Advanced refractory solutions from Eredi Scabini.

Eredi Scabini was one of the first companies to introduce unshaped (monolithic) refractories as an alternative to conventional bricks. Today, the company specialises in the design and production of monolithics, preformed shapes and composites based on its own exclusive formulations. More than 30 percent of the material produced is transformed into preformed products for the lining of furnaces and containers for molten metal - in a broad range of shapes up to 15 tonnes each.

Preformed shapes offer a number of advantages, and the growing demand for high-quality, large-shaped preforms confirms that Eredi Scabini is on the right path. This has led to replacing bricks with larger-sized shapes to reduce the number of joints and construction times, thus increasing furnace life and productivity on the one hand, and reducing the residual costs on the other.

The company is market leader in this segment and points to a customer reference list that includes well-known companies such as ALCOA, ALERIS, AURUBIS, COMPOLENTA, CONSTELLUM, DUBAL, FONDERIE TACCINI, FORGIATURA VIENNA, HAYES LEMMERZ, KME, MAHLE, NOVELIS, TENARIS, THYSSENKRUPP, TRIMET, WIELAND-WERKE, ZANARDI FONDERIE.

Thanks to its technology, product range and know-how coupled with a reputation for listening and responding to customers’ needs, Eredi Scabini can offer products and solutions tailored to any plant. This includes a complete turnkey service. From the careful analysis of the specific requirements through to the design, production and installation of the refractories, which is backed up by a comprehensive after-sales service. Eredi Scabini’s refractory solutions are developed entirely in-house. The design is executed with the aid of sophisticated 2D and 3D CAD and FEA systems. All the materials, including those used for the production of preformed shapes, are produced in the company’s own plants and are based on exclusive formulations. The company owns the intellectual property rights of its products, and is committed to developing new formulations to fully meet every type of requirement. Installation and commissioning are carried out by specially trained engineers with the aid of equipment designed by the company itself.

Eredi Scabini offers innovative, high-performance solutions for many applications in a variety of industries. The solutions are not for the modular refractory lining of furnaces or specific points. They are designed and customised in the company’s plants and then transported to customers’ sites and assembled. A wide range of preformed products, both monolithics and preformed shapes, is easier to assemble and offers a greater benefit for the customer.

To have a broader picture of Eredi Scabini’s cutting-edge solutions, you can read more about our most significant case histories in the following pages.

90% OF OUR BUSINESS IS IN MOLTEN METAL APPLICATIONS.

Eredi Scabini & R&D Lab: an inexhaustible workshop for new ideas.

Our company has always implemented a policy strongly orientated towards quality and the continual innovation of its offering. In the Research and Development laboratory, the heart and soul of the company, engineers and researchers, with in-depth knowledge of ceramics, industry and chemistry, work passionately in close contact with the very best international universities and external research laboratories to identify new products for specific requirements.

This sophisticated equipment, the development of new instrumentation techniques and access to a vast range of high quality raw materials guarantees Eredi Scabini’s unrivalled flexibility in the development of new monolithic and more complex materials, constantly at the state of the art. Monolithics for the working market and with a clear orientation towards new technologies, during the last few years Eredi Scabini’s research work has focused above all on the development of nanotechnology and the application of its basic principle in the refractory sector. This has been a project of vast scale in which the company has invested and is continuing to invest in terms of human and financial resources and which is already yielding promising results. Today nanotechnology itself is no longer new and many companies have already used and sold it in their products. We are not content with this, we are doing much more. We view nanotechnology as a means to the development of a new product concept with features that will open new chapters in the history of refractory materials.

Eredi Scabini and R&D Lab: an inexhaustible workshop for new ideas.

WE VIEW NANO TECHNOLOGY AS SIMPLY A MEANS TO THE DEVELOPMENT OF A NEW PRODUCT CONCEPT WITH FEATURES THAT WRITE NEW CHAPTERS IN THE HISTORY OF REFRACTORY MATERIALS.

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- New 21st° Insulating foam Effective, safe innovation. Better performances with Ultraflex® preformed shape for casting launder systems. With Flexstone®, lifetime of melting rotary furnace lining has increased by +30%. ABT increase output and reduce problems. Resistance™ - The ideal product for high-strength industrial floorings. PAGE 4

Our mission: “Everything that is worth doing at all, is worth doing well.” (P. Stanhope, 1694-1773)

Riguardo - Sigmaplast™: the importance of its matrix.

The company that gives you a hand! Eredi Scabini uses to everything!

Eredi Scabini amongst the best suppliers of the Tenaris Group.

A success story.
Greatly multiplied performances thanks to $f blasg^t$ skimming and stirring tool.

The customer is a company based in the Middle East. The foundry is divided into casting centers with 65 6-hole melting furnaces and two holding furnaces. The lumps are melted in crucibles and are used for adding the bath to the iron, stirring the bath to speed up the skimming of the solid particles. The lumps are then used as a mixing agent. In order to improve the casting condition of the equipment, reduce energy consumption, improve the quality of the lumps used, and improve the performance of the process, a new skimming and stirring tool was installed. The tool has a productivity capacity of about 2,500 tons per hour and features several improvements and innovations. The tool is designed to operate in a 12-month cycle, with a maximum capacity of 2,500 tons per hour.

**Production stoppages are a thing of the past with A.B.T. preforms.**

The customer company is a member of a large international group which produces high-quality billets and plates in various aluminium alloys. The company has a very low stoppage rate and is always looking for new technologies to improve the casting conditions of the equipment. The company decided to install a new skimming and stirring tool to improve the quality of the lumps used and to reduce the stoppage rate. A new tool was installed in 2018, and the stoppage rate was reduced to a minimum.

**Eredi Scabini Solution for Aluminum melting furnace lining.**

The client is a renowned leader in the metal industry. The furnace is a 150-ton/hour box-type melting furnace equipped with 9 refractory boxes. The lumps are designed to increase the furnace capacity by 10 tons per hour. The furnace is equipped with a new skimming and stirring tool, which improves the quality of the lumps and reduces the stoppage rate. The furnace is designed to operate in a 12-month cycle, with a maximum capacity of 2,500 tons per hour. The furnace is equipped with a new skimming and stirring tool, which improves the quality of the lumps and reduces the stoppage rate.

**CPS (Crucible Preformed System): an innovative solution for lining coreless induction furnaces with no rivals on the market.**

CPS is a crucible preformed system that is sensitive to the customer’s needs and production requirements. CPS is a crucible preformed system that is sensitive to the customer’s needs and production requirements. CPS is a crucible preformed system that is sensitive to the customer’s needs and production requirements.
New **2Lite**-insulating foam.
Effective, safe innovation.

**2Lite** is a product line that represents an absolute novelty on the market for insulating products. Developed to create the back-up of prefomed linings in a viable and fast way, **2Lite** is an innovative thermalized material that expands in situ generating a liner with very low thermal conductivity and high mechanical strength. **2Lite** guarantees maximum safety thanks to the excellent low working properties and stability, enabling it to maintain excellent insulating properties and ensuring a stable support for the working lining, even in cases of contact with molten metal.

With **Flustone** lifetime, the siting of rotary furnaces lining has increased by +35%.

**Flustone** is a line of micrometric dense castables with excellent flow softly allowing application by self-distribution. They are used mostly for working linings requiring high resistance to abrasion and self-sintering by means of vitrification. They are self-hardenig, allowing linings to be received by applying the same product to the wet surface without changing the casting lining.

Our solution: the fitting rotary furnaces were lined with Flustone castables. The first lining was installed on tiling furnace 1 and lasted 28 months, while the second, installed in tiling furnace 2, is currently still in use after 35 months (Photo 1). A number of thermocouples were being continuously producing and showed very low heat losses (Photo 2). All these factors tiling/rotary furnaces now have complete Flustone linings.

**Resistone** - the ideal product for high-strength industrial floorings.

As well as formulating refractory castables and preformed shapes, the company has a full range of products specifically developed for industrial plants exposed to heavy mechanical and thermal stresses in the presence of heat. The Resistone line of Resistone™ low castables are made with precursors similar those used for construction concretes, but they develop extremely high mechanical resistance within a few hours and can be used at a temperature of 1000°C even in contact with mental sliding surfaces. Resistone™ castables and grouts can also make it an excellent present for the refractory lining.

The customer is a secondary aluminum plant roller (cold) with production capacity of about 80,000 tons a year. The fourth building is a multistorey with production plants all over the world. The fourth building has production lines, each with a melting furnace, and

For further information contact us: sales_dept@erediscabini.com

Better performances with **Ultrablock** preformed shape for casting launder system.

The launder is a casting metal (cans, drums) which produces molten aluminum products with continuous casting process, with production capacity of about 250,000 tonnes/year in two plants. The building frames are connected to the continuous casting machine by the launder, which surveys the motion made by the launder in theagregating unit, the first box and finally the casting machinery itself.

In the past, the launderers used to be fitted with preformed and insulated by means of two sets of insulating panels. The problem was that these panels were not fitted and used during the casting phase. To solve these problems, an innovative laudner was developed by using **Ultrablock**, which has excellent non-wetting properties and easily expanding against thermal shock, impact and in particular the abrasive effects of the liquid metal. Moreover, its low apparent density makes the launder easier to cool. Thanks to these characteristics, the launderer reduces waste and increased performance (15-20%) in response to these high salubrious results, the customer has chosen also to use **Ultrablock** preformed linings for the draining unit and filter box.

**ABT increase output and reduce problems.**

End-Steel™ has always believed in the development of preformed furnace linings and its capability for producing them up to 500 linings in weight per day, company amongst the leading plants. In this context, End-Steel's ABT-Aluminum line technology is customized preformed furnace lining. ABT line developed for this customer comprised several products, including Ultrablock™, customed shaped panels with excellent "non-wetting" properties.

The launderers produced refined aluminum statues for the internal production of the first production line and alumina Refractory Concrete (25000 tonnes/year). This line for the production of 30000 Kt of alloys contains 2 channeling furnaces of 45 t each and 3 melting furnaces. 4 Inductions are installed on each melting furnace. The project for isolating the furnaces big boxes was developed in a number of phases in response to the customer's need to use a refractory technology concept of achieving the following objectives: reduction of furnace components, by the use of the two furnaces capacity, reduction in maintenance and operating costs, the reduction of the number of maintenance services, the reduction of the downtime, the improvement of the lining. The project was divided into 2 main phases. The first phase was focused on improving the insulation of the launder, increasing its performance by reducing the number of slags of the launder. The second phase was focused on the optimization of the launder, increasing its performance by reducing the slag of the launder. The second phase was completed in 45 days less time than the previous solution, drastically reducing the plant downtime.

For a major company, the materials are not just a cost. They are a strategic asset and should be managed as such. The success of any materials strategy begins with the right materials. The company's success is directly linked to the performance of the materials used. The company's mission is to deliver quality products that meet or exceed customer expectations. The company's vision is to be the leader in materials technology, providing innovative solutions that improve lives and make the world a better place.
Eredi Scabini is a company with an integrated production process, R&D, ENGINEERING, PRODUCTION (monolithic, pre-formed shapes, compacts) and TECHNICAL SERVICE are all integrated with the use of a consolidated organizational model developed to control the quality of the entire production chain. A genuine brand is created for every new project, allowing the various departments to cooperate and share their expertise to produce the best possible result, in the sole interest of the customer. To guarantee the highest possible quality, R&D and ENGINEERING study both prototypes and solutions; all monolithics, including those used for the production of pre-formed shapes, are produced in our own plants, to exclusive formulas created by Eredi Scabini, using raw materials of the highest quality. The sales and technical service departments take care of installation, using the input of skilled staff who receive special training within the company, in order to supervise the personnel on hand available to the customer. Some of the equipment used for this production and installation of products has been specifically designed by the company itself. A single contact, constant benefits for the customer: Excellent Innovation: Quality, Ease of delivery, customer service which, backed up by an impressive flexibility and absolute confidentiality, make Eredi Scabini the ideal partner, able to provide a turnkey service of genuine value.

Eredi Scabini amongst the best suppliers of the Tenaris Group.

Eredi Scabini was established in 1945, thanks to the initiative and enthusiasm of its founder, Giovanni Scabini, who established a firm position on the Italian steel engineering market from the very outset with high technical content refractory products. Mr. Scabini’s son, Giancarlo, joined the Company in 1985 and has since reinforced the company’s mission for quality and innovation. The list of records goes longer and more significant: for example, Eredi Scabini was the first company to introduce monolithic refractories in Italy as an alternative to the standard bricks, thus reducing the production of pre-cast materials and the lengthy service for complex furnaces, using the customer’s shell or structural refractory produced directly, trademarked by its Direct-experience. In 1993 Eredi Scabini addressed the market to its new capacity as a producer of monolithic refractories. The new acknowledgements were not long in coming and the company was forced to reprogram the production structure after only a few years: first, the company’s plant was extended; a new plant was purchased later in order to face the constant market demands. The Scabini family, now in its third generation with Mr. Scabini’s son, Giancarlo and his two sons, still manages and runs the company in accordance with the same principles which determined its success. Today Eredi Scabini is an integrated Company that produces quality monolithics, preformed shapes and compacts with control of the entire production process, from design to after-sales. The company operates from a site of more than 20,000 m² in Villar Perosa and has a specialized staff of more than 30, enabling it to operate on both the domestic and the international market.

Eredi Scabini’s history is paved with innovative products which have contributed to the evolution of refractory materials.

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<thead>
<tr>
<th>Year</th>
<th>Type</th>
<th>Brand</th>
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<tbody>
<tr>
<td>1970</td>
<td>Conventional castables</td>
<td>Thermojet</td>
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<tr>
<td>1980</td>
<td>Low cement castables</td>
<td>Al Vibe</td>
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<td>1985</td>
<td>Ultra-low cement castables</td>
<td>Al Vibe S</td>
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<td>2000</td>
<td>Self-distributing castables</td>
<td>Flustone</td>
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<td>2005</td>
<td>Large Aggregate Castables</td>
<td>Dystone</td>
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<td>2010</td>
<td>No cement castables</td>
<td>Histone</td>
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<td>2014</td>
<td>Nanoplastic products</td>
<td>AlfaPlast-ZetaPlast-SigmaPlast</td>
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