



**REFIN**<sup>®</sup>  
CERAMICHE

Ceramiche Refin S.p.A.

Via I Maggio, 22 - Salvaterra di Casalgrande 42013 (RE) - Italy  
Tel +39 0522 99 04 99 - Email: info@refin.it - Web: www.refin.it

## Responsibly striving to the top: our eco-friendly certifications

Almost all of Refin's products are Ecolabel certified as throughout their entire life cycle, they meet the required standards, from raw material extraction, to use and to final disposal.

We have also been awarded the LEED standard (Leadership in Energy and Environmental Design), which is one of the most prestigious rating system in the North American building market. We have been LEED certified by an external certifying body (STP-CE-IND-06).

### Ecolabel



Ecolabel defines, on a European level, all products and/or services which have **a low environmental impact**.

The European Ecolabel criteria are calculated on the basis of every single phase of the production process, from raw material extraction to use and final disposal.

The European Community logo for **environmental safeguard**, is awarded only to some 30% of products available on the market and rewards the improvements made by companies in the selection of raw materials, in the improved efficiency of energy and water resources, in the reduction of pollutants and in the increase of the recycling of materials.

For manufacturers, this logo can represent an opportunity to testify their commitment and their attention towards the environment.

For consumers, the "flower" of the Ecolabel is the most immediate and quickest way to identify environmental-friendly products.

See the "list of Ecolabel certified colours" ( <http://www.refin-ceramic-tiles.com/info/ecolabel/> )

### LEED

LEED certification is aimed at providing all operators in the sector (architects, designers and builders) with a recognizable, trustworthy and clear tool for a **sustainable building development**.

This certification assesses the **eco-sustainability** of a building, intended as a whole, from its project-planning phase to its everyday use and it is based on a rating system which differentiates depending on the type of buildings and sub-divided into six areas (sustainable sites, water management efficiency, energy consumption and impact on the atmosphere, materials and resources, quality of internal areas, innovation in design). This system foresees the allocation of points and the total of points obtained determines the level of certification of a building, that is to say, Certified, Silver, Gold and Platinum.



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The assessment is made on the basis of the self-certification of the company, without the need of an external third party, although, voluntarily opting to use an external third party to evaluate the building can represent a competitive advantage and an added value for the certification.

The use of ceramic tiles in the building industry can contribute to the acquisition of LEED points, in particular MR credits (Materials and Resources) and ID credits (Innovation in Design) listed below.

**- MR 4 Credit- Percentage of recycled material (up to 2 points)**

The percentage of "pre-consumer" recycled material of Refin ceramic collections is higher than 40%.

**- Credit EQ 4.2 Credit - Low-emitting materials (1 point)**

Refin collections have a VOC\* release which is almost zero, (release < 1 mg/kg), therefore they do not emit any polluting agents into the air.

\* VOC: Volatile Organic Compounds

**- Credit SS 7.1 Credit - Heat Island Effect (1 point)**

The Eco-leader collections in Stone and Sand colours and the Stone-leader in Ivory and Beige colours do not affect the thermal gradient difference between urban and non-urban areas, as their Solar Reflectance Index SRI is  $\geq 29$ .

**- Credits ID 1.1-1.4 Credit- Innovation in Design (up to 5 points)**

Ceramiche Refin was one of the first companies in Europe to be awarded the prestigious European environmental certification Ecolabel (The Flower), and has been awarded the rating for every single collection it has produced since 2003. Ecolabel certifies the low environmental impact of Refin's production process, from raw material extraction to final recycling of waste. Ceramiche Refin is also equipped with production technology that surpasses all the BAT environmental requirements (Best Available Techniques) currently in forces across the world.

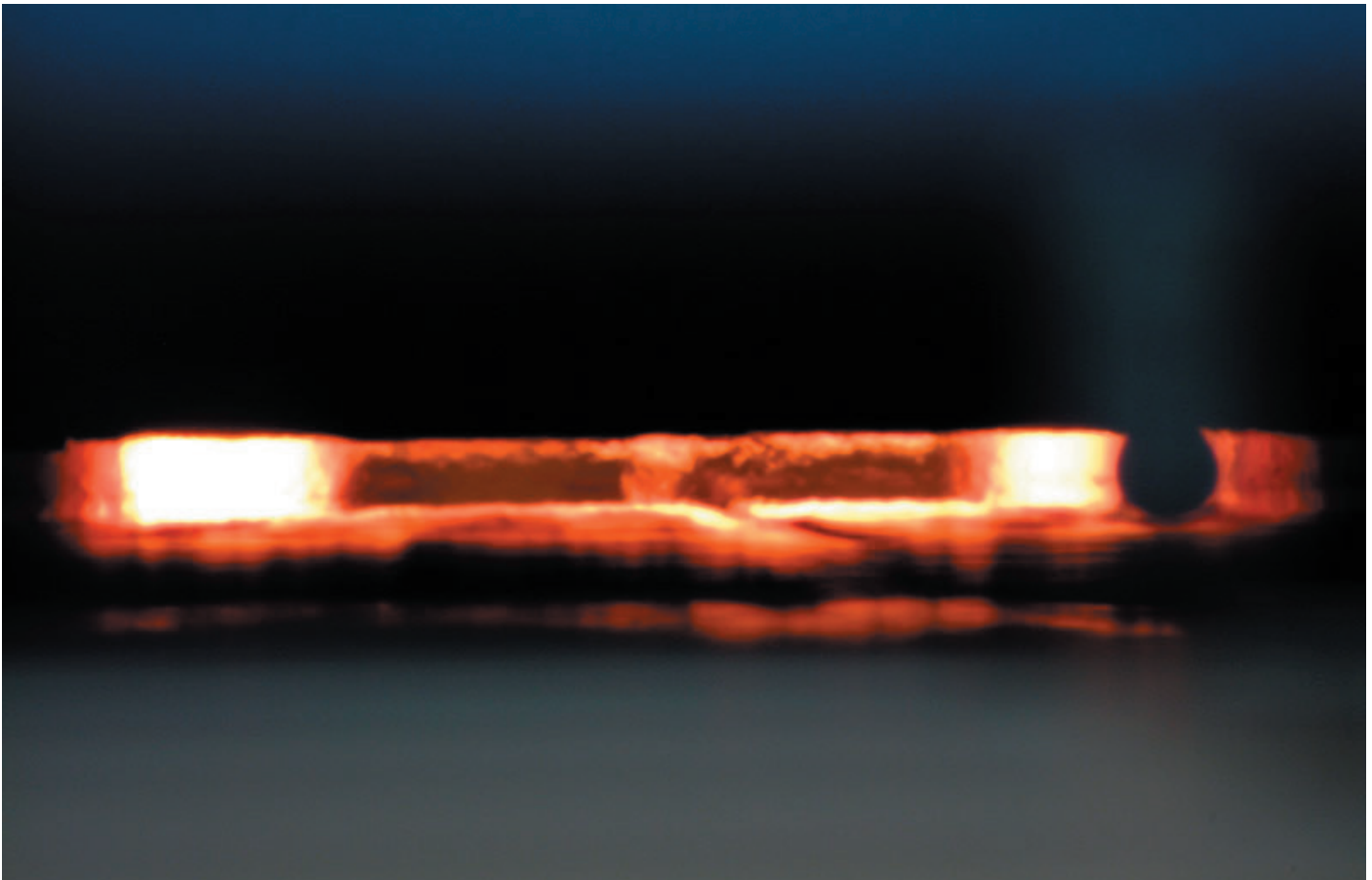
The second scenario involves all strategies which are not related to the LEED system but which have specific features such as the increase in environmental benefits, their application to the entire project and their opportunity to be applied to other projects.

In the case of ceramic tiles, the presence of specific features as well as innovations can contribute to obtain LEED points.



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# DET NORSKE VERITAS

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## PRODUCT CERTIFICATE

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Certificato No. / Certificate No. 25714-2008-PC-ITA-DNV

*Si attesta che il/i prodotto/i / This certifies that the product/s*

**Piastrelle di ceramica realizzate  
con minimo 40% di materiale riciclato Pre-Consumer**  
*Ceramic Tiles manufactured with minimum 40% of Pre-Consumer recycled  
material*

*Prodotto da / Produced by*

**CERAMICHE REFIN S.p.A.**

*Via 1° Maggio, 22 - 42013- Salvaterra Casalgrande (RE) - Italy*

*È conforme ai requisiti applicabili della norma / complies with the applicable requirements of the standard:*

**STP-CE-PC-IND-06 "Specificazione Tecnica di Prodotto – " Piastrelle di ceramica realizzate con materiale riciclato:  
impasto e prodotto finito" emessa da DNV italia.**

*STP-CE-PC-IND-06 "Technical Product Specification – Ceramic tiles manufactured with recycled material: mixture and  
final product" issued by DNV Italia.*

**Certificazione di Prodotto Industriale - LIVELLO 2:**

**Specifiche e caratteristiche oggetto di certificazione dettagliate nell'Allegato**

*Industrial Product Certification - LEVEL 2:*

*The specifications and characteristics being certified are detailed in the Enclosure*

*Limitazioni / Limitations:*

- 1. Cambiamenti nel prodotto devono essere immediatamente comunicati al Det Norske Veritas Italia Srl per esaminare se il presente Certificato rimane valido. / Any changes in the product shall be immediately reported to Det Norske Veritas Italia Srl in order to examine whether this Certificate remains valid.*
- 2. La validità del presente certificato è subordinata a sorveglianza periodica (ogni 6, 9 o 12 mesi). / the validity of this certificate is subjected to periodical audits (every 6, 9 or 12 month).*
- 3. Il presente certificato non è da ritenersi valido se non accompagnato dal relativo allegato. / this certificate is not valid without the relative enclosure.*

*Data Prima Emissione*

*First Issue Date*

**2008-04-21**

*Data di scadenza*

*Expiry Date*

**2011-04-16**

*Luogo e data*

*Place and date*

**Agrate Brianza, (MI) 2009-02-11**

*per l'Organismo di Certificazione  
for the Accredited Unit*

**DET NORSKE VERITAS ITALIA S.R.L.**

**Ettore Baldanzi**

*Lead Auditor*

**Vittore Marangon**

*Management Representative*



# DET NORSKE VERITAS

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## PRODUCT CERTIFICATE

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Allegato al Certificato No. / Enclosure to Certificate No. 25714-2008-PC-ITA-DNV

**Certificazione di Prodotto Industriale – LIVELLO 2** (basata sulla sorveglianza della produzione e del sistema qualità, e sulle prove e/o ispezioni di campioni prelevati presso l'organizzazione).  
*Industrial Product Certification – LEVEL 2* (based on production and quality management system surveillance and testing and/or type inspection carried out on samples from the point of production).

Descrizione dei prodotti e delle caratteristiche coperte dal Certificato  
*Product Names and Characteristics covered by certified.*

**Serie "Eco-leader" / "Eco-leader" series**  
**Serie "Stone-leader" / "Stone-leader" series**

<i>Caratteristica</i>	<i>Standard</i>	<i>Conformity to requirements</i>
<b>Geometrical Properties</b>		
Length	UNI EN ISO 10545-2: 2000	Conform ( $\pm 0,6\%$ )
Width		Conform ( $\pm 0,6\%$ )
Thickness		Conform ( $\pm 5\%$ )
Straightness of sides		Conform ( $\pm 0,5\%$ )
Rectangularity of sides		Conform ( $\pm 0,6\%$ )
Surface flatness		Conform (e.c.) $\pm 0,5\%$ (e.c.) $\pm 0,5\%$ (W) $\pm 0,5\%$
<b>Physical Properties</b>		
Water absorption	UNI EN ISO 10545-3: 2000	$\leq 0,5\%$
<b>Mechanical Properties</b>		
Breaking Strength	UNI EN ISO 10545-4: 2000	$\geq 1300$ N
Modulus of rupture		$\geq 35$ N/mm <sup>2</sup>
Resistance to deep abrasion	UNI EN ISO 10545-6: 2000	$\leq 175$ mm <sup>3</sup>
Thermal shock resistance	UNI EN ISO 10545-9: 2000	Conform to requirements
Frost resistance	UNI EN ISO 10545-12: 2000	Conform to requirements

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