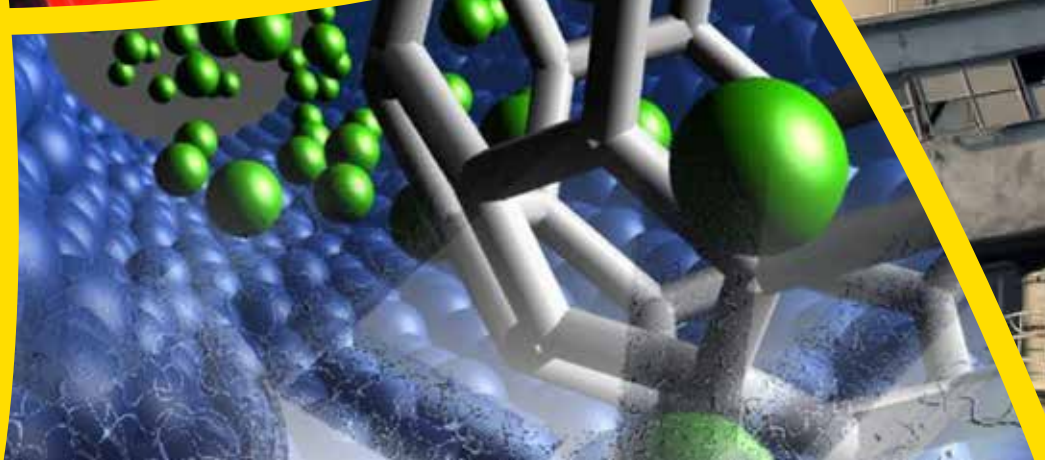
Castolin Eutectic
Eutectic Castolin

Key Industry Program

SteelTec

Stronger, with Castolin Eutectic



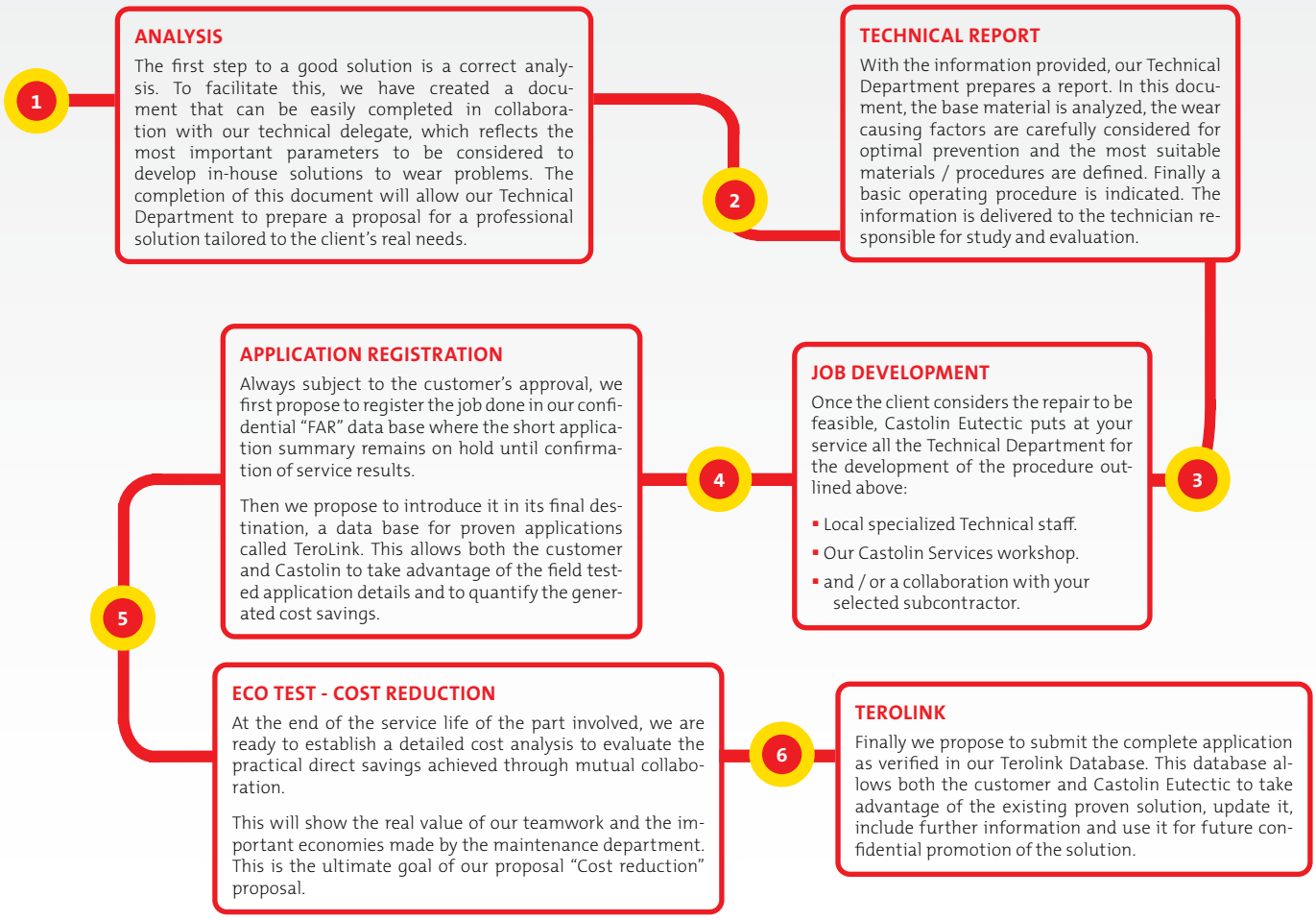
Castolin Eutectic is an international company focused on its customers to analyze, study and propose the best welding, coating or brazing technology solutions in order to reduce maintenance costs and increase service life and effectiveness of production equipment.

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.

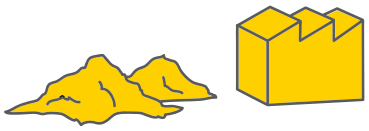
Castolin Eutectic has the solutions for wear and Fusion problems. For more than a century at the forefront of wear and fusion materials technology, we are at your service with the largest and most experienced field support to meet your specific challenges. With a vast product range of alloys, processes, 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

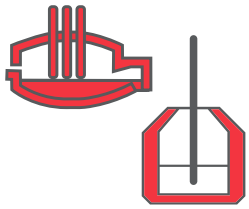
Partnership Program and Smart Maintenance & Repair



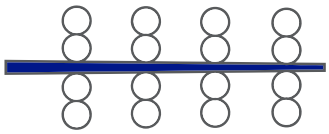
RAW MATERIAL PROCESSING >



STEEL MAKING>



PRIMARY FORMING >



RAW MATERIALS PROCESSING

Coal

VRM

Iron Ore

Crushing

Limestone

Sinter

Scrap

Pellets

Coke Plant

Scrap Shredding

IRON & STEEL MAKING

Blast Furnace

EAF

BOF

Ingots

Continuous Casting

ROLLING MILL

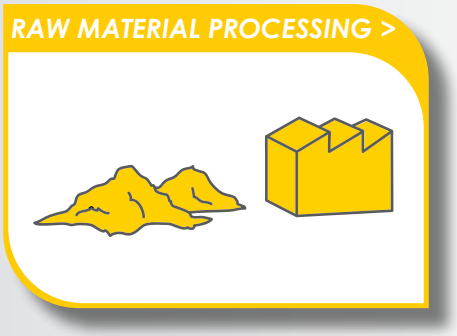
Hot Rolling

Cooling

Cold rolling

RAW MATERIAL PROCESSING

Iron ore bucketwheel excavator (NL_M1_0110)
- Abrasion + Impact
- Complex carbide CDP ® plates
- ***4666 CDP ®***



Iron ore bucketwheel excavator (BR_M10273)
- Abrasion + Impact
- CDP ®
- ***4666 CDP ®***

VRM –multiple parts
- For crushing coal before loading in the coke plant
- On site job – Castolin Services

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.**

Homogenization shovel (BR_M1_0273)
- Abrasion + Impact
- Complex Carbides CDP ®
- ***4666 CDP ®***

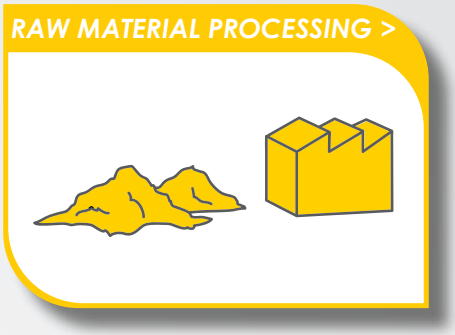
Scrap handling crane (AT_M1_0395)
- Impact + Metal-metal friction
- EnDOtec wires
- ***DO*02 +DO*05***

Coal roller press (FAR 2178)
- Impact + Abrasion
- TeroMatec Wires
- ***4923 TM + 4601 TM***

Crasher hammer (CH_M1_0150)
- Impact + Abrasion
- TeroMatec Wires
- ***3205TM + 4625 TM***

RAW MATERIAL PROCESSING

Cast iron conduct of coke plant (FAR 3556)
- Repair of crack + Thermal fatigue
- Cast iron Eutectrodes
- ***7330 D***



Sinter teeth (FAR 27365)
- Impact + Abrasion + Temperature
- EnDotec wires, Eutectrodes
- ***6070 N***

Sinter rotor
- Abrasion + Temperature
- Turn key solution
- ***Epsilon 3***

Our applications

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

Based upon hundreds of succesful 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.**

Coke sprocket (FAR 2890)
- Mechanical fatigue
- EnDOtec wire
- ***DO*612 S***

Exhaustor sinter area (FAR 11177)
- Erosion
- EnDOtec wires
- ***DO*11***

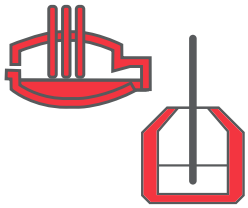
Sinter rotor belt (FAR 30646)
- Abrasion
- TeroMatec wire
- ***4666 TM***

Sinter hot sieves
- Abrasion + Temperature
- Laser cladding
- ***LC11***

IRON & STEEL MAKING

Impeller of EAF (FAR 2781)
- Erosion + Corrosion
- CDP ®, EnDOtec wires
- ***CDP ® 112 + DO*11***

STEEL MAKING>



Hot wind valve blast furnace (FAR 2891)
- Erosion at high temperature
- Cast iron Eutectrodes
- ***Nickel base Eutectrode***

Additive chute of EAF (FAR 2782)
- Abrasion + Impact
- Turn key solution
- ***4666 CDP ®***

Our applications

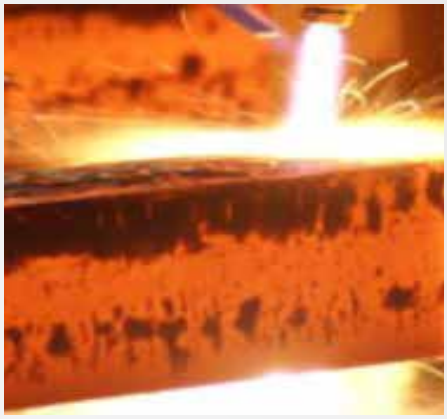
After processing the respective raw materials, they pass through the blast furnace, electric arc furnace (EAF) or basic oxygen furnace (BOF) to get pig iron or Steel. The first step for a good solution is a correct analysis. To facilitate this, we have created an analysis document that can easily be 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.

Pig iron/ EAF conducts (FAR 3665/4094)
- Abrasion
- ***Castotubes***

Exhaust pipe EAF (ES_M1_0432)
- Erosion + Temperature
- Arc Spray
- ***Arc 595***

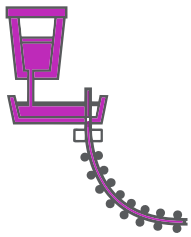
Electrode clamp (FAR 4533)
- Abrasion + Temperature
- CastoTig, CastoMag
- ***45709 W***

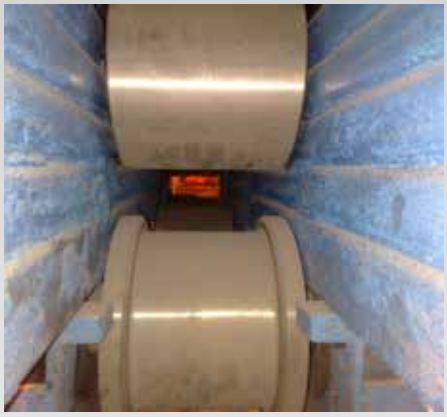
IRON & STEEL MAKING – CONTINUOUS CASTING



Billet descaling blades (FAR 11091)
- Impact + Abrasion
- Eutectrode, CastoTIG
- ***6080XHD + 45303 W***

CASTING >





Straightener rollers (FAR 2849)
- Abrasion + Friction + Temperature
- EnDOtec wires
- ***DO*05***

False ingot (FAR 3330)
- Friction + Abrasion
- EnDOtec wires
- ***DO*267***

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.

ConCast Cooled Rolls (FAR 30938)
- Abrasion + Temperature
- Turn key solution
- ***DO*05***

Transport rollers (FAR 2887)
- Thermal fatigue + Abrasion
- EnDOtec wires
- ***DO*04***

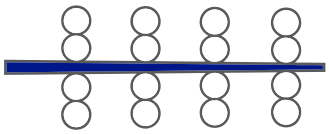
Pinch roller (FAR 2842)
- Abrasion + Thermal fatigue
- EnDOtec wires
- ***DO*04***

Transport rollers (FAR 15477)
- Abrasion + Temperature
- EnDOtec wires
- ***DO*05***

HOT ROLLING MILL

Descaling case for slabs (FAR 30740)
- Erosion + Impact + Corrosion
- EnDOtec wires
- ***DO*11***

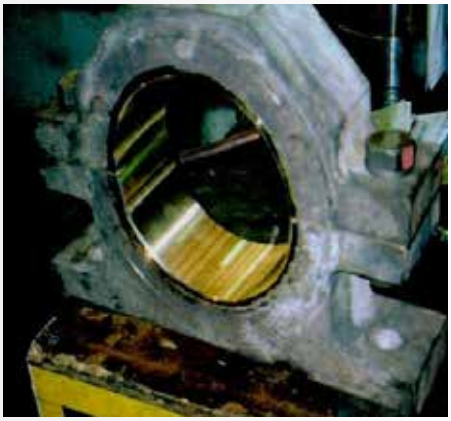
PRIMARY FORMING >



Our applications

The semifished products obtained after the continuous casting process have to be shaped before being comercialized. 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.



Bearing house(UK_M1_0176)
- Metal-metal friction
- CastoMag wire
- ***45553***

Pump for descaling slabs (FAR 3350)
- Cavitation + Erosion
- EnDOtec wires
- ***CAVITEC GMA***

Billet cutting blades (FAR 30705)
- Impact + Friction + Temperature
- Manual electrode
- ***6800***

Forming structural profiles (FAR 2383)
- Friction + Pressure + Temperature
- EnDOtec wires
- ***DO*04***

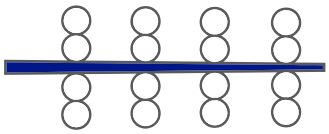
Entrance guide box 2 (FAR 2654)
- Abrasion + Temperature
- EnDOtec wire
- ***DO*06***

Entrance guide (IT_M1_0116)
- Abrasion + Friction +Temperature + Corrosion
- ***4666 CDP ®***

COLD ROLLING MILL

Bearing house (FAR 2874)
- Friction
- Manual electrode + Arc Spray
- ***27 + 42012***

PRIMARY FORMING >



Our applications

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.

Drawing machine (FAR 26535)
- Metal-metal friction
- GAP
- ***16006***

Drawing shaft repaired (FAR 26519)
- Mechanical fatigue
- EnDOtec wires
- ***DO*622 S***

Straightening rollers (FAR 4491)
- Friction + Abrasion + Impact
- Laser cladding
- ***LC8***

Granty crane (FAR 2069)
- Friction + Pressure
- EnDOtec wire
- ***DO*23***

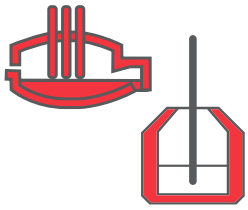
Knuckle Rolling mill (FAR 2871)
- Friction
- Manual electrode + Arc Spray
- ***75 + 42012***

Straightening rollers (FAR 29948)
- Friction + Abrasion + Impact
- EnDOtec wire
- ***DO*15***

IRON & STEEL MAKING – COOLING

Transport cooler (FAR 1849)
- Metal-metal friction
- EnDOtec, Arc spray
- ***DO*363 + Arc 595***

STEEL MAKING>



Cooling grate (NO_M1_0041)
- Abrasion + Temperature
- EnDOtec wires
- ***DO*04 +DO*15***

Transport rollers (FAR 29941)
- Metal-metal friction
- CastoMag wire
- ***45353***

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.

Corrugated bars cooling channel (FAR 1837)
- Abrasion + Temperature
- EnDOtec wires
- ***DO*326***

Transport rollers (FAR 2886)
- Abrasion + Temperature
- EnDOtec wires
- ***DO*04***

Train cooling rollers (FAR 29943)
- Metal-metal friction
- EnDOtec wires
- ***DO*15***

Cooling bed entry bars (FAR 2850)
- Metal-metal friction + Impact
- TeroMatec wires
- ***3205 TM***

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.

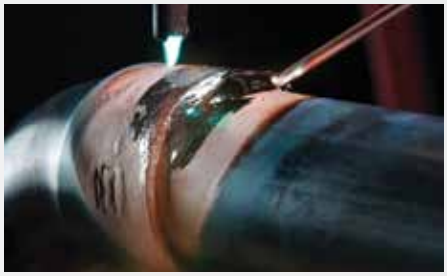
We employ more than 1,500 people worldwide in over 100 countries. Our motto is: Quality, Service and Technical Leadership = Customer Value Added.

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.

Welding Technology

Welding Equipment

Coating Technology



Brazing Technology

Castolin Services

Wear protection experts

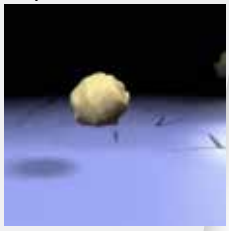
Wear phenomena costs money, especially in lost production downtime, replacement parts, repair and ongoing maintenance. At Castolin Eutectic, we take the time to study industry specific Wear phenomena because only when the nature of the wear is fully understood, can the correct solution be proposed. We have proved for over a century that preventive 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

Erosion

Impact



Heat & Corrosion

Abrasion

Stronger, with Castolin Eutectic

Your resource for protection, repair and joining solutions