Key Industry Program

SteelTec

Stronger, with Castolin Eutectic
Castolin Eutectic is an international company focused on its customers to analyze, study and propose the best welding, coating or brazing technology solutions in order to reduce maintenance costs and increase service life and effectiveness of production equipment.

Wear phenomena costs the production industry millions of Euro every year. Wear gradually reduces process efficiency and can lead to costly unplanned stoppages and the need to purchase and stock new replacement parts. Fortunately, worn or broken parts can be restored and protected against future wear.

Castolin Eutectic has the solutions for wear and Fusion problems. For more than a century at the forefront of wear and fusion materials technology, we are at your service with the largest and most experienced field support to meet your specific challenges. With a vast product range of alloys, processes, functional finished parts and fully automated systems in the areas of Welding, Brazing and Coating technologies, your business can become STRONGER with Castolin Eutectic. In addition to the traditional personal service of our field technicians, we are increasingly performing the actual work for you with our Castolin Services business through either our workshops or at your site.

Cost Reduction Program - Maintenance Welding Technology
Partnership Program and Smart Maintenance & Repair

1. **ANALYSIS**
   The first step to a good solution is a correct analysis. To facilitate this, we have created a document that can be easily completed in collaboration with our technical delegate, which reflects the most important parameters to be considered to develop in-house solutions to wear problems. The completion of this document will allow our Technical Department to prepare a proposal for a professional solution tailored to the client’s real needs.

2. **TECHNICAL REPORT**
   With the information provided, our Technical Department prepares a report. In this document, the base material is analyzed, the wear causing factors are carefully considered for optimal prevention and the most suitable materials / procedures are defined. Finally a basic operating procedure is indicated. The information is delivered to the technician responsible for study and evaluation.

3. **APPLICATION REGISTRATION**
   Always subject to the customer’s approval, we first propose to register the job done in our confidential "FAR" data base where the short application summary remains on hold until confirmation of service results.

   Then we propose to introduce it in its final destination, a data base for proven applications called Terolink. This allows both the customer and Castolin to take advantage of the field tested application details and to quantify the generated cost savings.

4. **JOB DEVELOPMENT**
   Once the client considers the repair to be feasible, Castolin Eutectic puts at your service all the Technical Department for the development of the procedure outlined above:
   - Local specialized Technical staff.
   - Our Castolin Services workshop.
   - and / or a collaboration with your selected subcontractor.

5. **ECO TEST - COST REDUCTION**
   At the end of the service life of the part involved, we are ready to establish a detailed cost analysis to evaluate the practical direct savings achieved through mutual collaboration.

   This will show the real value of our teamwork and the important economies made by the maintenance department. This is the ultimate goal of our proposal “Cost reduction” proposal.

6. **TEROLINK**
   Finally we propose to submit the complete application as verified in our Terolink Database. This database allows both the customer and Castolin Eutectic to take advantage of the existing proven solution, update it, include further information and use it for future confidential promotion of the solution.
RAW MATERIAL PROCESSING

- Coal
- VRM
- Iron Ore
- Crushing
- Limestone
- Sinter
- Scrap
- Pellets
- Coke Plant
- Scrap Shredding

IRON & STEEL MAKING

- Blast Furnace
- EAF
- BOF
- Ingots
- Continuous Casting

PRIMARY FORMING

- Hot Rolling
- Cooling
- Cold rolling
Our applications

Iron ore, coal, limestone, fluxes and scrap are unloaded in the raw material area. They are classified, stored, crushed, grinded and handled for transport into the next production process. All these activities produce a combination of Wear phenomena in the different machines and parts involved. Their service lifetime can be extended with different solutions, thanks to the cost reduction program from Castolin Eutectic.
Our applications

The raw materials are transported into the coke plant, sinter or pellet in order to adapt the granulometry, homogeneity, density and composition for the Iron & Steel making.

Based upon hundreds of successful and proven applications by our clients across the globe, Castolin Eutectic can provide a wide range of products and technologies to combat different Wear phenomena in the Iron & Steel Industry.
Our applications

After processing the respective raw materials, they pass through the blast furnace, electric arc furnace (EAF) or basic oxygen furnace (BOF) to get pig iron or steel. The first step for a good solution is a correct analysis. To facilitate this, we have created an analysis document that can easily be completed in collaboration with our technical delegate. The document reflects the most important parameters to be considered to develop in-house solutions to your wear problems.
Our applications

Once the steel is made, it has to be transformed into different shapes such as ingots, slabs, blooms, billets or structural profiles. Continuous casting is the most common process since 1950 when degasification of steels was improved which avoids vibration and perforations in the steel. The efficiency of this process is around 95%, much bigger than traditional casting.
Our applications

The semifinished products obtained after the continuous casting process have to be shaped before being commercialized. The first of these processes is hot rolling, from which sometimes final products are obtained and other times semifinished products intended for cold rolling or coating.

One can see above several worn components such as rollers, guides, cutting blades, bearing houses, pumps, etc. Our technical specialists can offer a customized solution for your wear.
After hot rolling, many steel products undergo further processing in the cold state. This stage of processing does not alter the shape of the steel product, but it does reduce it in thickness and significantly improves its performance characteristics. Hot rolled coil is commonly cold rolled (also known as cold reduced). The strip is first de-coiled (uncoiled) and then passes through a series of rolling mill stands which apply pressure to the strip and progressively reduce its thickness - down to as low as 0.15 mm. The strip is then recoiled.
Our applications

In all rolling processes, cooling the steel is a critical factor. The speed at which the rolled product is cooled will affect the mechanical properties of the steel. Cooling speed is controlled normally by spraying water on the steel as it passes through and/or leaves the mill, although occasionally the rolled steel is air-cooled using large fans.
Our Core Competencies

Castolin Eutectic is a worldwide leader of application solutions in maintenance, repair and wear protection for more than 100 years. To fully cater for industry needs, we specialize in several technologies including Welding, Brazing, Coating and Castolin Services workshops.

We employ more than 1,500 people worldwide in over 100 countries. Our motto is: Quality, Service and Technical Leadership = Customer Value Added.

More than 700 Application Specialists care for you all over the world. Their tasks: Helping you to improve the lifetime of machinery and equipment, to save scarce resources and to provide cost saving solutions for your maintenance needs.

Wear protection experts

Wear phenomena costs money, especially in lost production downtime, replacement parts, repair and ongoing maintenance. At Castolin Eutectic, we take the time to study industry specific Wear phenomena because only when the nature of the wear is fully understood, can the correct solution be proposed. We have proved for over a century that preventative maintenance coating programs can extend the life of vital machine parts by as much as 500%.

Classical Wear phenomena that occur in industry are:

- Abrasion
- Erosion
- Impact
- Friction
- Heat
- Corrosion
- Cavitation
Stronger, with Castolin Eutectic

Your resource for protection, repair and joining solutions

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