

Health, Safety and Environment Report 2010

Quality, Health, Safety and Environment Policy

Tenaris aims to achieve the highest standards of Quality, Health, Safety and Environment, incorporating the principles of sustainable development throughout its operations.

Nothing is more important than the health and safety of everyone who works for us and uses our products

All injuries and work-related illness can and must be prevented

Management is responsible and accountable for health and safety performance

Employee engagement and training is essential

Working safely is a condition of employment

Excellence in health and safety supports excellent business results

Health and safety must be integrated in all business management processes

Quality is our main competitive advantage

The requirements and expectations of our customers must be satisfied

Quality management is integrated in all business processes

Management is responsible and accountable for quality performance

Quality performance must be assured throughout the supply chain system

Excellence in quality management is necessary for successful business results

We are committed to developing a long-term sustainable business

Minimizing the environmental impact of our operations

Making the most efficient use of natural resources and energy

Integrating environmental management in all business processes

Holding employees committed and responsible for environmental performance

Establishing an open and transparent dialogue with related stakeholders

Tenaris identifies the health and safety of its personnel, the satisfaction of its customers, the protection of the environment and the development of the communities with which it interacts as an absolute and integrated priority; the entire organization is oriented toward achieving these goals openly and transparently.

Tenaris strengthens its management through constant training and updating of professional and management skills, paying attention to the evaluation and motivation of its employees, adherence to the ethical principles established in its Code of Conduct and the maintenance of an adequate balance between their quality of life and its business needs.

Tenaris recognizes the importance of implementing this policy through its Quality, Health, Safety and Environment management systems, covering the entire supply chain from suppliers to customers and the proper and efficient use of its products in accordance with their agreed specifications. Tenaris commits to comply with applicable legal requirements and all other requirements relating to quality, health, safety and environment matters to which it subscribes.

Tenaris communicates this policy throughout its organization, engages and trains its employees in the appropriate use of its Quality, Health, Safety and Environment management systems and involves them in the regular setting, measuring and revision of objectives.

Tenaris undertakes to keep this policy updated, to implement and maintain its management system, and continuously improve its Quality, Health, Safety and Environment performance.

October 2008



Paolo Rocca
Chief Executive Officer

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- Steel Making
- Seamless Pipe Manufacturing Mill
- Welded Pipe Manufacturing Mill
- Threading Facilities & Service Yards
- Others (*)

(*) Others Include: Sucker Rods, Couplings, Gas Cylinders, Fittings, Industrial Equipments, Coiled Tubes and Conduit Piping.

Chairman's letter

This is our third annual report focusing on safety and the environment. Our performance in these areas is critical for our differentiation against our competitors and is essential for preserving and enhancing the relation we have with our people and the communities in which we operate. We are the leading company in our field and we are aware of our responsibilities in all aspects of Health, Safety and Environment.

In 2010, the production rates at most of our facilities recovered after the sharp declines experienced in the previous year. At the same time, we carried out a major capital investment program including the construction of a new rolling mill at our Tamsa facility in Mexico and significant improvements to our Dalmine mill in Italy. In this context, where we incorporated many newly hired workers for our operations and had many contractors involved in plant construction activities, our safety indicators declined following several years of continuous improvement. Consequently, we have introduced new procedures and training particularly oriented towards induction processes. We are also reinforcing our efforts in analyzing and taking preventive measures to reduce risks in our operations worldwide.

Our environmental performance improved reflecting a more stable level of operations than in 2009 and some initial results from the implementation of our corporate energy saving project. This improvement is reflected in our energy intensity and CO₂ emissions indicators, which use World Steel Association methodology. In 2010, our steel production facilities emitted on average 1.21 tons of CO₂ per ton of steel and we aim to improve this rate further in the coming years. We have been active participants in World Steel Association programs on climate change issues as we believe that this is a critical issue which should be addressed by the whole steel industry with full transparency and accountability.

In keeping with our commitment to minimize the impact of our operations on the environment, we have designed our new rolling mill in Mexico using stringent environmental performance criteria in terms of the use of land, water, energy and air and the conservation of materials and natural resources. The project has set technological, design and construction standards that will serve as a model for the entire company. It is our intention that the new mill will qualify for the

Leadership in Energy and Environmental Design (LEED) certification in the New Construction category under the United States Green Building Council standards. As such, it would be a significant achievement to add to that of its completion on budget and within its scheduled 25-month construction period.

As we make progress in integrating the highest international health and safety and environment management standards throughout our operations, I am pleased to report that our Dalmine facilities in Italy received the OHSAS 18001 certification for their health and safety management system and the UNI CEI EN 16000 certification for their energy management system. These two certifications are an important measure of the standards that we set for ourselves and we plan to extend these certifications to our other facilities in due course.

The health and safety of our employees and the protection of the environment are clear and integrated priorities at Tenaris, along with the satisfaction of our customers and the development of the communities where we have our operations. We are committed to delivering a constant improvement in our performance in these areas and I am confident that we will do so.

In closing, I would like to thank our employees and contractors for their continuing commitment to safety and the environment.



Paolo Rocca





Tenaris's new mill in Tamsa, Mexico, has been completed on time and within budget. The first tube was rolled in November 2010. The project has set Health, Safety and Environment standards for the entire organization to use in the future.

Company presentation

A global industrial system

Tenaris is a leading supplier of tubes and related services for the world’s energy industry and other industrial applications. Our mission is to deliver value to our customers through product development, manufacturing excellence, and supply chain management. We seek to minimize risk for our customers and help them reduce costs, increase flexibility and improve time-to-market. Tenaris employees around the world are committed to continuous improvement by sharing knowledge across a single global organization.

We operate an integrated industrial system with manufacturing and service facilities around the world. Our entire industrial system operates under a single quality management system and a single Health, Safety and Environment (HSE) management system. Our Quality, Health, Safety and Environment Policy outlines our commitment to achieving the highest standards, and to continuously improving our performance.

- 1 DRI (Direct Reduction) mill
- 4 EAF (Electric Arc Furnace) steel shops
- 16 Seamless pipe rolling mills
- 32 Welded pipe mills
- 54 Heat treatment lines (28 in hot rolling mills)
- 94 Premium threading lines,

Our system comprises numerous sites around the world as indicated on the Tenaris industrial map. All locations named in the map are manufacturing facilities; unnamed sites are service yards.

Production

The following table shows our production of steel bars, seamless pipes and welded pipes for the past five years.

	2006	2007	2008	2009	2010
STEEL	3,107	2,985	3,085	1,744	2,800
SEAMLESS PIPES	3,013	2,836	3,005	1,770	2,399
WELDED PIPES	642	1,408	1,547	540	1,002

Unit: thousand metric tons

Our products

Our principal finished products are seamless and welded steel casing and tubing, line pipe and various other mechanical and structural steel pipes for different uses. Casing and tubing are also known as Oil Country Tubular Goods or OCTG. We also produce large diameter welded steel pipes for oil and gas pipelines. We manufacture our steel pipe products in a wide range of specifications, which vary in diameter, length, thickness, finishing, steel grades, threading and coupling.

Casing: Steel casing is used to sustain the walls of oil and gas wells during and after drilling.

Tubing: Steel tubing is used to conduct crude oil and natural gas to the surface after drilling has been completed.

Line pipe: Steel line pipe is used to transport crude oil and natural gas from wells to refineries, storage tanks and loading and distribution centers.

Mechanical and structural pipes: Mechanical and structural pipes are used by general industry for various applications, with focus on segments such as automotive components, hydraulic cylinders, gas cylinders and architectural structures.

Cold-drawn pipe: The cold-drawing process permits the production of pipes with the diameter and wall thickness required for use in boilers, superheaters, condensers, heat exchangers, automobile production and several other industrial applications.

Premium joints and couplings: Premium joints and couplings are specially designed connections used to join lengths of steel casing and tubing for use in high temperature or high pressure environments. A significant portion of our steel casing and tubing products are supplied with premium joints and couplings.

Coiled tubing: Coiled tubing is used for oil and gas drilling and well workovers and for subsea pipelines.

Other Products: We also manufacture sucker rods used in oil extraction activities, industrial equipment of various specifications and applications, including liquid and gas storage equipment, and welded steel pipes for electric conduits used in the construction industry.

Our strategy in terms of Health, Safety and Environment

Tenaris is committed to the continuous improvement of its Health, Safety and Environmental performance. To achieve this goal, the company relies on the implementation and improvement of an integrated Health, Safety and Environment (HSE) Management System.

Based on the principles of sustainable development, our management system follows the guidelines of international standards such as ISO 14000 and OHSAS 18000. This year our Italian facilities certified under OHSAS 18001 the Health and Safety Management System, starting a process that will progressively cover all our sites.

Our System is based on a set of corporate procedures providing the rules and guidelines for the implementation, maintenance and improvement of the HSE management system of our sites.

We continue with the implementation of our safety initiatives as a global project with the aim of standardizing the already existing safety practices and safety infrastructure, taking internal and external best practices as a reference.

The standardization of our practices and methodologies will assure that activities are performed in the same way at each of our facilities, taking into account cultural differences that exist within our global system. With this aim we are increasing the definition of corporate guidelines and procedures.

At Tamsa, the new rolling mill began operations. The construction of the mill began in the second half of 2009 and the first pipe was rolled in November 2010. The project will increase Tenaris's production capacity and completely integrate industrial operations in Mexico to satisfy the demand for high quality products, both locally and globally. This project has involved an extraordinary effort. Its completion on time and within budget is an example of the Company's project management capabilities. The project has been very significant in terms of Health,

Safety and Environment, setting technological and construction standards for the whole organization to be used in coming projects. During the design phase best available technologies were considered in specifications and layout to have an improved performance in terms of environment and energy.

Tenaris actively participates, through industrial and business associations, in the framing and discussion of pertinent environmental regulation and policies, within the context of its commitment to sustainable development.

We are deeply engaged in multiple institutional activities at a local, regional and global level. Within the World Steel Association (worldsteel) Tenaris has participated from the start in the Climate Action Program, the most ambitious attempt by the entire steel industry to produce more sustainable steel in terms of CO2 emissions. Nearly 40% of the world's steel production capacity had met the reporting requirements on CO2 and energy intensity data by 2008 (according to worldsteel's 2010 Environmental Sustainability Review).

Tenaris considers energy efficiency to be critical for a sustainable business. We are consolidating the implementation of our strategic project for energy saving and CO2 emission reduction, launched in 2009 at Tenaris's main mills. The project aims to achieve a 10% reduction in specific electricity consumption and a 15% reduction in specific natural gas consumption (and consequent reduction in CO2 energy related emissions), based on a year's consumption figures (July 2008- June 2009) over a four year period. This year, the Energy Management System at Dalmine in Italy was certified within the UNI CEI EN 16000 standard.

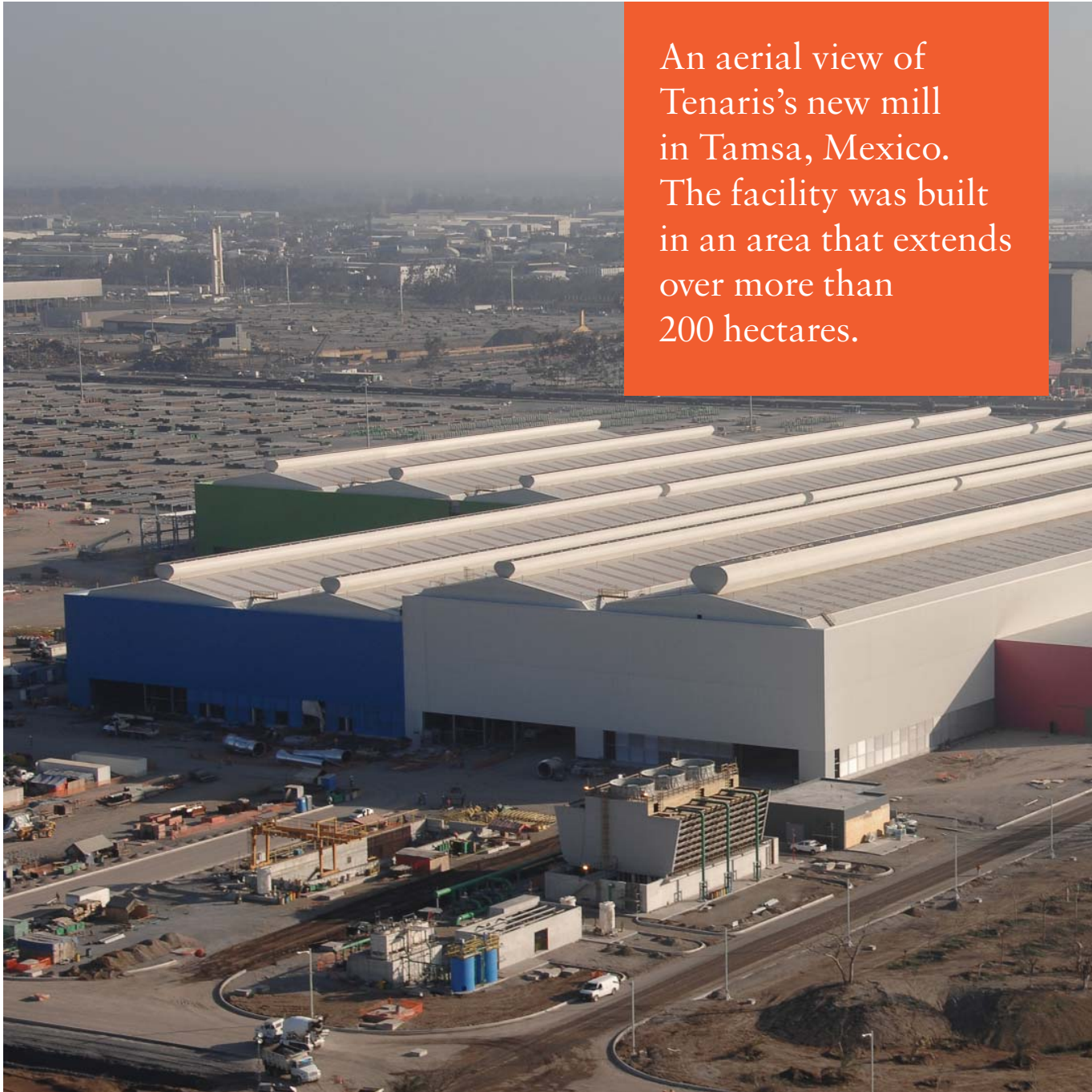
To manage our HSE system, we have developed an IT tool called Tenaris Safety and Environment (TSE). Today the system is operational at most of our production sites, covering 90% of our personnel working at those sites. We will continue increasing system coverage, and we will continue to improve the system, as we recognize it to be a powerful tool in helping us in our continuous improvement process.

As a key project of our corporate university, we continue to improve our HSE training. The HSE curriculum we continue to develop establishes all minimum courses and contents to be taken by anyone starting a career within the HSE area of the organization, creating a standard level of knowledge about our mission, values, policy, procedures and tools. The courses developed are also used for improving and complementing course content from other curricula in order to better integrate HSE into other business areas.

Specific standardized HSE courses have been and continue to be developed within our technical school for operators. These are available in all technical careers. HSE concepts are integrated into specific technical courses related to the activity studied. On-the-Job training is part of operator development plans, with a strong safety input in risk assessments and the development of work instructions contents. HSE training represents over 15% of total training hours delivered during the year.

TenarisUniversity is responsible for coordinating Tenaris's support for steeluniversity.org (www.steeluniversity.org), the online learning portal developed by worldsteel. A comprehensive package of interactive, informative and innovative e-learning resources on steel technologies is provided via steeluniversity.org.

An aerial view of Tenaris's new mill in Tamsa, Mexico. The facility was built in an area that extends over more than 200 hectares.







Employees in Confab, Tenaris's plant in Brazil, participate in an On-the-Job training session. We have introduced new procedures and training particularly oriented towards induction processes.

Safety

Safety is our first priority

Our aim is to achieve a goal of zero accidents in all of our operations; we understand prevention is the most powerful tool for reaching our objective.

Over the coming years we will continue to work at completing and improving our methodologies and practices regarding: leadership, risk analysis and related work instructions, behaviour programs, training and verifications.

The work instructions development project and its governance guidelines aim to improve adherence to procedures by developing and implementing a comprehensive methodology that goes from participative content-generation to training, adherence control and the setting up of upkeep mechanisms. By adding safety risk assessment and counter-measures to every operative step, awareness is significantly increased. Adherence to work instructions leads to standardized work and therefore safety considerations are followed and checked on a routine basis.

During this year our facilities in Italy obtained the certification of the Health and Safety Management System according to OHSAS 18001. This accomplishment shows that our system is implemented according to international

standards. This is a milestone for our safety management system and other facilities from the company will follow the same path in the near future.

Identification of unsafe situations is a key method for avoiding incidents. We have increased the number of sites using our internal IT tool, and have also increased the number of observations detected, showing rising employee awareness of the importance of issuing deviations as a way of preventing incidents (See graph 1.1).

Many of these observations have their origin in inspections performed by employees: line managers, supervisors, operators, etc. Inspections performed have increased significantly in recent years. For each finding identified, corrective and preventive actions are established. We encourage participation and performing inspections as a means of early detection of risky situations and for increasing the awareness and knowledge of our employees (See graph 1.2).

Continuous safety improvement

Our goal of seeing a continuous improvement in our safety indicators suffered a setback in 2010 as our Injury Frequency Rate (IFR) and Lost Time Injury Frequency Rate (LTIFR) increased, thus partially reversing the improvement we had in 2009. The five-year trend, however, still shows a gradual improvement. Factors that seem to have affected our performance this year have been contractors in some sites and the rapid increase in activity at many of our mills, which were working with a higher proportion of recently hired employees than in previous years (See graphs 1.3 and 1.4).

Regrettably, the company suffered four fatalities this year - two at Tamsa, one at Siderca and one at ScrapService, our scrap management company in Argentina. In view of these accidents, we are reinforcing our preventive measures and methods.

We are developing a project for implementing a behavior-based safety program; we are developing safety leadership training for all our managers; we are implementing a dedicated training procedure for On-the-Job Training for new hires and for people moving positions and we are reviewing and developing tighter guidelines and procedures. These are only a few examples of our commitment to safety. We expect that the coming years will see us back on the path to zero accidents.

Crane operators license program at Dalmine and Tamsa

The project started with the purpose of improving crane operation. Incident analysis showed that 50% of incidents were caused by human behavior, especially low attention to the task and lack of ability and knowledge in using cranes.

We set up On- the- Job training with tutors and a special “Crane Licence” program which has been implemented at Dalmine and Tamsa achieving very good results. At Dalmine crane incident frequency rate decreased by 65% in two years in the areas where the program was fully implemented. At Tamsa, the same indicator decreased 50% between 2009 and 2010.

Our facilities in Italy obtained the certification of the Health and Safety Management System according to OHSAS 18001. This is a milestone for our safety management system.

The health and safety of our employees are clear priorities at Tenaris, along with the satisfaction of our customers and the development of our communities.

Health

We are committed not only to providing a good quality working environment but also fostering an increased awareness of health among our employees.

We are in the process of defining the best Health management practices and guidelines for the medical structures at each site.

The Health activities carried out at Tenaris facilities are directed to manage first aid in case of accidents or ill health, including specific training for a significant number of line operators so they can intervene quickly and properly in case of an emergency, until the arrival of medical staff. We also develop health promotion programs which run awareness campaigns and carry out free health checks to encourage healthy lifestyle changes.

We believe that occupational health is the primary function of a healthcare program: most severe illnesses are revealed only after many years of hazard exposure.

According to international guidelines, and based on an analysis of the activities currently carried out by the Tenaris medical facilities, we are making a transition in our approach to Health management. This has been based on the concept of early diagnosis of health issues, perhaps at an early and reversible stage, which is typical of Occupational Medicine. We are now looking at a concept of primary prevention, performed through Occupational Hygiene, to prevent the onset of diseases caused by the workplace, not only considering the work environment, but also in relation to specific instruments, substances or products used.

To take this step it is important to increase the link between work environment and medicine, between the places where health problems arise and where they are identified and treated. This relationship, which today is mainly related to the management of injuries, requires a stronger interrelationship in the field of Occupational Hygiene by enhancing Industrial Hygiene. Based on accurate Risk Assessment, Industrial Hygiene processes can identify and measure health hazards and improve the necessary checks.

Our TSE system is also a useful tool for health management, allowing the recording of employee health information and the relationship between risk assessment and medical checks as a way of preventing work-related illnesses.

Health prevention programs at Siderca

For over four years, Siderca has been running a program of cardiovascular risk prevention through annual employee check-ups, the explanation of test results, different awareness campaigns, and the development of healthier menus at lunch rooms. These measures have also led in some cases to the detection at the early stages of more serious diseases that are then treated at specialized medical centers.

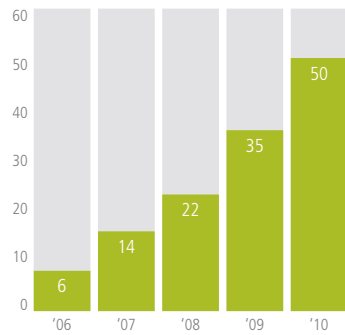
When talking about cardiovascular risks, one of the main challenges faced is resistance to changing the habits that contribute to increased risk. Involving the employee's family is one of the strategies used to encourage change.

We are developing a project for implementing a behavior-based safety program, which includes On-the-Job Training for new hires and for people moving positions.

Safety indicators

1.1 Observations evolution

10³ Observations



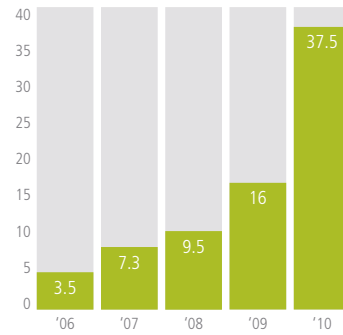
Source: TSE reported observations.

TSE deployment at our facilities:

2003 Dalmine | 2005 Siat |
2006 Confab | 2007 AlgomaTubes,
Siderca, Tamsa, Silcotub |
2008 TuboCaribe | 2009 all USA
sites, Prudential, Metalmecánica |
2010 Some regional yards

1.2 Inspections recorded evolution

10³ Inspections



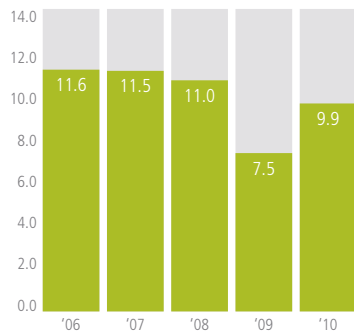
Source: TSE reported HSE inspections.

TSE deployment at our facilities:

2003 Dalmine | 2005 Siat |
2006 Confab | 2007 AlgomaTubes,
iderca, Tamsa, Silcotub |
2008 TuboCaribe | 2009 all USA
sites, Prudential, Metalmecánica |
2010 Some regional yards

1.3 Injury frequency rate

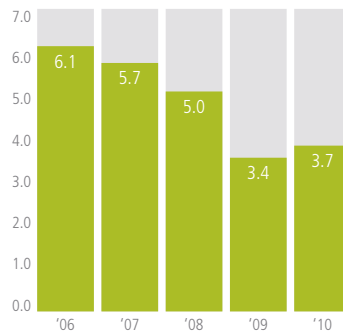
IFR



Methodology: Number of accidents with and without lost days (not including First Aid) multiplied by 1,000,000 divided by man hours worked.
Values refer to our own personnel until 2006.
Since 2007 figures refer to own personnel plus contractors.

1.4 Lost time injury frequency rate

LTIFR



Methodology: Number of accidents with lost days multiplied by 1,000,000 divided by man hours worked.
Values refer to our own personnel until 2006.
Since 2007 figures refer to own personnel plus contractors.

Our TSE software system was first introduced at Dalmine in 2003 and from then on its deployment has spread throughout the whole company. The software is used to manage most of the activities included in our management system.



Tenaris has increased the number of unsafe situations detected, showing rising employee awareness of the importance of prevention.





Completed at the end of 2010, our new mill in Tamsa was designed to improve environmental and energy performance. In the picture, the mill's water treatment plant.

Environment

Our objective is to develop a business which is sustainable over the long term, as clearly stated in our QHSE Policy, through the minimization of the environmental impact of our operations and products, and by making the most efficient use of natural resources and energy.

During 2010 an example of this commitment has been the effort in terms of environment and energy invested in the construction of the new rolling mill in Mexico. The mill, completed at the end of 2010 and with the finishing lines starting to operate during 2011, was built using strategies designed to improve performance in terms of environment and energy consumption, CO₂ emissions, water and land efficiency and indoor environmental quality. From the start, Tenaris has focused efforts on making this facility qualify for the Leadership in Energy and Environmental Design (LEED) certification in the “New Construction” category under the United States Green Building Council (USGBC) standards. During the period we have continued to prepare all requested information concerning design and construction. With an advance of 60% in the process, the expected date for US Green Building Council review is December 2011.

Energy management

In 2009, Tenaris launched a global strategic project for energy saving; the project is a four-year plan to be implemented at Tenaris’s main mills, aiming to achieve a 10% reduction in specific electricity consumption and 15% in specific natural gas, with respect to the July 2008-June 2009 baseline year. The objective includes those mills that account for 95% of Tenaris’s total electricity consumption.

The plan is based on the one implemented at Dalmine in 2006. Dalmine defined a Master Plan for energy efficiency improvements, promoting the rational use of energy; training activities were strengthened and improvements of existing equipment and processes made, including investments in some furnaces that have led to significant reductions in gas consumption for relevant equipment.

Projects at each of our main sites include assessment of energy consumption reduction possibilities; purchasing standardization; investment in energy efficiency and waste reduction; improvement of our processes using Best Available Techniques; cultural change activities; and the implementation of a system called Tenaris Energy Monitor for tracking and controlling consumption of natural gas, electricity, water and compressed air. Many resources have been invested to support the project through a dedicated local and corporate organizational structure.

During this year the mills included in the project advanced as scheduled with the planning and performing of energy audits in order to identify improvement opportunities. Several investments have already been defined and are being carried out as scheduled. A high impact corporate training campaign has been defined including general and

more detailed courses, with the objective of communicating the plan to all employees and promoting awareness in order to achieve the cultural change required.

The expansion project at Tamsa applied best available energy techniques to achieve high energy performance in burners, the mandrel heating process, motors, etc. Over the long term, Tenaris is dedicated to projects for recovering energy from exhaust fumes, looking for improvements in combustion chambers, and improving EAF performance through the control of energy flows.

As planned, this year Dalmine certified under the UN CEI EN 16001 standard its Energy Management System. This certification is an important part of the project and will be followed by other sites in the future.

Energy consumption indicators (See graphs 2.1 and 2.2) are sensitive to production levels and their values have to be analyzed considering production volumes. The global crisis during 2009 impacted negatively on our production efficiency and thus on our environmental performance indicators. During 2010, activity has increased but with significant difference between our mills and this has impacted our results in this area. Nevertheless, our energy intensity in the steel making sites more than reversed the 2009 increase and confirmed the five-year improvement trend (See graph 2.3).

The efficient management of our energy resources involves all business functions. During a period of production recovery, it is extremely important for us to focus on the energy reduction objective. We believe that through cultural change and the adoption of common criteria through the whole of Tenaris, results will be achieved and consolidated.

In 2009, Tenaris launched a global strategic four-year plan for energy saving. The goal is to achieve a 10% reduction in electricity consumption and 15% in natural gas. The plan is based on the one implemented at Dalmine in 2006.

Tenaris is committed to continuing to reduce its CO₂ emissions. The worldsteel CO₂ emissions data collection program created a common methodology to measure CO₂ per ton of steel. Tenaris actively participates in this initiative and has received recognition under the worldsteel Climate Action program.

Energy efficiency is essential to ensure our competitiveness and to minimize the related environmental aspects such as CO₂ emissions.

Climate change

We are committed to improving our performance and lowering our CO₂ emissions per ton seeking any possible upgrade at every step of the process, both direct and indirect.

The worldsteel CO₂ emissions data collection program was launched in April 2008. A common methodology has been agreed to measure CO₂ per ton of steel. The program measures the current level of emissions from the production of steel worldwide. Tenaris actively participates in this initiative for the steel industry and has received recognition under the worldsteel Climate Action program for reporting the emissions of all our facilities covered by the scope of the program. Validation has already been carried out by an independent expert group within worldsteel. Tenaris is committed to continuing to participate and work to reduce its CO₂ emissions.

Our efforts to maximize energy, raw materials, waste and by-product efficiency all contribute to minimizing our environmental footprint and particularly our CO₂ emission level.

All our Italian and Romanian sites operating under the EU-ETS scheme had lower CO₂ emissions than the quota granted. For this reason they were not required to purchase additional quota or pay penalties (See graph 2.4).



Tenaris tracks CO₂ emissions from all its industrial sites, applying similar methodology to all its tube producing facilities (See graph 2.5).

Air emissions

Steelmaking, seamless pipe hot rolling and heat treatment are processes which produce relevant emissions in terms of particulate material, nitrogen dioxides and a less relevant quantity of sulfur oxides. Also, finishing processes may involve volatile organic compounds emissions when varnish is applied.

We monitor emissions and we are committed to reducing their level in our processes. Significant investments are ongoing today at many sites; many others are planned for the coming years.

Investments

The Siderca facility continues to carry out its four-year plan for the improvement of the off-gas emissions treatment system of the steel mill. During this period investments were dedicated to increasing the capacity of the off-gas secondary system. At the end of 2010, 200 tons of pipelines were installed in order to double the capacity of this treatment system. During 2011, investments will be completed with the installation of a new bag house system.

Tamsa's new mill has been designed for low NO_x and particulate material emissions in combustion processes in hot rolling, applying Best Available Techniques as defined.

Recycling steel

Steel is 100% recyclable and the world's most recycled material. Steel recycling makes a relevant contribution to the environment; it means lower consumption of raw materials (iron ore, coal, limestone, etc), energy and lower emission of CO₂.

Our four steel mills use electric arc furnaces (EAF), using recycled steel (scrap) as a raw material in combination with mineral-based metallic charge. One of our mills, Siderca in Argentina, also produces the direct reduced iron then used in our steel mill. Both the electric arc furnace and the gas-based direct reduction processes are efficient ways of producing steel with lower rates of CO₂ emissions

Scrap used in our mills is recycled from external and internal sources. Even though the amount of scrap we use varies annually for market reasons, it has remained over 60% of our total metallic charge since 2007 (See graph 2.6).

Waste, by-product and materials management

The steel industry produces large amounts of waste and by-products. Our goal is to recycle internally or externally as much of our by-products and waste as possible, and to seek new ways of reducing the generation and disposal of waste. Recycling helps to reduce land disposal and CO₂ emissions, bringing about a more sustainable use of natural resources.

We are investing in research & development projects to find opportunities to recycle our by-products internally within the steel mill, as we can see that these issues will become critical in the near future.

Since 2009, we track a waste recycling indicator at all sites, with the objective of strongly encouraging this practice. As shown in graph 2.7 globally for Tenaris, recycling figures for waste and by-products are high. Markets for by-product recycling or reuse have been more difficult in this period. Although there was an increase in the recycling rate of waste, overall figures do not show the same improvement due to the high volumes of by-products compared to waste generation.

We also use the material efficiency indicator calculated using worldsteel methodology which is applied to steel-making sites. When considering these mills we can see that the recycling rate is very close to 100% as by-products in steel-making processes are highly reused or recycled in different processes. This year the efficiency decreased slightly. Tamsa partially deactivated an internal landfill used as an intermediate storage, sending a significant amount of waste to an external landfill.

Of all by-products, slag has by far the highest production volumes. It is reused in construction applications, mainly roads. Based on production levels, we then have steel scales from the hot rolling process which are mostly recycled in the cement industry or within the steel industry on sinter processes together with direct reduction fines and sludge (See graph 2.8).

Our facilities use significant quantities of lubricant and hydraulic oils. Specific consumption of these substances has been decreasing over recent years (See graph 2.9).

Water management

In our steel making and seamless tube production facilities, water management is a significant issue in terms of intake and discharge. Water is mainly used for cooling processes in the steel making mills and seamless tube steel mills; welded pipes facilities have a much lower consumption of water.

For the expansion project at Tamsa, following the application of best available techniques in terms of water management, the industrial water system was designed to have a closed loop as in the rest of the plant with an expected efficiency of 95%.

Tenaris sites have different industrial water systems, which result in relevant differences in the amount of water consumed per ton of product produced, absolute cubic meters consumed and also type of water used. The situation of each site depends on amount and quality of water available.

When we look at our main steel mills, the situations are totally different. Most of them have closed loop water systems and make-up water has different sources, depending on local availability. Siderca has the largest water consumption due to its open loop. The site prioritizes the use of lower quality surface water, taken from Paraná de Las Palmas river, a great deal of effort being made to minimize subsurface water abstraction, which is in general a much more valuable resource.

Our products and services, looking at the downstream with a life cycle approach**Dope-free solutions for operational and HSE benefits**

Tenaris pioneered the manufacturing of dope-free connections when it introduced its Dopeless® technology in the North Sea in 2003. Since then, the HSE and operational benefits of this innovative technology have become increasingly apparent. Today 40% of our sales in the North Sea area include Dopeless® technology and it is being used in many other parts of the world.

Our Dopeless® technology is a dry, multi-functional coating, which is applied in the controlled, industrial environment of our mills. As well as ensuring consistent quality, operational reliability and enhanced corrosion protection, the use of Dopeless® connections means that operators no longer have to carry out dope cleaning and application processes in the field. This provides important HSE benefits particularly in complex and environmentally sensitive operating environments.

With this solution, connections become rig-ready, avoiding the possibility of operational problems associated with over-running compound, providing ease of handling, preparation and installation to reduce risks and costs. It also guarantees the appropriate amount of lubricant and ensures the consistency of the coating and connection performance, lasting throughout the string's entire life cycle.

Supported by an integrated global network of field services, repair shops and technical support teams, Dopeless® technology is currently the leading dope-free solution for demanding onshore and offshore oil and gas operations. More than eight years of field experience and more than four million feet installed in some of the most challenging oilfields show the technology's successful performance in different applications.

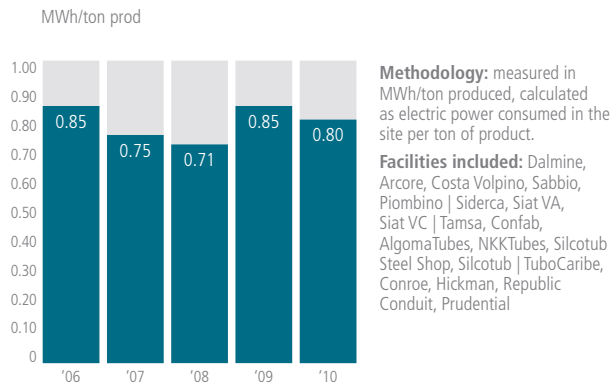
Recycling of thread protectors

Pipes are often supplied with plastic thread protectors to prevent thread damage during transportation and storage. Plastic protectors are removed when the pipes are used onsite. In some places where we operate, we have developed programs for recycling protectors, thus helping to reduce waste.

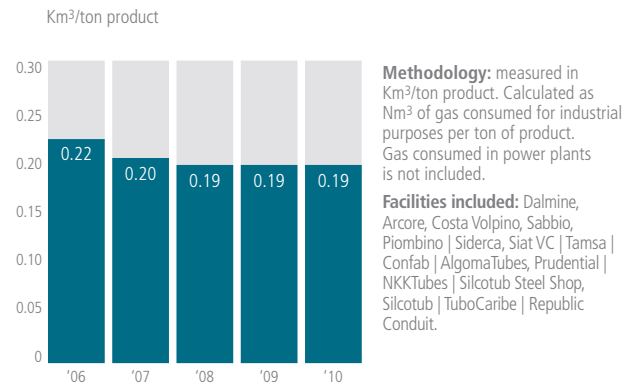
Some of our mills have facilities for producing plastic thread protectors. We send recovered protectors there to be cleaned and reused if possible, or shredded after cleaning and then recycled for producing new protectors. Sometimes we also look to third party companies for help in the recycling of plastics and metals.

Environment indicators

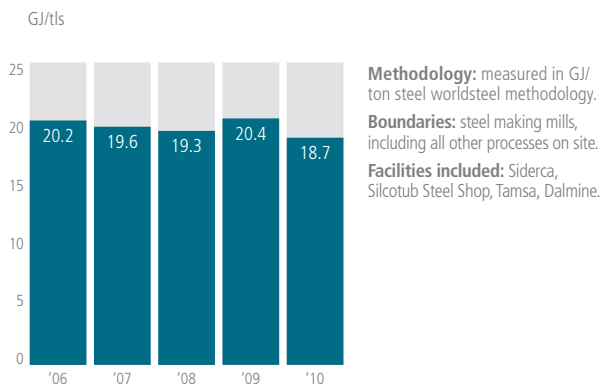
2.1 Electricity consumption



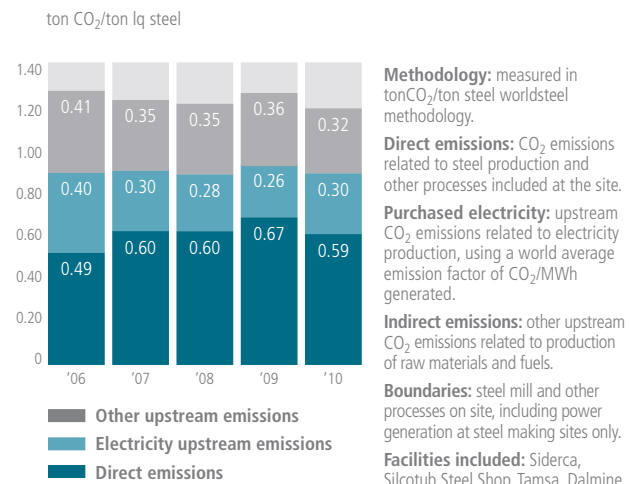
2.2 Gas consumption



2.3 Energy intensity

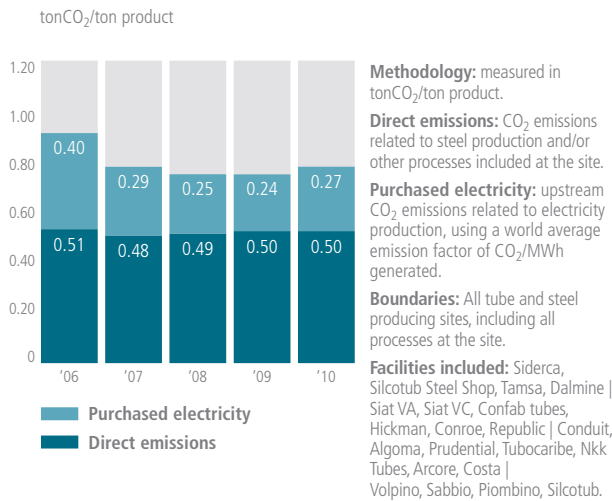


2.4 CO₂ emission steel production sites

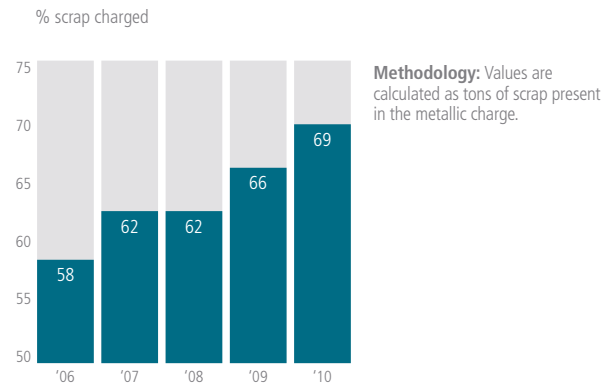


Environment indicators

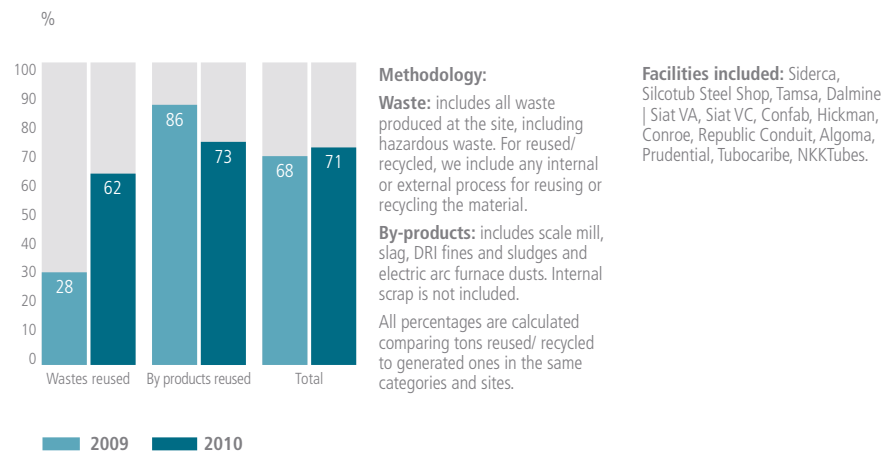
2.5 Tenaris tube and steel sites CO₂ emissions



2.6 Tenaris recycled steel use

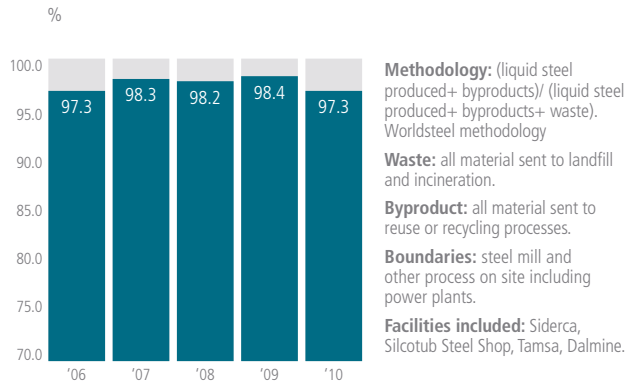


2.7 Wastes and By-products reused-recycled

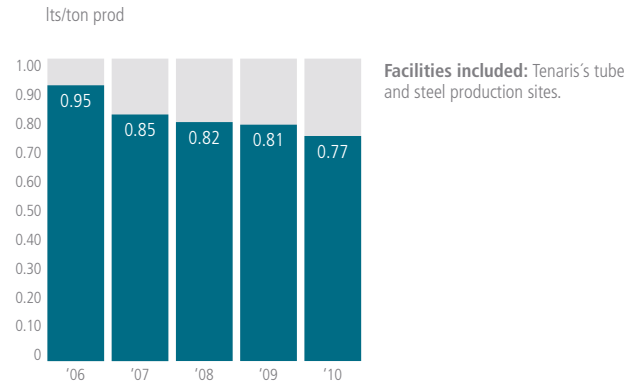


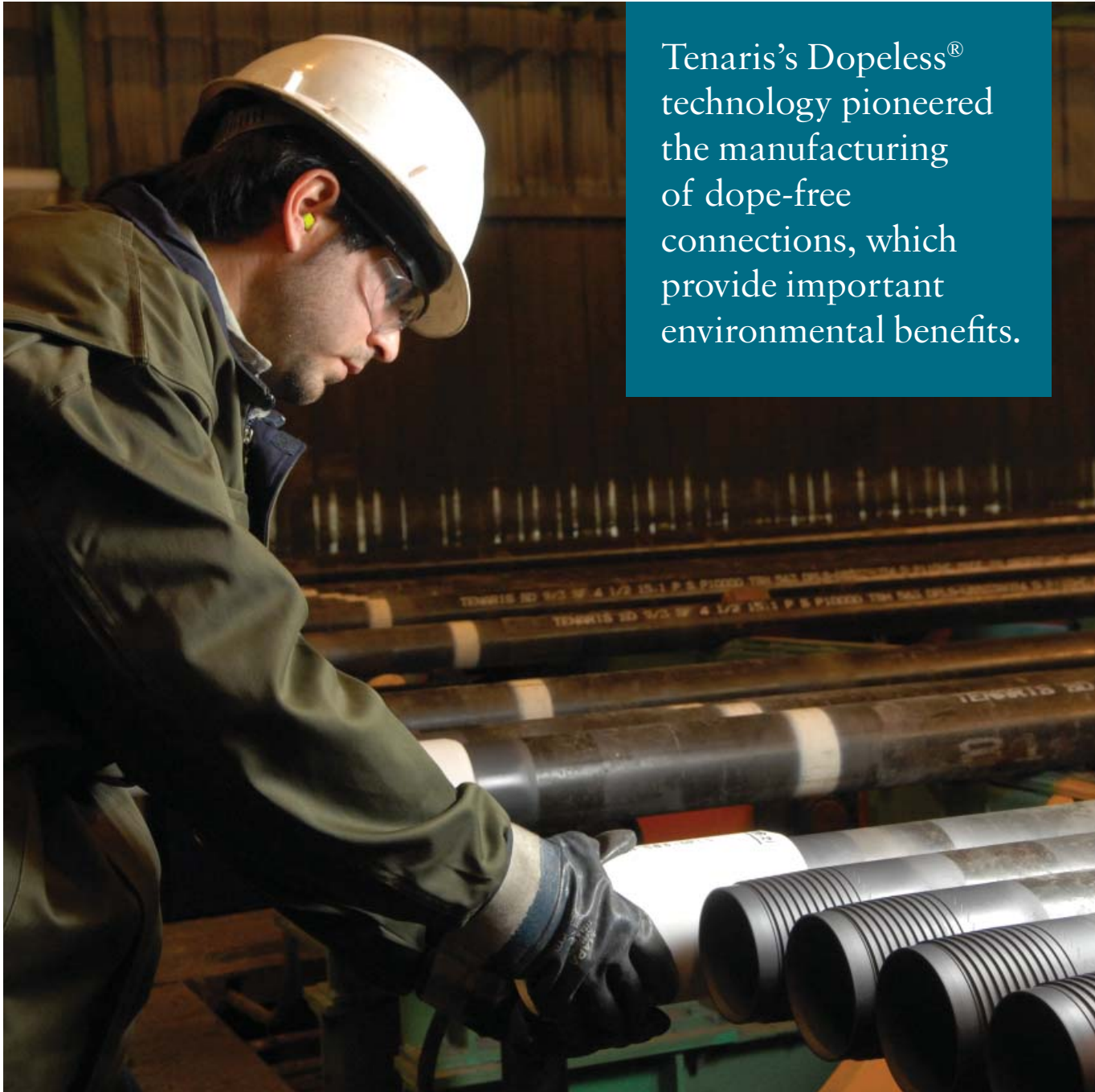
Environment indicators

2.8 Tenaris material efficiency



2.9 Oil Consumption





Tenaris's Dopeless[®] technology pioneered the manufacturing of dope-free connections, which provide important environmental benefits.





Our new facility in Tamsa is applying for the Leadership in Energy and Environmental Design (LEED) certification by the United States Green Building Council (USGBC).

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