by 2010.

Whilst reductions in water usage have been made, significant changes have occurred since 2002 due to the reclassification of some water sources, which are now included in recycled water.



Tarmac Central – Garstang Concete Plant

The Garstang concrete plant in Lancashire is an example of best practice in water usage. The new plant, constructed in 2002, is designed to virtually eliminate the use of potable water and the discharge of water off site. Surface water is collected in a pit at the lowest point of the site and pumped to a series of above and below ground holding tanks, with up to 8,000 litres capacity. Only when these tanks are full is any water discharged off site.

The first of the above ground tanks is fitted with equipment, which ensures that solid particles are held in suspension, preventing settlement of solids and consequently waste being generated. Potable water is only used for dust suppression and truck cleaning, where consumption stands at approximately 50 litres per cubic metre of production. This is in stark contrast to plants without recycled water systems in place, where consumption is closer to 250 litres per cubic metre of production. The system will have recouped the capital expenditure for the system in less than one year and is being considered for other sites.

Tarmac Southern – Cavenham Asphalt Plant

Tarmac Southern's Cavenham asphalt plant has reduced potable water usage by approximately 25%, simply by installing a water spray bar on the load out area, connected to a solonoid valve and time switch. This replaces the hosepipe previously used by drivers to coat the base of the wagon to stop the asphalt sticking. By automating the application of water, the volume can be closely controlled to lessen the chance of bitumen stripping from the stone due to excess water.

environment

Berwick Woods Project

Winner of the Cooper-Heyman Cup

It is a story that few locals dare to think would come true – but it has!

In the 1970's Tarmac acquired an old sand and gravel quarry at Rainham, Essex, east of London, where little had been done to restore the site other than natural regeneration. Increasingly the site had become a liability with unauthorised dumping of cars and other waste materials, a nuisance and danger to local residents and children who frequented the site.

Plans were submitted and approved for restoration, including the importation of inert materials to create a raised landform in keeping with local contours. The whole area has since been transformed in partnership with Thames Chase, an organisation whose mission is to regenerate and renew the local landscape by creating a community forest. To add to the considerations was the Site of Special Scientific Interest that adjoins the site.

So the scheme focused on involving the local community and creating a site that was what they wanted and also what Tarmac could deliver.

So the Berwick Woods project commenced. The attractions and benefits to biodiversity have been enhanced utilising advice from English Nature and the London Borough of Havering with Berwick Woods now being London's largest area of wet woodland.

Local people were consulted at the outset and set up a 'friends' group in 1998 to act as carers and stakeholders in the future of the site. Quarry manager Steve Wallis believes "The key to the site's success is the involvement of the local people. The greatest reward for us is working with the community, getting them involved and knowing the enjoyment they will get from this site in the future."

Existing reedbeds have been enhanced and a pond created with a safe dipping platform that has delighted children. A further enhancement for the community was the replacement of the bridge over the adjoining River Ingrebourne that joined the communities of Rainham and Havering.

Perhaps the greatest success of the project is the level of community involvement and enjoyment it has achieved.

Some two kilometres of surfaced pathways, a bridleway and a car park have been constructed along with a large area of open grassland. Benches were made from natural materials such as stone gabions and old tree trunks.

A poet in residence has worked with five Rainham schools to produce some vivid poetical records of the site and a team of artists ran workshops with over 100 pupils in two schools, evolving a performance of dance, music and songs that culminated in the site celebration day in 2002.

A total of 12,000 trees and shrubs have been planted to create community woodland, many of these were planted during community tree planting weekends. Many local residents also grew their own trees from seed and donated these to the project.

Tarmac Southern Limited and Thames Chase Community Forest have won the premier award from the Quarry Products Association (QPA), which represents 90% of the UK quarrying industry, for rehabilitation of Berwick Woods from a derelict quarry to a community woodland and nature haven. One judge commented "This scheme demonstrates how an urban community can be successfully involved in a restoration project which has very strong nature conservation objectives."

One comment from Thames Chase project co-ordinator Simon Aguss stated "The whole landfill and restoration process, led by Tarmac, has been an exemplary process of partnership working to restore the site to community woodland and public access principles."

environment

Natural Diversity

Biodiversity or biological diversity is increasingly an everyday term for nature conservation, but with more focus on threatened habitats and species.

Tarmac has progressed its commitment to biodiversity and also to geodiversity combining them to be referred to as 'natural diversity'. The Biodiversity Forum, established in 2002, has evolved to become the Natural Diversity Forum and has produced the Tarmac Group Natural Diversity Strategy.

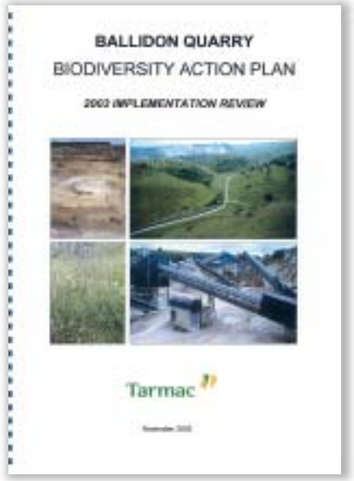
The implementation of this strategy will commence in 2004 and will continue for several years. Many sites are now in the process of generating Biodiversity Action Plans (BAPs) in conjunction with revised restoration proposals. These plans are increasingly being aligned with local or regional BAPs.

Ballidon Quarry Biodiversity Action Plan

Tarmac Central's Ballidon Quarry has been operational since the 1940's and is located in the Peak District National Park, an area of considerable biodiversity interest and importance. A key to Ballidon's success is progressive restoration. Located adjacent to a Site of Special Scentific Interest (SSSI), which is also identified as a site of European biodiversity interest, the management team are used to considering the potential impacts on the neighbouring environments. The long-term restoration of the site could continue to benefit both national and local biodiversity action plans.

Ballidon Quarry's own BAP focuses principally on biodiversity at a habitat level making a positive contribution to some ten habitat types. The most important of these being calcareous grassland, upland hay meadow, ash woodland, scree and rockface and, to a lesser extent, ponds. The quarry is already host to nesting ravens and peregrine falcons, badgers and brown hares. The Company also owns a large area of adjacent farmland and is considering changes to the management techniques used here which may help to increase diversification of the local habitats in line with biodiversity objectives.

In practical terms work will include the placing of low nutrient soils to encourage wild flowers to flourish; the selective thinning of woodland to increase the percentage of native species whilst creating rides and glades; provision of more natural quarry slope profiles and pond creation. Several scientific trials on varying seed mixes, sowing density and soil nutrient values have begun. The BAP is a long-term commitment which will be managed through the site's ISO14001 certified environmental management system.



Urban Biodiversity

At the Tarmac Shared Services site in Ettingshall, Wolverhampton, a small team of volunteers have worked during their lunch breaks to clear litter from an overgrown and neglected woodland, erected bird boxes, planted bulbs and created an area that can be enjoyed by staff on the site. The volunteers monitor the wildlife, which has included interesting visitors such as kestrels, pied wagtails, mistle thrushes and moorhens, along with the more usual species often seen in gardens.

The site is an administrative centre located in the heart of the Black Country where there are few green and wooded areas to break up the industrialised urban landscape of the area. The aim is to generate a Biodiversity Action Plan for the area that is fully integrated with the local and national BAPs.

This contribution to biodiversity has been recognised by both the local and regional wildlife trusts. The project was awarded the West Midlands Wildlife Trusts – npower Conservation Award for the business category, with the judges adding that they felt there was "passion and enthusiasm behind the project demonstrating how an apparently inhospitable area can benefit wildlife".

△ *Tarmac employees Sue Jarvis (2nd from left) and Steve Haden (far right) receive award from Neill Wyatt, Birmingham and Black Country Wildlife Trust and Michelle Baron of npower.*

Geodiversity

Geodiversity includes the variety of rocks, minerals, landforms and soils that occur on our planet, along with the natural processes that shape the landscape. It reflects the full range of geological and geomorphological features and processes. These can help to deliver a combination of social, economic and environmental benefits.

The UK is fortunate in that it has a particularly rich and varied geological heritage. Our geodiversity captures millions of years of history enabling us to understand how life and the land has evolved over time, how continents have moved, and sea levels have risen and fallen.

English Nature has designated over 2,300 sites of special scientific interest to locations with geological or geomorphological features, some 500 of these are attributed to active or disused quarries. Many geological SSSIs would not have been created if quarrying had not taken place, uncovering these features. The industry acknowledges that it has a key part to play in protecting these designated sites.

The Quarry Products Association with English Nature and the Silica and Moulding Sands Association launched 'Geodiversity and the minerals industry: conserving our geological heritage guide' in 2003. This is being used across Tarmac to promote awareness of geodiversity issues.

Scottish Geology Week

In continuing support of the 'Rock On' Scottish Geology Festival, Tarmac Northern opened up four quarries and one mine to the public during the festival week. The event is aimed at encouraging children and adults to learn more about geology and how it affects our lives.

Dalbeattie Quarry in Dumfries and Galloway was exceptionally well attended with over 135 visitors interested in the granite quarry operation. Visitors learnt not only about modern day quarrying techniques but also the historical relevance of geology and the stories that it holds.

environment

Archaeology

The quarrying industry is well known as one of the most significant contributors to archaeological investigations in the UK. The nature of quarrying provides opportunities for archaeological investigations which otherwise would not be undertaken.

Prior to excavating at any new site, Tarmac complies with the CBI Code of Practice for Archaeology, in order to identify and protect the country's heritage. The key objective of the code is to avoid potential conflict between interested parties and to ensure that extraction does not destroy or damage our heritage.

Tarmac is keen to gain a greater understanding of our heritage. Initially, sites are assessed with the assistance of local archaeologists to establish if there are likely to be any areas of particular interest. Where there is a potential for archaeological finds at a particular location a plan is developed which would include detailed analysis and investigation of the site. Once planning approval is given, investigations will commence prior to extracting materials from the area. The methodology involves very careful soft scraping of the initial topsoil down to the sub soil level. This depth of investigation does not exceed that of modern ploughing techniques, avoiding further disturbance. Archaeologists examine the area for indications of ancient settlements. Should anything of interest be found then appropriate records are taken and artefacts removed if appropriate.

Reporting of archaeological finds

Tarmac has published details of archaeological finds through publications produced by local archaeological groups. A website for Tarmac Northern's Nosterfield Quarry, near Ripon, has been established which can be accessed via a dedicated website (see below) and is frequently updated with details of the finds made on site.

The archaeological finds mainly date back to the Roman, post-Roman and Medieval periods with recent finds including pottery, barrows, cursuses, human burials and horse burials.

Nosterfield archaeological website: www.archaeologicalplanningconsultancy.co.uk

Buried Treasure

Tarmac has sponsored the UK's first major national exhibition of archaeology in over 20 years, organised by the British Museum. The 'Buried Treasure: Finding Our Past' exhibition shows how archaeological discoveries have revolutionised our understanding of history. The two-year exhibition is the result of a unique collaboration between the British Museum and four other major UK museums in Cardiff, Manchester, Newcastle and Norwich, and will travel to each venue from London to allow people across England and Wales to view the most spectacular finds of British history. Buried Treasure is as much about wonderful objects from our precious past, and how they can lead us to a deeper understanding of past cultures in Britain, as it is about the people who discover and report them. As a result of such finds we are all richer in knowledge.

△
◁ *Artefacts from Buried Treasure Exhibition*

Finds from Nosterfield Quarry

environment

Successes, Setbacks and Targets

Successes

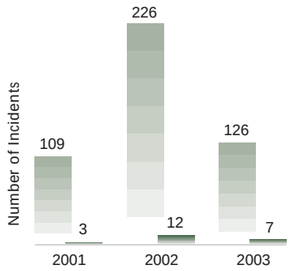
Tarmac Recycling received an award for the Best Example of Sustainability at the Specialist Contractor Awards 2003. The award, organised by Building Magazine in conjunction with the Department of Trade and Industry, was presented to Tarmac Recycling, as the best company in a poll of industry members for the achievement in sustainability.

Al Dhahira Quarry in Oman received the prestigious Sultan Qaboos Municipalities Shield in 2003. The national competition is open to all private commercial establishments and is awarded for a range of achievements. Results are weighted with 80% focusing on environmental compliance and performance and the remainder awarded for the adoption of government policy on employing Oman nationals, their training and the health, safety and welfare of employees.

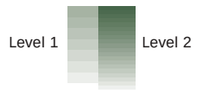
Tarmac National Contracting received a number of awards for work carried out in 2003, under the Considerate Constructor Scheme. This is a voluntary code of practice, which commits contractors to be considerate and good neighbours, as well as clean, respectful, safe, environmentally conscious and responsible.

Tarmac Central's Langford Lowfields Quarry in Nottinghamshire received a major commendation at the Business Commitment to the Environment (BCE) awards for its on-going partnership with the RSPB. The 35-year project will ensure restored land eventually becomes a major RSPB reserve that incorporates extensive areas of reedbed to meet UK Biodiversity Action Plan habitat targets.

Setbacks



Environmental Incidents 2001-2003



The number of level one incidents reduced by 44% from 226 in 2002 to 126 in 2003. Level two incidents have reduced by 50% from 12 in 2002 to 6 in 2003 and there were no level three incidents. The improvement is a result of better operational control brought about by the implementation of ISO 14001 across more locations.

Incident Level	Brief Description*
Level 1	Minor impact, short term effect.
Level 2	Moderate impact, medium term effect; enforcement action or prosecutions below $100,000.
Level 3	Significant impact, extensive or long term effect; prosecutions with fines more than $100,000.

*Anglo American Group definition

Enforcement Action

Czech Republic – Tarmac Severokamen

An environmental enforcement notice was issued for a failure to maintain accurate records of waste being sent to licensed disposal sites from a quarry. A small fine of $152 was imposed and record keeping procedures have been improved.

United Kingdom

Environmental agencies issued two compliance notices, for a breach of environmental protection legislation and one for a breach of planning legislation. Both have been resolved.

ENVIRONMENTAL TARGETS

Below is an update of our progress towards environmental targets originally set in the 2000 SHE Report. Further details on each of the targets are contained in the relevant section of this report.

Environmental Management Systems
INSTALL AN EMS IN ALL BUSINESS UNITS; TO THE ISO 14001 STANDARD BEFORE 2004.
This target was achieved in the UK, China, Hong Kong, the UAE and the Oman. A total of 371 sites have third party certification. Work has commenced in all other businesses. A revised target has been set to complete this process by the end of 2004.

OBTAIN 3RD PARTY CERTIFICATION FOR ALL UK QUARRIES; ASPHALT PLANTS, MANUFACTURING, RECYCLING, LANDFILL AND CONTRACTING ACTIVITIES BEFORE 2003
This has been achieved other than National Contracting, who have achieved certification at 50% of the depots. A total of 365 locations have certification in the UK.

OBTAIN 3RD PARTY CERTIFICATION FOR ALL UK READY-MIXED CONCRETE AND MORTAR PLANTS BEFORE 2005
This target is likely to be achieved in 2004, as 70% of plants already have certification.

Energy
AGGREGATES TO REDUCE SEC 2.1% BY 2007 AND 4.2% BY 2010.
ASPHALT TO REDUCE SEC 2.8% BY 2007 AND 3.9% BY 2010.
CONCRETE AND MORTAR TO REDUCE SEC 3.1% BY 2007 AND 4.6% BY 2010.
CONCRETE PRODUCTS TO REDUCE SEC 2.1% BY 2007 AND 3.1% BY 2010.
Businesses are developing plans to reduce the SEC which range from energy awareness amongst employees to major capital expenditure to build new plants with improved energy efficiency.

Water Consumption
READY-MIXED CONCRETE, MORTAR AND CONCRETE PRODUCTS TO REDUCE POTABLE WATER CONSUMPTION BY 2.5% BY 2007 AND 4.3% BY 2010.
Businesses are developing plans to reduce water consumption. New plants are being installed with water recycling systems, which make significant contributions towards this target.

Waste
NO GROUP TARGET, INDIVIDUAL TARGETS SET BY EACH BUSINESS.
These are long-term, 2010, targets and the early indications are that these will be achieved.

Biodiversity
IMPLEMENT THE ANGLO AMERICAN GUIDELINES ON BIODIVERSITY.
A natural diversity strategy has been developed to include both biodiversity and geodiversity. Implementation has begun and will continue in 2004.

**Reductions based on 2002 levels.*

social

Social Introduction

Sustainable development is not just about the protection of the environment. It encompasses far wider reaching principles, such as maintaining employment levels, quality of life for employees and local communities, reducing impacts on the environment in both day-to-day operations and through longer term strategies, and protecting the health and safety of all those involved in, or impacted by, Tarmac's activities. Sustainable development means being a good employer, a good supplier and above all a good neighbour.

Community Engagement

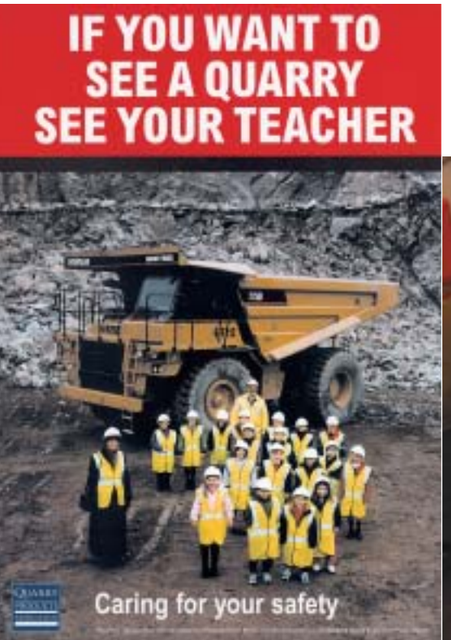
It is essential that we engage with those people who we have the greatest potential to impact, our neighbours. Tarmac's quarrying operations have a long history of dialogue with the communities in which we operate. That communication is a two way process both talking with and listening to our neighbours. There are now formalised community engagement plans, CEPs in place at 51 locations and another 101 sites have formal liaison arrangements in place. This is usually through a committee of community representatives and site management meeting on a regular basis to discuss issues of common interest. The main question we seek to answer is "are we being a good neighbour?". The liaison committees and regular site visits provide an open and transparent forum to ensure our 'licence to operate' is maintained. The absence of formal liaison arrangements does not mean that we do not communicate with our neighbours at those sites. Many operations are in very remote areas with very few people close by. In these circumstances liaison will be less formal but no less effective. The site manager will often be on first name terms with all the neighbours and regular contact is maintained often over a cup of tea when the manager will call round on a regular visit.

Community Links

Education

Aggregates and mineral products are an essential part of today's society. Visits to our operations, particularly quarries, provide an opportunity for children to learn about how minerals are extracted and see the operations in a safe and controlled manner. Any industrial location can be hazardous and educational visits provide an opportunity to promote the Quarry Products Association's (QPA) 'Play Safe, Stay Safe' campaign. This aims to make children aware of the potential dangers that quarries can pose. The message is very clear that quarries are not playgrounds.

As part of the QPA's campaign Cornelly Quarry in South Wales delivered a series of presentations to more than 600 school children to warn them of the hazards of playing in quarries. The visits to schools provide an opportunity to encourage visits to quarries as part of an organised visit, the message being 'if you want to visit a quarry, ask your teacher to arrange one'.



Open Days

Each year Tarmac holds numerous open days at its operations, to help communities understand what we are doing and to create a forum for dialogue with interested parties.

An open day at Swinden Quarry in the Yorkshire Dales attracted more than 1,000 visitors. It provided an opportunity for the public to see first hand modern equipment and working practices on the site, which has been operating since 1793, and recent developments that have significantly reduced the number of dumper movements and enabled all the plant and buildings to be re-sited out of view through the lowering of the quarry floor.

It is estimated some 600 people rely on Swinden Quarry for their livelihoods. The operations can also have a significant impact on the lives of local communities. Investment in rail links has greatly reduced the volume of road haulage traffic going through nearby villages, eliminating about 1,000 truck journeys every day.

Close links with the community have been maintained at every stage of the development of the quarry, with the formation of the local liaison group. This group brings together local residents, Cracoe Parish Council, the National Parks Authority and the Craven District Quarries Association. When the quarry finally closes, it is planned to return the land to the community by creating a nature reserve around a lake.

social

Charity Begins at Home

As part of our efforts to work with the communities of which we are a part, Tarmac often makes charitable donations or sponsors local projects.

In Scotland, Tarmac have pledged £45,000 over the next three years towards the Edinburgh Green Belt Trust's annual target of £250,000, which is used to ensure that green spaces in and around the city are accessible to everyone. The partnership was launched at one of the Trust's recent projects, a community wildlife garden for the Thistle Foundation in Craigmillar.

Close links have been created with East Park School, close to the Wolverhampton Shared Services office. Volunteers from Shared Services give up an hour a week to go to the school and assist pupils from five years of age with their reading practice. Pupils were also invited to build bird boxes, which have been installed in the newly created woodland at the Shared Services offices.

Tarmac Recycling provided their product Finepath to The Shakespeare Birthplace Trust for use in constructing a disabled access at Anne Hathaway's cottage, the home of William Shakespeare's wife before they were married. The Trust, an educational charity caring for historic buildings is a conservation-minded organisation, and so it was particularly appropriate that they used recycled material in the sensitive setting of Anne Hathaway's cottage.

△ *Terry Last (left) with Edinburgh Green Belt Trust and Thistle Foundation representatives.*

◁ *Anne Hathaway's cottage*

Tarmac Concrete Products supported Perton & Codsall United F.C., an under 11's team who were in desperate need of a new kit, whilst Tarmac Shared Services donated £1,000 towards the cost of a new minibus for Broadmeadow Nursery Special School in Wolverhampton.

Suppliers and Contractors

The introduction of the Business Principles has continued throughout 2003 and has assisted in forging strong links with all of our stakeholders. The focus in 2003 has been on communicating the Business Principles to our suppliers and contractors and formalising the arrangements for liaison with local communities.

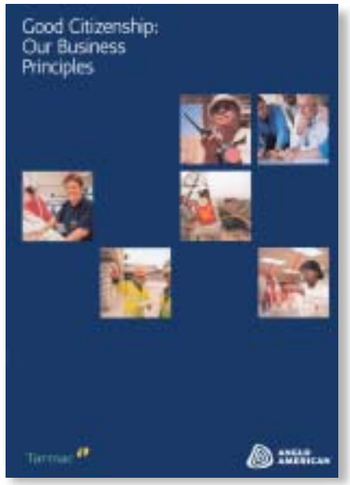
Business Principles

The Business Principles are included in all Group procurement contracts and have been incorporated into the standard Safety, Health and Environmental Rules for contractors in the UK. This approach will be extended to all businesses in 2004.

Engaging with suppliers and contractors at the tender or contract renewal stage provides an opportunity to discuss the Business Principles and the standards we seek to achieve and maintain. This often leads to best practice partnerships, which deliver benefits to all concerned.

Some good examples of this include:

- Vending service companies only supplying recycled cups and removing used cups to be further recycled.
- Stationery suppliers who provide collection points for recyclable toner and ink cartridges. The Group Procurement team are also exploring the possibilities of sourcing a range of recycled stationery products.



- Suppliers of polythene shrink wrap material to the Linford TCP site have entered into a supply agreement which requires them to provide and maintain a waste polythene bailer for Tarmac to operate and to remove all bailed waste and surplus stock of polythene, pallets and reels for recycling or reuse.

Governmental Bodies

Maintaining close links with Government bodies can lead to benefits for a wide range of stakeholders. This is successfully demonstrated at Al Dhahira Tarmac Quarry in North Western Oman where the company has negotiated an extension to the reserve with the country's Ministry of Commerce and Industry, after only six months of operation.

The original reserve was approximately 73 million tonnes which would give the quarry a working life of about 13-14 years, producing four million tonnes of aggregate a year.

The Oman Government was impressed by the quarry's safety, health, environmental and quality management systems, operational standards, involvement of private investors and high level of employment, ensuring that financial benefits are also felt in the local community.

By the end of 2003 the quarry hopes to have secured the permit for the extension area, which will provide an extra 40 million tonnes of high quality reserves and extend the life span of the quarry to 16-21 years.

In return for the additional area, the quarry is funding several projects for the Government, at a total cost of 127,000 Omani Rials (£200k), including a mapping project to transfer the existing geological maps of the Oman to digital based systems, to enable more systematic mineral exploration and development in the future.

△ *Waste polythene bailer*

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www.tarmac.co.uk

Glossary and Definitions

Biodiversity
The variety of life forms that inhabit the earth. Biodiversity involves habitat diversity, plant and animal species diversity and the genetic diversity of individual species

Certification
A certificate obtained from the external verifying body to confirm that the EMS meets the requirements of ISO 14001:1996

Climate Change Levy Agreement
One of the UK government's mechanisms for implementing the requirements of the Kyoto Protocol

CO_2
Carbon Dioxide - a by-product of electricity generation and energy use. It is one of the gases that contributes to global warming

EPA
Environmental Protection Act – UK legislation

EPIC
The National Training Organisation for the Extractive and Mineral Processing Industries

Geodiversity
Geodiversity includes the variety of rocks, minerals, landforms and soils that occur on our planet, along with the natural processes that shape the landscape. It reflects the full range of geological and geomorphological features and processes

Hazardous Waste
Waste types including oil wastes resulting from vehicle servicing

HSC
Health and Safety Commission – UK

HSE
Health and Safety Executive – UK

IOSH
Institution of Occupational Safety and Health

ISO 14001
International standard for environmental management systems

Landfill Tax Credit Scheme
The scheme enables landfill site operators to redirect up to 20 per cent of their landfill tax liability to environmental projects in return for a 90 per cent tax credit. The scheme was designed to help mitigate the effects of landfill upon local communities and support moves to more sustainable waste management practices. Adminstered by the organisation ENTRUST it encourages partnerships between landfill operators, their local communities and the voluntary and public sectors

LTI
Lost Time Injury. An injury which results in more than one day's absence from work

LTIFR
Lost Time Injury Frequency Rate = (Number of Lost Time Injuries x 200,000) / (Number of man hours worked in the period)

LTISR
Lost Time Injury Severity Rate = (Number of hours lost due to Lost Time Injuries x 200,000) / (Number of man hours worked in the period)

Musculoskeletal Disorders
Muscle and bone related conditions

MWh
1,000,000 watt hours

NLTIFR
Non Lost Time Injury Frequency Rate = (Number of Non Lost Time Injuries x 200,000) / (Number of man hours worked in the period)

QPA
Quarry Products Association – UK trade association

Reclaimed Fuel Oil (RFO)
Engine and hydraulic oils recycled and reclaimed by a third party providing an energy source

RIDDOR
Reporting of Injuries Diseases and Dangerous Occurances Regulations (1995). UK legislation requiring reporting of workplace incidents, injuries and diseases

RIDDOR IR
RIDDOR Incidence Rate = (Number of RIDDOR reportable injuries x 100,000) / (average number of employees) – UK definition

Risk Assessment
Relative risks associated with certain activities

RSPB
Royal Society for the Protection of Birds – UK organisation

SEC
Specific Energy Consumption

SSSI
Site of Special Scientific Interest – UK definition

Stakeholder
A person or group with an interest in the company's operations, such as employees, customers or local communities

Sustainable Development
Development judged to be both economically, socially and environmentally sound, so that the needs of the world's current population can be met without jeopardising those of future generations

Unsafe Act Index (UAI)
The Unsafe Act Index, UAI is a measure derived from the formula: (Number of unsafe acts observed during an audit) / (Number of man hours taken to complete the audit)

WBV
Whole Body Vibration

Related Publications

Environmental Reporting
Guidelines for Company Reporting on greenhouse gas emissions
DETR 1999 (UK)
www.defra.gov.uk

MACC2
Make A Corporate Commitment
DETR 2000 (UK)
www.defra.gov.uk

IF YOU HAVE ANY COMMENTS ON THIS REPORT, PLEASE WRITE TO THE
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